Brief Introduction of IEA4E

S&L Symposium
Institute of Energy Economics, Japan
Shinagawa Prince Hotel, Tokyo
February 10, 2012

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The Institute of Applied Energy

What do We do ?
and Why ?

"The cheapest energy is the one we do not consume"

Message from

EUROPEAN COMMISSION
Brussels, 22 June 2011

Oil Crisis in 1970s (1)

- The first oil crisis on 1973
  - The impact of the first oil crisis of 1973 was particularly severe for countries like Japan that depended mainly on imported natural resources.
  - This induced dramatic changes in the industrial structure of Japan. Major investment was shifted to processing (such as petrochemical) , machinery assembling (such as automobile fabrication) and electronics (such as semiconductor) industries.
  - "Agency for Natural Resources and Energy" was established in METI at 1973.
  - IEA was established at 1974.

Oil Crisis in 1970s (2)

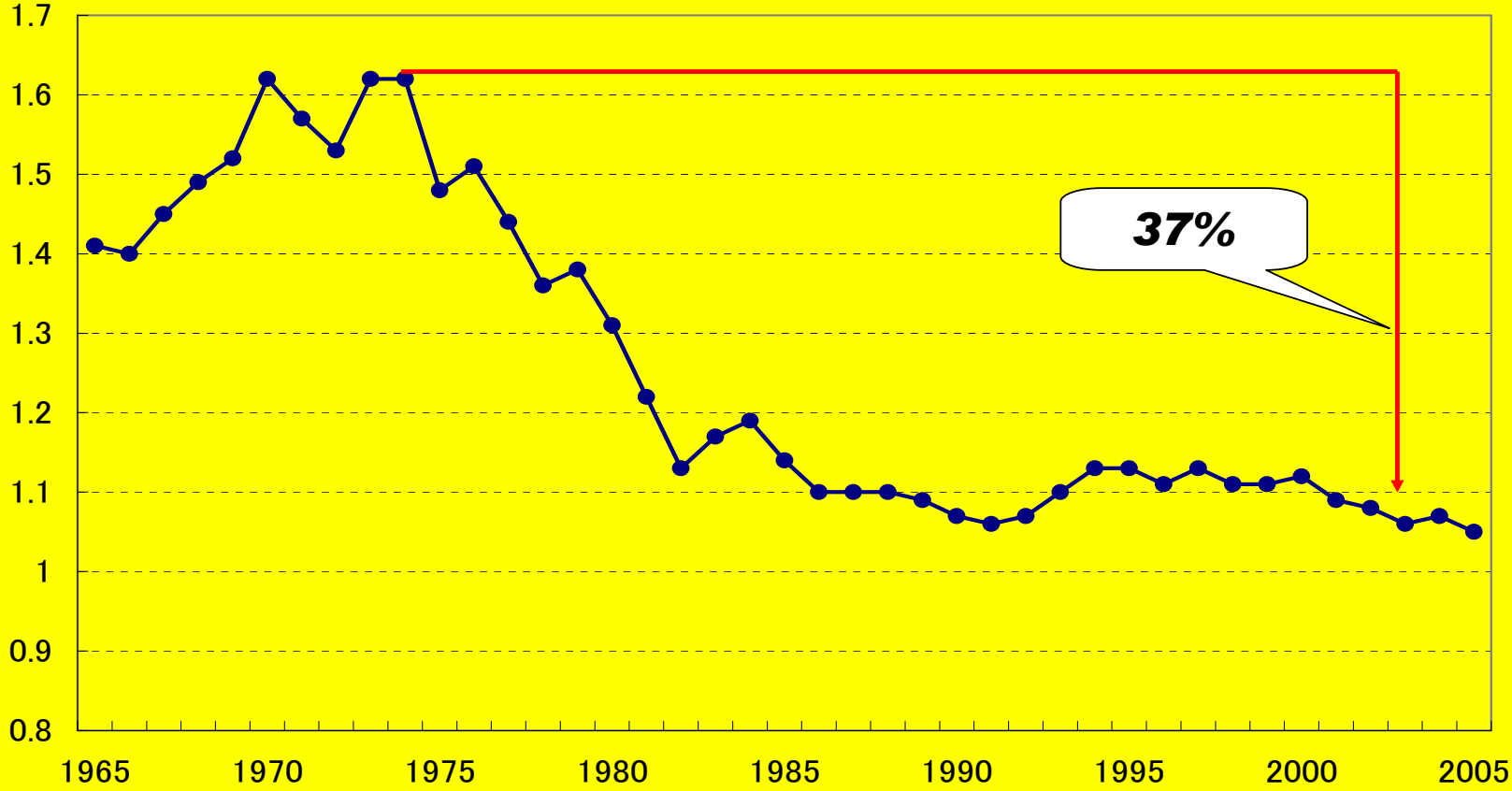
- The second oil crisis on 1978
  - New technologies had been developed for nuclear, wind turbine, and solar photo-voltaic electricity productions.
  - Oil imports for power generation have been diversified into various areas.
  - Japan enacted the "Law Concerning the Rational Use of Energy", so called "Energy Conservation Law", at 1979.
  - This provided a legal basis for energy conservation activities, especially for activities on greenhouse effect gas (GHG) emission reduction obligation under the Kyoto Protocol adopted by COP3 at 1979.
  - Japan has achieved remarkable enhancements of energy efficiency of electricity end-use products mainly in residential/commercial and transportation sectors.

Oil Crisis in 1970s (3)

- Toilet Paper Panic
- Gas Shortage

Energy Efficiency Improvements after Oil Crisis

Oil converted kilo ton/1 billion yen



IEA what?

- International Energy Agency (IEA) was established as one of the Subsidiary Organizations of OECD at 1974 just after the 1st Oil Crisis.
- The original purpose was to reinforce bargaining power against OPEC.
- 27 Participants (Mainly oil consuming countries).
- The present purpose is to assists participating counties in developing energy policies, energy security measures, and the policies for well-balanced economical growth and environmental protection.
- Current topics are on international collaborations on policy measure for climate change and new energy developments.

IEA4E Background

- Addressing today's energy challenges has a global as well as a national perspective. Electrical equipment is produced and traded on a global scale. Very substantial gains are possible if energy-efficiency issues are addressed through international co-operation and interaction, being crucial when responding to governments' need for guidance.
- The residential sector alone currently accounts for 30% of all electricity consumed in OECD countries, corresponding to 21% of energy-related CO2 emissions.

IEA4E what?

- The IEA4E is one of the IEA Implementing Agreements and is operated on Efficient Electrical End-Use Equipment as an international co-operating program.
- The co-operation will focus on efficiency of electrical end-use equipment. Energy efficiency is more than ever a top priority on the international agenda. Using energy-efficient equipment is the most cost-effective short-term path to greater energy security and lower greenhouse gas emissions to combat climate change.
- The IEA estimates that energy-efficiency improvements could contribute 47% of reductions in energy-related CO2 emissions potentially achievable by 2030.

IEA4E what?

- Terms
  - 2008~2014
- Participants
  - 13 OECD Member Countries (Basic Rule)

    Australia, Austria, Canada, Denmark, France, Japan, Korea, The Netherlands, South Africa, Sweden, Switzerland, UK and USA
  - Observer Organization

    EU
- Possible Participants
  - Non-OECD Member Countries Included

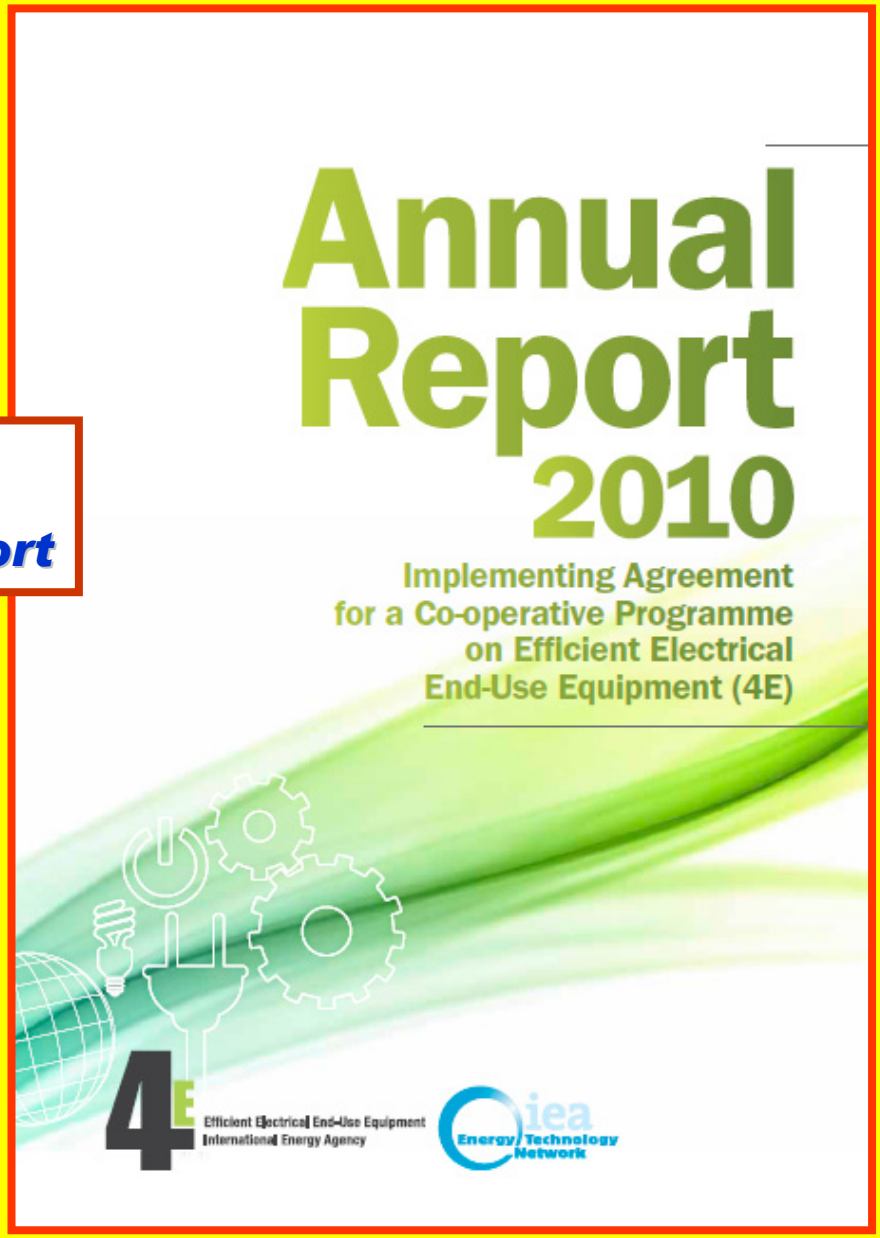
    Brazil, China, Germany, India, Mexico and Russia,

IEA4E

Newsletter

IEA4E

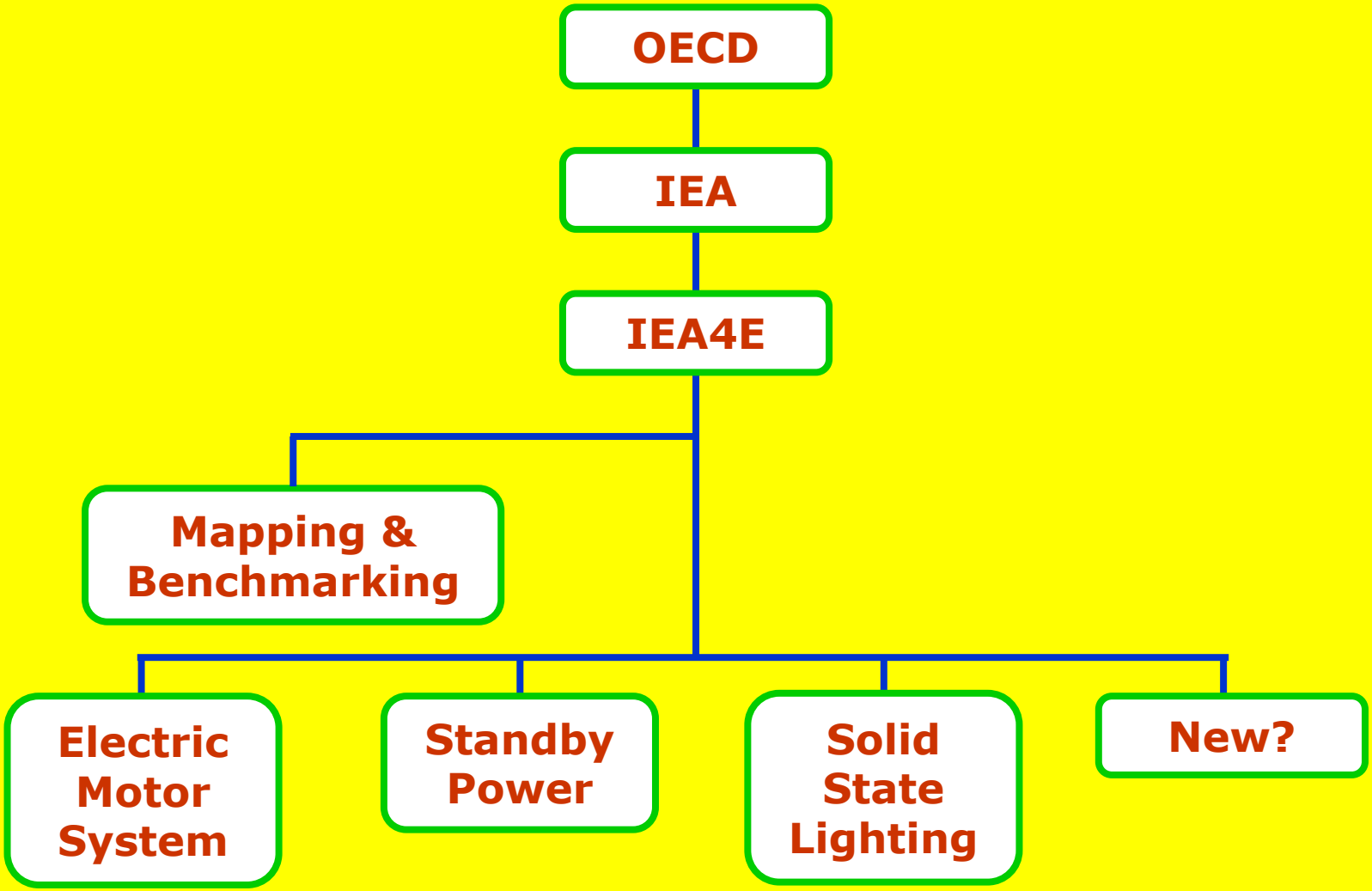
Annual Report



IEA4E Organization

- ExCo
  - Chair; The Netherlands
  - Vice chairs; Australia and UK
  - Operating agent; Australia
- Annexes and Leading countries
  - Mapping & Benchmarking; UK
  - Standby Power; Australia
  - Electric Motor System; Switzerland
  - Solid State Lighting; France, Japan and US
  - ???

IEA4E Organization



Japanese Stance to IEA4E

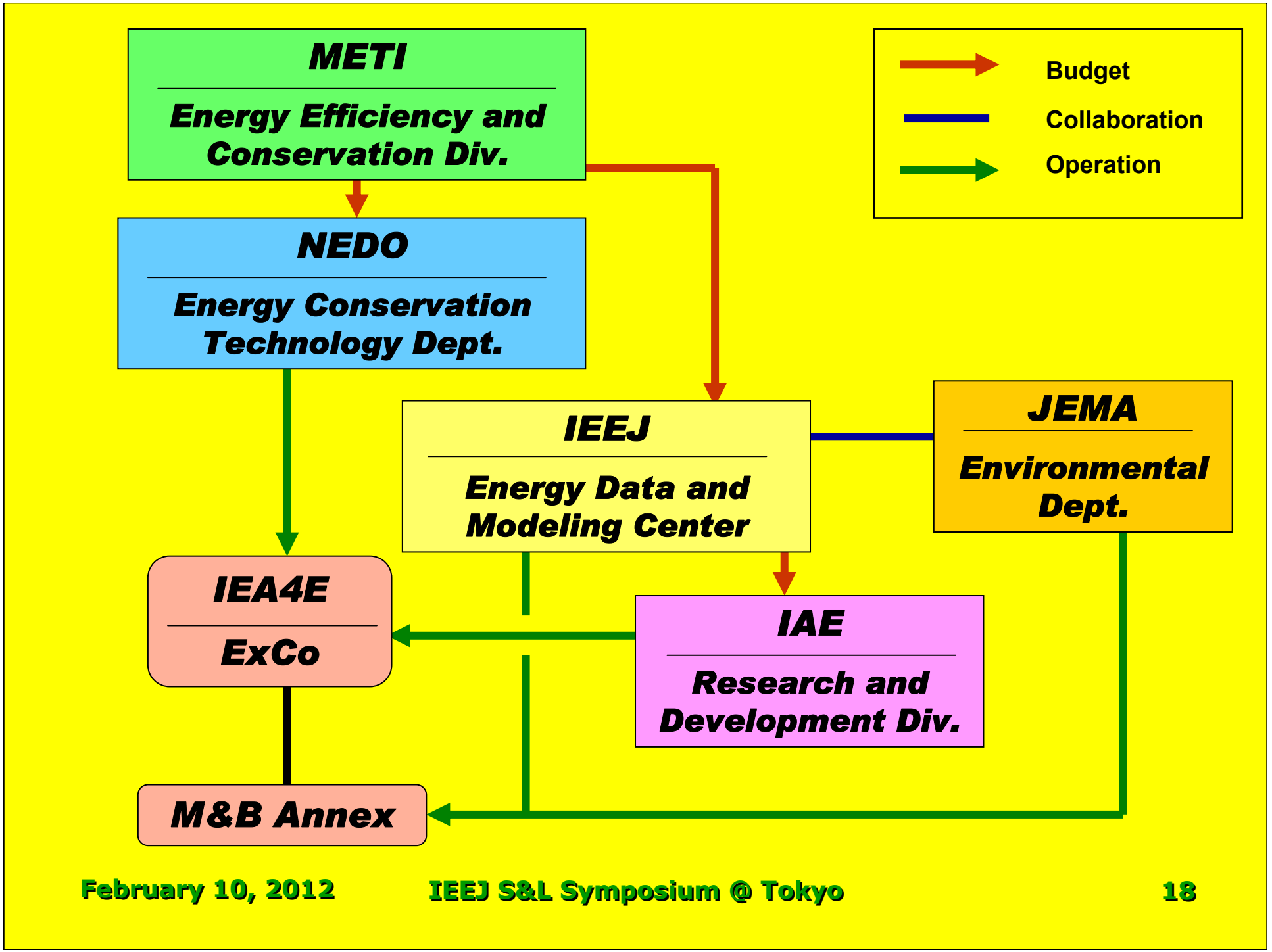
- Responsible Government Agency; METI.
- Signatory Organization; NEDO.
- Operation;
  - ExCo
    / NEDO, IAE
  - Mapping & Benchmarking
    / NEDO, IEEJ, IAE
    / JEMA, Others
  - Solid State Lighting
    / NEDO, AIST, NITE, JET, IAE
    / JLA, JELMA

IEA4E Activities (1) -ExCo-

- Japanese policy measures for IEA4E has been continuously discussed and decided in the steering committee that is managed by Government (METI). The members are NEDO, IEEJ, IAE, JEMA and the other industrial associations related to the electrical products of concern.
- The official delegate of Japan to ExCo is from NEDO.

IEA4E Activities (2)
-Mapping & Benchmarking-

- **Mapping:** provide an overview of the energy efficiency performance of certain electrical end-use equipment (or energy using products) in several countries and/or regional areas and a brief summary of the main policy measures regarding energy efficiency of products in those areas;
- **Benchmarking:** compare average and best performance of products put on the market in different countries and/or regional areas; analyse variations between different markets; share best practices and lessons learnt by, for example, highlighting potential for further improvement of energy efficiency levels globally.



4E Efficient Electrical End-Use Equipment International Energy Agency

ENERGY EFFICIENCY POLICY BRIEF

Mapping and Benchmarking Annex Overview

M&BO

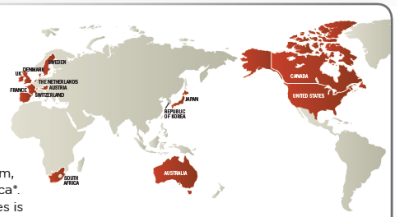
The IEA's 4E Mapping and Benchmarking Annex provides policy based comparisons of the energy consumption of products sold across the world to:

- Enable benchmarking of the success of national policies in managing product energy consumption and efficiency;
- Identify opportunities to further optimise product performance.

Mapping and Benchmarking is built around product definitions agreed by participants and is often based on data provided by Government national testing or performance databases.The accuracy of the data is assessed and where necessary normalised for comparative purposes. All policy and performance analysis is approved by member Governments prior to release, to ensure that the conclusions are justified and comprehensive.

Who's Involved?

The following 13 national Governments are members of the Annex: Australia, Austria, Canada, Denmark, France, Japan, the Netherlands, the Republic of Korea, South Africa, Sweden, Switzerland, the United Kingdom, and the United States of America*. Information from other countries is also used in the mapping and benchmarking process, but these countries do not have access to the benefits of membership.



*Member listing August 2011

Published September 2011

Mapping & Benchmarking Policy Brief

ENERGY EFFICIENCY POLICY BRIEF

PRODUCT	RELEASE DATE
Domestic Cold Appliances	August 2010
Televisions	October 2010
Air Conditioners	February 2011
Laundry Dryers	June 2011
Domestic Lighting	July 2011
Washing Machines	November 2011
Notebook Computers	December 2011
Retail Display Cabinets	January 2012
Vending Machines	January 2012
Desk Top PCs	August 2012
Dishwashers	December 2012
Set-top Boxes	January 2013
Water Heaters	April 2013

What Products are Covered?

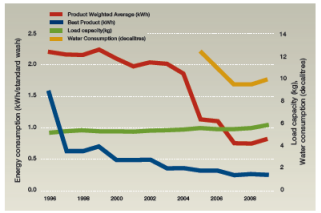
The focus of the Annex is on household and commercial products that consume significant quantities of electricity, now or in the future.

Member Governments periodically select a priority list of products for analysis.

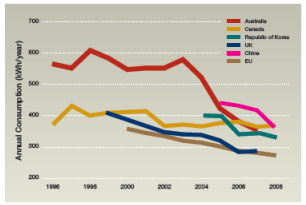
(or Regional)

Mapping provides country or regionally specific information on the energy consumption and energy related aspects of a single product over a number of years. It includes supporting information on major policy measures, cultural aspects and other information, thus providing policy makers with a picture of energy consumption market trends and the factors that influence them.

Example of country mapping for washing machines



Example of international benchmarking of freezers



Product Benchmarking

Benchmarking brings mapping results from individual countries together to enable comparisons of one nation's actions with those in other nations. This allows the impact of national policies to be compared with those elsewhere, and to identify areas where additional actions may be necessary or appropriate. Benchmarking reports also highlight some of the best products currently available internationally and therefore provide policy makers with a clear vision of where markets are heading to inform more effective policy action.

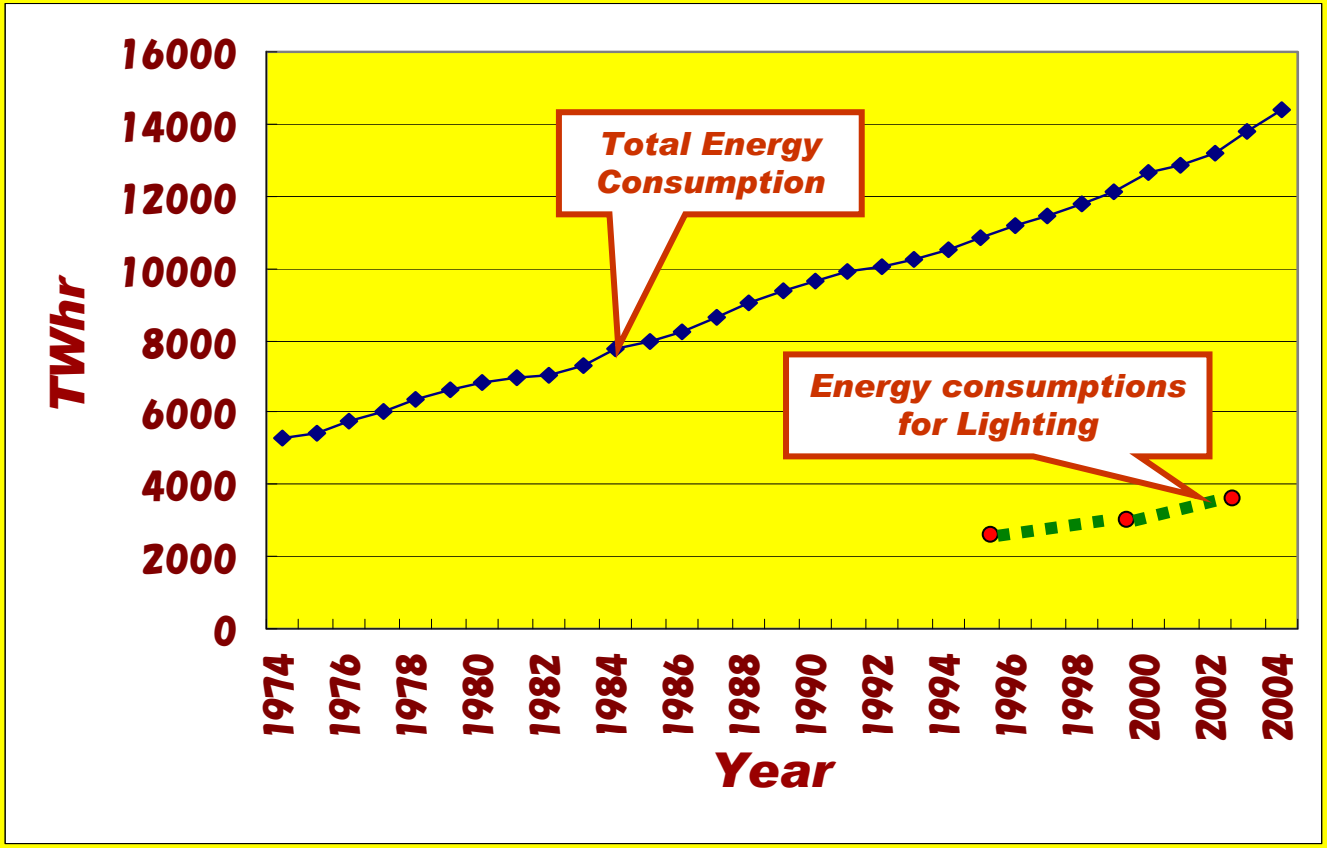
Where Can I Access Annex Outputs?

All publicly available Annex mapping and benchmarking outputs are available on the Annex website at **http://mappingandbenchmarking.iea-4e.org.**

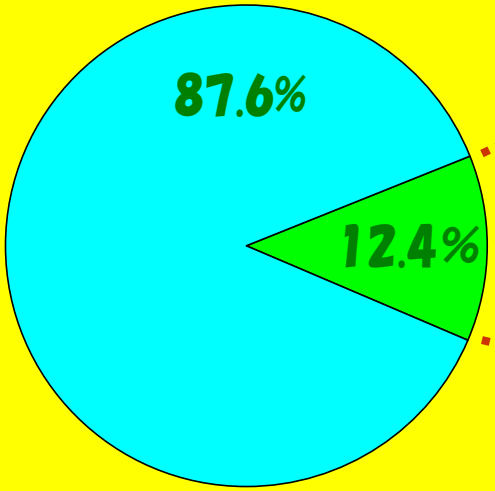
For further information email: **contact@mapping.iea-4e.org**

IEA4E Activities (3)
-Solid State Lighting-

- Why SSL is so important from the aspect of energy conservation.

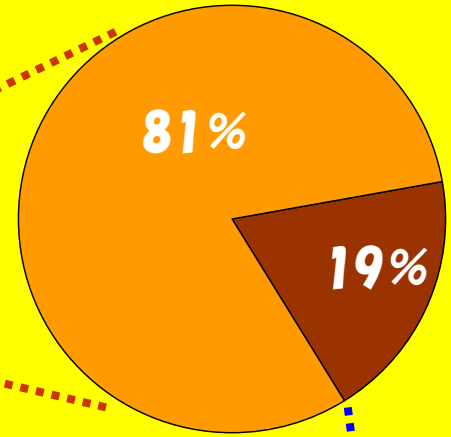


Lighting Power is almost 1/5 of World's Electricity Consumption

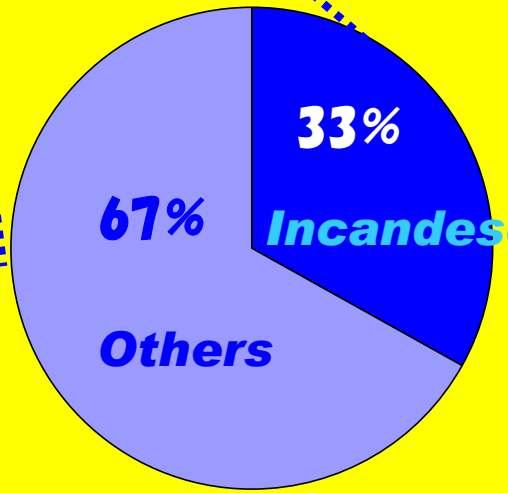


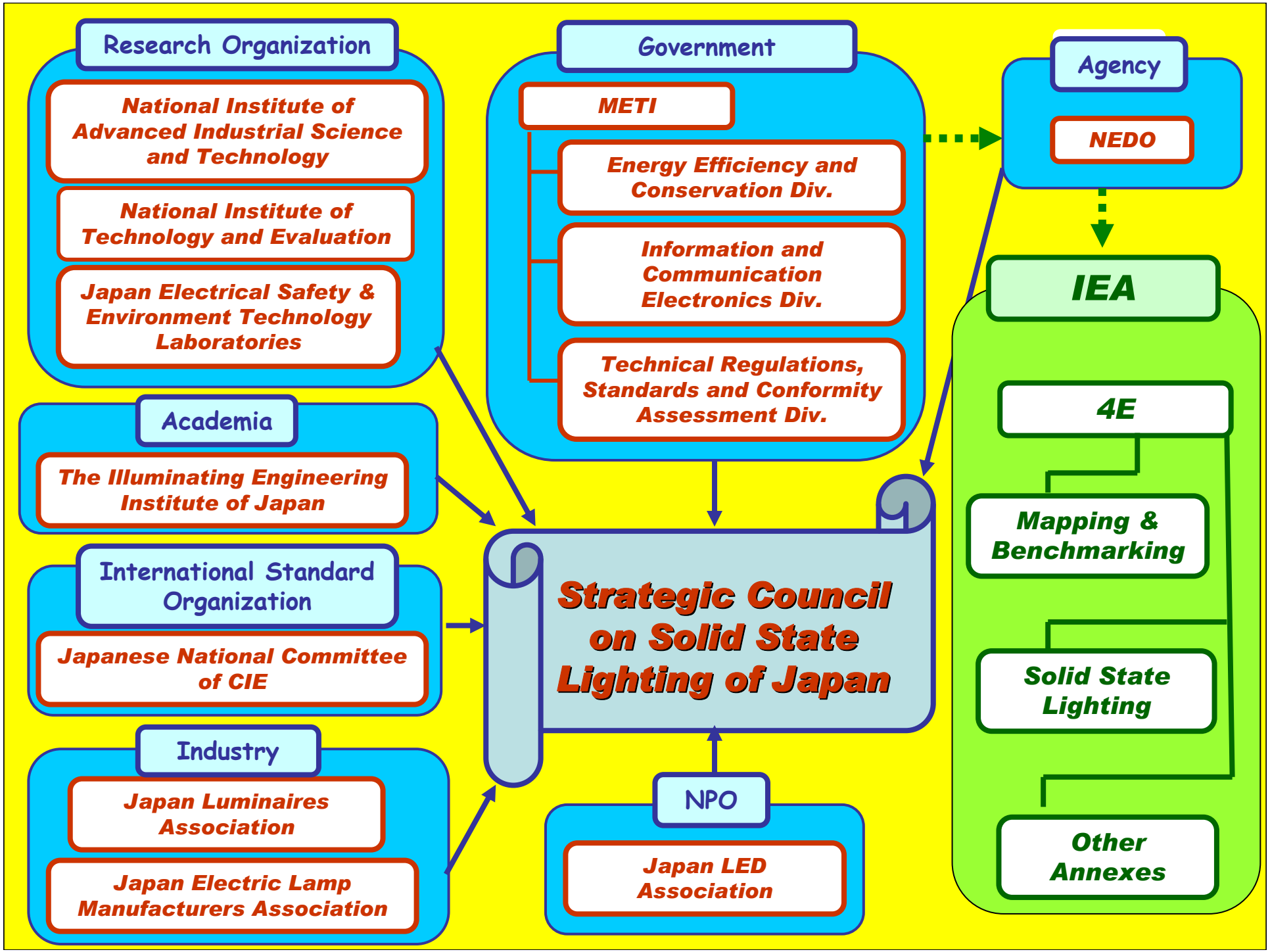
Primary Energy Consumption

Electrical Energy Consumption



Lighting Energy Consumption





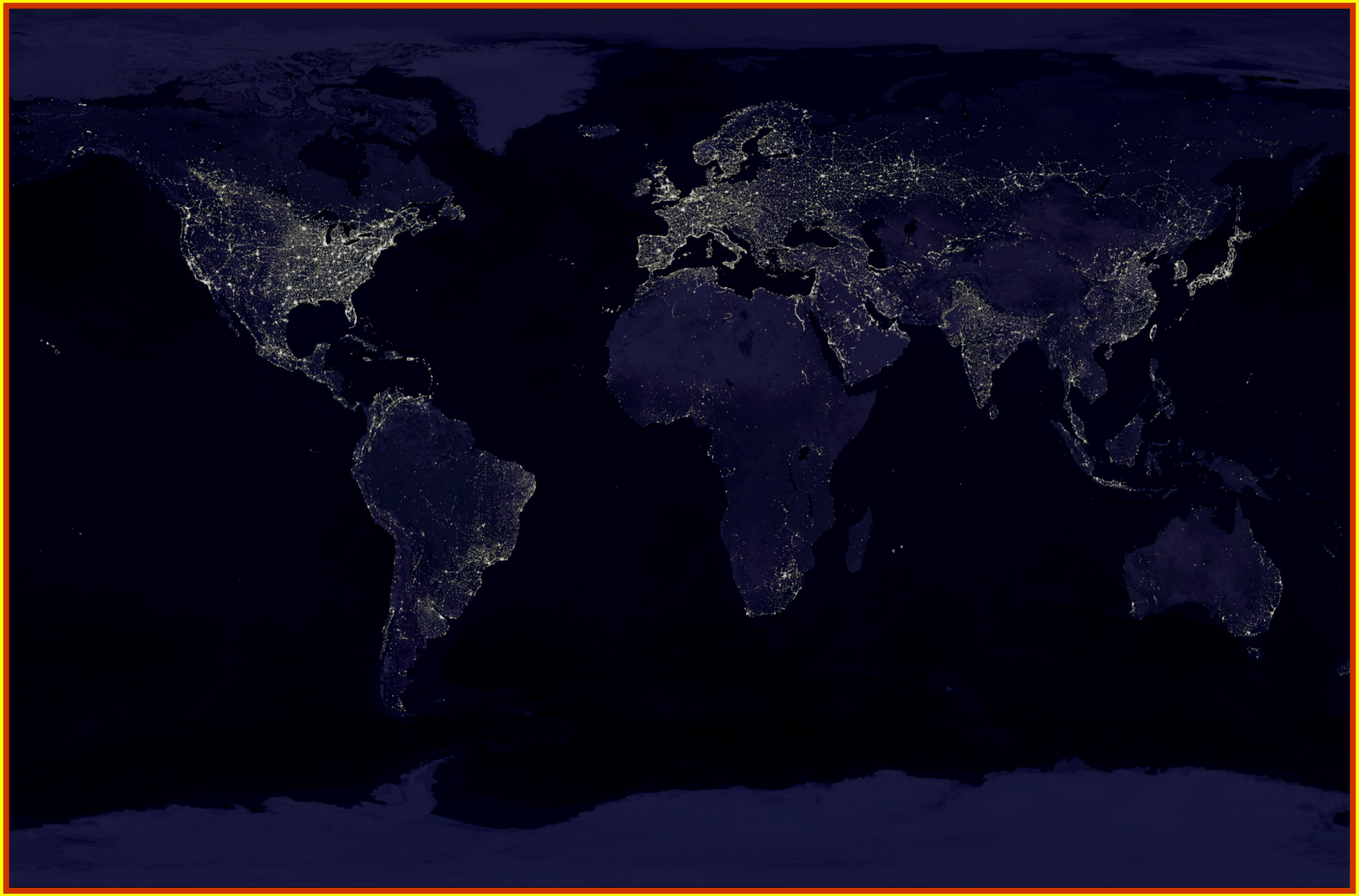
Shanghai

Hong Kong

Moscow

New York

Paris



Residential lighting shifts to LEDs after March 11th, 2011

LED Lighting
Musée du Louvre

- The SSL Annex is not a standards-making organization and the work of the Annex is to build consensus between member governments and to provide guidance to interested stakeholders.
- These proposals for Performance tiers should not be considered a proposed "Performance Standard". The creation of "Performance Standards" is the responsibility of organizations like the IEC, ANSI, etc. National Governments are also responsible for national performance standards, minimum efficiency programs or energy efficiency programs like ENERGY STAR.

IEA4E Activities (4)
-Electric Motor System-

- Electric Motor System Annex (EMSA)
  - Electric motor systems use 40% of global electricity.
  - In order to gain fast and efficient access to the large potential of energy efficiency improvements of motor systems, EMSA is organized in tasks that will each contribute to a coordinated effort towards rapid transformation of global markets by:
    - Spreading good practice,
    - New improved technology,
    - Positive policy experiences.
- Promotes high efficiency motors (IE3 Level) globally.
- Manages "Motor Summit" every year.

EMSA Newsletter

Global Motor Systems Network

4E Electric Motor Systems EMSA

EMSA Newsletter no. 3/2011

Zurich November 2011:
See you all at the Motor Summit 2012 in Zürich in December 2012!

1	This is the latest edition of the Electric Motor Systems Annex (EMSA) Newsletter. Our subscription has grown now to 2'468 people from 67 countries. Global Motor Systems Network is the outreach project of EMSA in the International Energy Agency's Implementing Agreement 4E: Efficient Electrical End-Use Equipment.	

	Events	
2	EEMODS'11 was held on 12 - 14 September 2011 in Alexandria VA (near Washington DC). The program was organized in 21 sessions with more than 70 papers presented. From EMSA presentations were made by: • Conrad U. Brunner: Harmonized standards for motors and systems • Konstantin Kulterer: Motor Policy Guide • Sandie B. Nielsen: Motor Systems Tool • Sarah Hatch: Testing Centres Network • Rita Werle: EMSA – the global effort • Rita Werle: First results of the Swiss financial incentive program Easy for efficient motor systems EEMODS'11 in Control Engineering:	ee mods '11 conference energy efficiency in motor driven systems  **Proceedings:** www.eemods.org **EMSA papers:** www.motorsystems.org/motor-events Part 1 / Part 2
3	The next **Motor Summit** will be held in Zurich Switzerland from **5 to 6 December 2012**. Registration will be open from spring 2012. Presentations, proceedings and photos of the last Motor Summit 2010 are available at:	MOTOR SUMMIT 2012 www.motorsummit.ch
4	The seventh International conference on **Improving Energy Efficiency in Commercial Buildings** (IEECB'12) will take place in Frankfurt, Germany on **18 - 19 April 2012**, during the Light+Building trade fair. Call for papers: http://re.jrc.ec.europa.eu/energyefficiency/events.htm	

IEA4E Activities (5)
-Standby Power-

- Objectives;
  - To monitor and report the extent of, and changes in, energy consumption by electrical appliances in low-power modes (standby power),
  - To support the development of policies which seek to minimize excessive energy consumption by products in standby power modes.
- Towards 1 watt.
- Recent topics are to reduce standby power in the network (Network Standby).

Standby Power Newsletter

EDITION 9 / JULY 2011

LoadDown

THE STANDBY POWER NEWSLETTER

Load Down is supported by the International Energy Agency (IEA) Efficient Electrical End-Use Equipment (4E) Implementing Agreement.

If you would like to subscribe to *Load Down* simply email your details to: energyrating@climatechange.gov.au

This edition of *Load Down* includes

- APP Standby Project Migration
- 4E Outcomes from Zurich
- Latest News from Lot 26 Study
- Australian Store Survey

APP Standby Project Migration

The Asia-Pacific Partnership on Clean Development and Climate (APP) formally concluded on 5 April 2011. The partnership had been in existence since 2006 and successfully fostered public and private sector cooperation on clean development and climate within its seven partner countries. Significant opportunities have arisen to expand and share this work beyond the APP group, hence a decision was made to conclude the partnership and migrate activities into other multilateral efforts.

The APP Alignment of National Standby Power Approaches project submitted a final status report in February 2011. The project, which began in 2007, had completed the first two stages: development of a common approach to achieve lower standby and the ongoing maintenance of an annual reporting function measuring the standby of new products. More recently the project had begun looking at ways to reduce standby power in the relatively new area of network connected products. Several consultants are still undertaking work in this area on behalf of the project and it was decided that these would be migrated to the 4E standby power annex. The APP standby project has collaborated closely with the Annex in the past and currently the Annex counts 4 APP partners among its membership. The migration of this work brings the APP standby project to an end.

The final reports and presentations of the APP Task Forces are available on the website: http://www.asiapacificpartnership.org/english/default.aspx. The APP website will be maintained, providing access to the information and outcomes achieved by the partnership.

ASIA-PACIFIC PARTNERSHIP BUILDING AND APPLIANCE TASKFORCE

In this Issue APP Standby Project Migration > Latest News from Lot 26 Study > 4E Outcomes from Zurich > Australia Store Survey >

Future IEA4E Events in Japan in 2012

- March, 2012
  - SSL Annex Expert Meeting
  - International Symposium on LED Lighting Standardization
- November 5th to 9th, 2012
  - ExCo and Annex Meetings
  - Asian S&L Workshop will be held as a satellite meeting

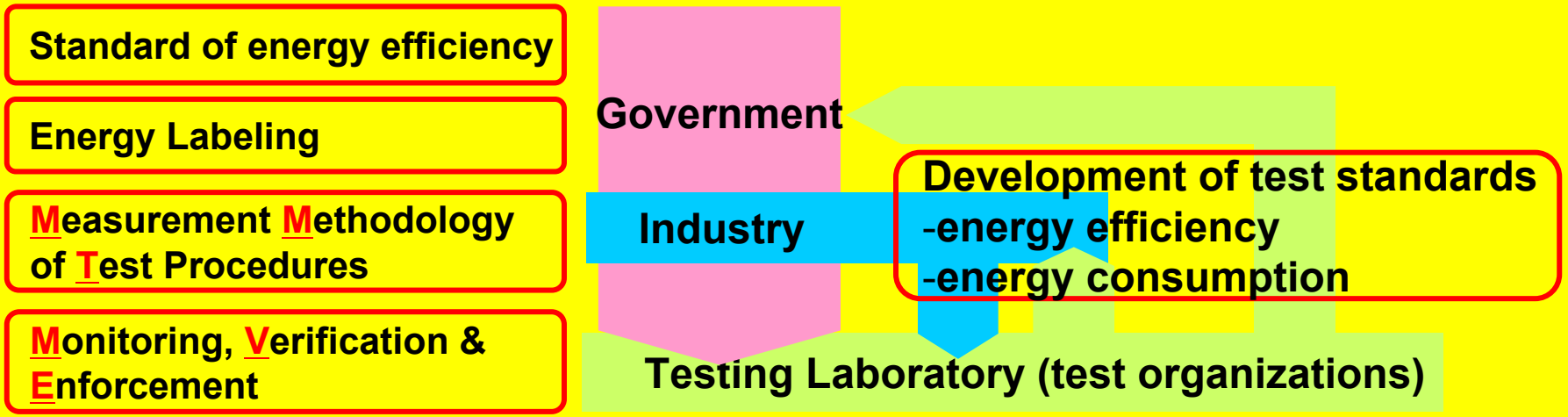
SSL Standardization Symposium

- International Symposium on LED Standardization will be held at Tokyo on Thursday, March 8th of this year.
  http://www.nikkei-events.jp/ledsympo2012/
  - Organizers; Japan LED Association, Japan Luminaires Association, Japan Lamp Manufacturers Association, Japan Electrical Safety & Environment Technology Laboratories, Nikkei Inc.
  - Co-Organizer; NEDO
  - Sponsors; The Illuminating Engineering Institute of Japan, Japanese National Committee of CIE
  - Supporters; METI, National Institute of Advanced Industrial Science and Technology, National Institute of Technology and Evaluation
- National/Regional standardization policies are expected from representatives of Europe, North America, China and Japan. Also we will have opinions and comments from Global Lighting Forum (GLF). The Symposium will be summarized by the Chair of Japan CIE.
- Participations are highly welcomed.

Asian S&L Workshop

- Japan invites IEA4E ExCo and Annexes Meetings at Tokyo.
- JEMA will host the "Workshop on the Asian S&L Scheme and Harmonization of Test Standard (tentative)" as the satellite meeting of the IEA4E.
  - To support Asian countries in continuous improvement on S&L and MVE scheme.
  - Target products; household refrigerator, air conditioner.
  - Possible participants; Thailand, India, Indonesia, Vietnam, Philippines, Malaysia and Japan.
- Expected collaborations with IEA4E
  - To outreach the IEA4E activities to Asian Region.
  - To supply Asian Countries the Mapping & Benchmarking outcomes.
  - To support the Asian regional program in improving the S&L scheme, harmonization of test standard, and other energy saving policy.

- Background
  - JEMA reported at the last M&B Meeting held at Sydney ExCo that Japan proposed ISO/IEC the internationally harmonized test standards which take into the actual usage condition of each country consideration regarding air conditioner and household refrigerator,
  - The internationally harmonized standards are able to contribute to MVE through MMT which are responsible to national testing organization.



Energy Conservation is the Most Important Issue for Saving the Earth

Thank you for your attention

contact：report@tky.ieej.or.jp