

**IMPLEMENTING AGREEMENT  
FOR A CO-OPERATIVE PROGRAMME  
ON EFFICIENT ELECTRICAL  
END-USE EQUIPMENT (4E)**

# 2009 ANNUAL REPORT



Efficient Electrical End-Use Equipment  
International Energy Agency

# 2009

## ANNUAL REPORT

### 4E IMPLEMENTING AGREEMENT

3	ABOUT THE INTERNATIONAL ENERGY AGENCY (IEA)
4	IEA IMPLEMENTING AGREEMENTS (IAS)
5	CHAIR'S STATEMENT
6	KEY E4 MILESTONES FOR 2009
7	EXECUTIVE COMMITTEE
8	4E ANNEXES
9	4E MAPPING AND BENCHMARKING ANNEX
12	4E ELECTRIC MOTOR SYSTEMS ANNEX (EMSA)
15	4E STANDBY POWER ANNEX
18	4E COMMUNICATION
19	LOOKING FORWARD TO 2010 AND BEYOND
20	EXECUTIVE COMMITTEE MEMBERS 4E



## ABOUT THE INTERNATIONAL ENERGY AGENCY (IEA)

The IEA was established as an autonomous agency in November 1974. Its mandate is two-fold: to promote energy security amongst its member countries through collective response to physical disruptions in oil supply and to advise member countries on sound energy policy.

The IEA carries out a comprehensive programme of energy co-operation among 28 advanced economies, each of which is obliged to hold oil stocks equivalent to 90 days of its net imports.

The Agency aims to:

- ▶ Secure member countries' access to reliable and ample supplies of all forms of energy; in particular, through maintaining effective emergency response capabilities in case of oil supply disruptions.
- ▶ Promote sustainable energy policies that spur economic growth and environmental protection in a global context – particularly in terms of reducing greenhouse-gas emissions that contribute to climate change.
- ▶ Improve transparency of international markets through collection and analysis of energy data.
- ▶ Support global collaboration on energy technology to secure future energy supplies and mitigate their environmental impact, including through improved energy efficiency and development and deployment of low-carbon technologies.
- ▶ Find solutions to global energy challenges through engagement and dialogue with non-member countries, industry, international organisations and other stakeholders.

With a staff of around 190, mainly energy experts and statisticians from its 28 member countries, the IEA conducts a broad programme of energy research, data compilation, publications and public dissemination of the latest energy policy analysis and recommendations on good practices.

## IEA IMPLEMENTING AGREEMENTS (IAS)

To support the IEA's core issues, the IEA created a legal contract – Implementing Agreement – and a system of standard rules and regulations that would allow interested member and non-member governments to pool resources and research the development and deployment of particular technologies.

The IEA technology collaboration programme is open to IEA member and non-member countries. Typically, participants are:

- ▶ Governmental or energy technology entities representing governments
- ▶ Research institutes and universities
- ▶ Energy technology companies

For more than 30 years, technology collaboration has been a fundamental building block among IEA member and non-member countries in facilitating progress of new or improved energy technologies. In 2007 there were 41 collaborative projects with several thousand participants from 72 countries, organisations or companies working in the areas of:

- ▶ Cross-Cutting Activities
- ▶ End-Use (buildings, electricity, industry, transport)
- ▶ Fossil Fuels
- ▶ Fusion Power
- ▶ Renewable Energies and Hydrogen

Each Implementing Agreement has a unique scope and range of activities, although the work typically includes technology and policy assessments, research projects, information exchange and the dissemination of results and experiences.

International energy technology collaboration provides many advantages to participants, including:

- ▶ Reduced cost and duplication of work
- ▶ Greater project scale
- ▶ Information sharing and networking
- ▶ Linking IEA member countries and non-member countries
- ▶ Linking research, industry and policy
- ▶ Accelerated development and deployment
- ▶ Harmonized technical standards
- ▶ Strengthened national RD&D capabilities

Further information is available at: <http://www.iea.org/techno/index.asp>



## CHAIR'S STATEMENT

2009 has been a busy year for the 4E Implementing Agreement as we turn the commitment of our participating governments into collaborative action.

I am pleased to be able to report that even after this first full year of operation our efforts are bearing fruit and becoming more visible.

Forging real collaboration amongst governments involves identifying the gaps between what policy makers need and what is currently available. This is not a speedy process but a vital one to ensure that 4E's work makes a significant contribution to the development of effective energy efficiency policies for electrical appliances.

All three of the Annexes operating during 2009 have made substantial progress in their varied tasks, whether these comprise data collection and analysis, creating linkages with regional projects to provide a global picture, or through the adoption of common procedures for measuring and reporting energy use. In a year when '*International harmonisation*' has been one of the key phrases in this policy debate, it has been particularly gratifying to see 4E deliver some of the building blocks that turn harmonisation from an aspiration to a reality.

2009 began with the United Kingdom joining the existing nine member countries taking an active role in 4E; and ended with the welcome addition of South Africa. As 4E demonstrates its effectiveness and develops new projects, it is gratifying to see that interest is expanding beyond the current membership. Already plans are being made for new initiatives in the area of Solid State Lighting and Compliance that are likely to introduce 4E to a new group of stakeholders, and lead to more effective policies.

In this formative period, 4E has limited its outreach activities to some strategic events and activities, such as the '*Bright Spark*' newsletter, and the development of linkages with related organisations and projects, such as the Asia Pacific Partnership, APEC, CLASP and national programmes. This work is resource intensive and time-consuming but it is vital to ensure that 4E has a clearly defined role and its activities add real value. As the output from the Annexes grows during 2010, we will be placing greater emphasis on communication and the dissemination of results beyond current the participants.

None of this would be possible without the commitment of our member governments and their delegates, which have continued to show terrific leadership and dedication to the aims of 4E and to energy efficiency. I would like to take this opportunity to thank all delegates and the Operating Agents for their efforts in establishing their various highly effective teams and I look forward to working with them during 2010.



Hans-Paul Siderius  
Chairman, 4E  
March 2010



## KEY E4 MILESTONES FOR 2009

### JANUARY

Publication of 1st 4E Motor Systems Annex (EMSA) newsletter

### FEBRUARY

Publication of Electric Motors MEPS Guide by EMSA

### MARCH

United Kingdom joins 4E

### APRIL

China and Brazil invited to join 4E

3rd ExCo meeting, Paris, France

M&B and Standby Annexes launched

4E addresses EE Global, Paris

EMSA meeting, Copenhagen

Publication of 2nd EMSA newsletter in English and Chinese

### JUNE

4E presents to European Council for an Energy Efficient Economy (ECEEE) and 5th International Energy Efficiency in Domestic Appliances and Lighting (EEDAL) Conferences

Publication of 1st Mapping & Benchmarking Annex newsletter

### AUGUST

Publication of 2nd Mapping & Benchmarking Annex newsletter

Publication of 4E '*Frequently Asked Questions*'

### SEPTEMBER

Presentations to Energy Efficiency in Motor Driven Systems Conference (EEMODS), Nantes, France

Publication of 3rd EMSA newsletter in English and Chinese

### OCTOBER

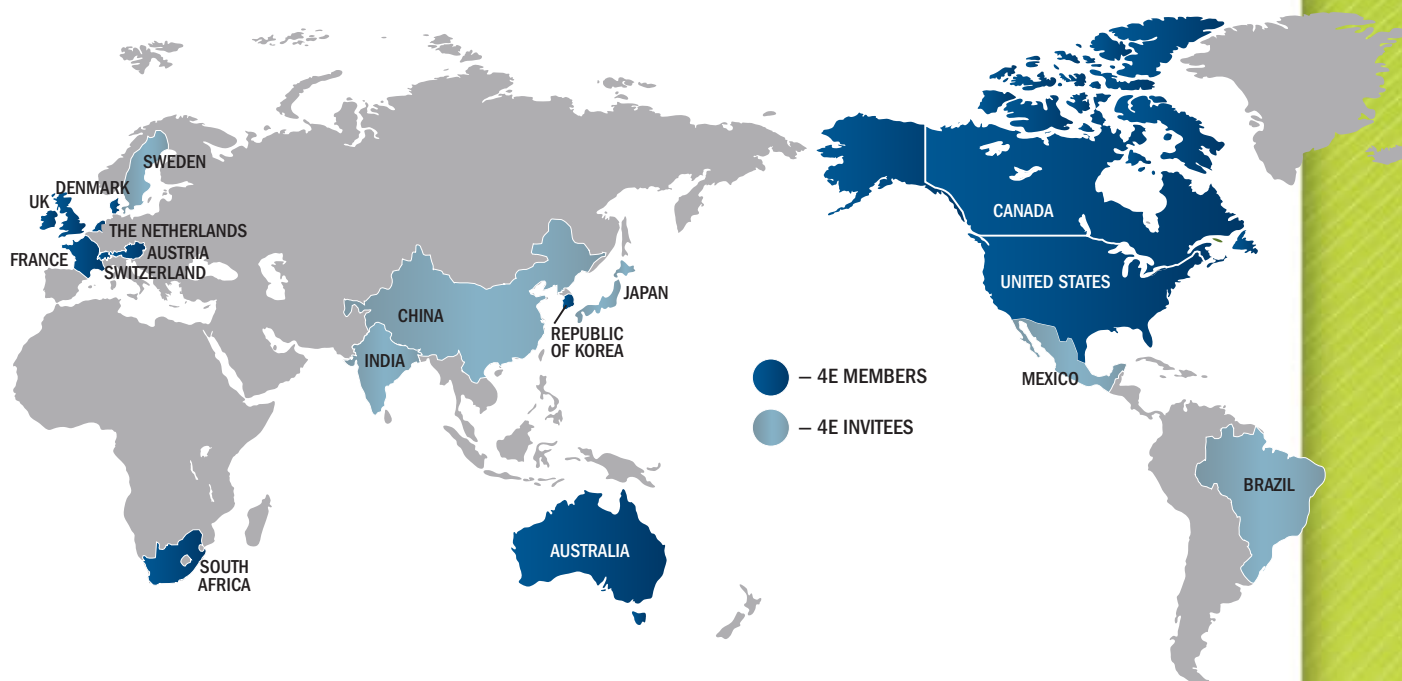
Publication of first 4E Newsletter, "*Bright Spark*"

### NOVEMBER

South Africa joins 4E

4th ExCo meeting, Seoul, Korea

Inaugural S&L programme managers meeting



## EXECUTIVE COMMITTEE

The third and fourth meetings of the Executive committee were held during 2009. These were convened in Paris (27 April) and Seoul (4-5 November), continuing the commitment to holding meetings accessible to all delegates.

In 2009, 4E delegates determined to not only manage existing 4E activities but also to actively expand its membership, scope of work and profile. As a result, the ExCo unanimously approved invitations to join 4E for South Africa, China, Brazil, Sweden, Germany, Mexico, Russia and India following enquiries expressing interest. These prospective members were invited to send observers to future ExCo meetings in order to better understand the work involved in 4E and make a decision about membership.

As the profile of energy efficiency continues to grow, the potential role for 4E increases and delegates are keen to exploit these opportunities. During the year, discussions were held with International Partnership on Energy Efficiency Cooperation (IPEEC) to explore cooperation opportunities; and valuable links have been forged between 4E Annexes and related project in many regions of the world. The wider opportunities for 4E have also been debated by delegates, and the results of these preliminary discussions are included later in this report.

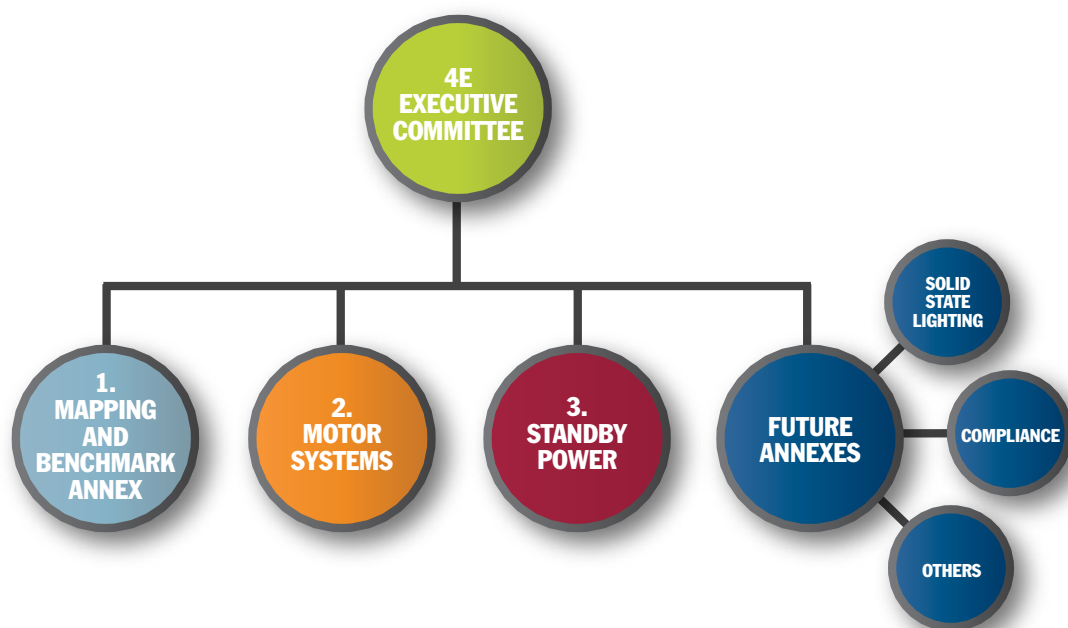
Mindful of the close relationship between the work of 4E and the activities of the Energy Efficiency and Environment Division (EED) of the IEA, ExCo meetings include a regular update from EED and the chance to plan coordinated actions. In addition to the initiation of two new Annexes (see below), 4E delegates discussed several areas of new work, including co-operation with the DSM Implementing Agreement Task XX "The Branding of Energy Efficiency" and a proposal for facilitating demand response capacity in end-use equipment. Outline proposals for potential Annexes in the solid state lighting field and compliance were also considered, and are likely to result in the development of new initiatives during 2010.

A further important initiative launched by 4E during 2009 has been the "Appliance Energy Efficiency S&L Program Managers Meeting", which brings together managers of national energy efficiency standards and labelling (S&L) programs to explore the

scope for increased co-operation and co-ordination. This forum uniquely provides an opportunity for senior officials with responsibility for national S&L programs to discuss their forward plans and priorities with counterparts. This group held its first meeting in Seoul in November 2009, and agreed to continue meeting under the auspices of 4E.

Future ExCo meetings will be held as follows:

- |                           |                     |                   |
|---------------------------|---------------------|-------------------|
| ► <b>5th ExCo Meeting</b> | Vienna, Austria     | 4 March 2010      |
| ► <b>6th ExCo Meeting</b> | Ottawa, Canada      | 2-5 November 2010 |
| ► <b>7th ExCo Meeting</b> | Zurich, Switzerland | 16-20 May         |



## 4E ANNEXES

The Annexes form the core of 4E's collaborative activities in advancing energy efficiency, where participating countries undertake an agreed set of tasks focussed on a particular topic. These work plans and their respective budgets are typically set for a three year period and are negotiated amongst the participating countries.

During 2008, the Annex on Electric Motor Systems (EMSA), led by Switzerland, became the first 4E Annex to gain approval. In April 2009, the Mapping and Benchmarking Annex (led by the United Kingdom) and the Standby Power Annex (led by Australia) were added. Reports on each of these three operational Annexes are included below.

Due to the pivotal role that the Mapping and Benchmarking Annex plays in informing future priorities for 4E, all participants are obliged to belong to and fund activities within this Annex. Otherwise, membership of all other Annexes is voluntary depending on the priorities of individual countries.



## 4E MAPPING AND BENCHMARKING ANNEX

The Mapping and Benchmarking (M&B) Annex aims to developing credible, reliable and timely information to alleviate the problem of policy-makers recommending actions on major environmental and economic impacts based on fragmented and incomplete data.

The activities of the M&B Annex address the identified need for an easy-to-understand and current summary of the energy efficiency of products available in participating countries. Specifically, the Annex compares the performance of products across different regions and shows the impact of energy efficiency policies on these products.

The output of the 4E Mapping and Benchmarking Annex will also be useful in identifying products with a high potential for energy and greenhouse gas savings, and therefore potential priorities for new 4E Annexes.

### OUTPUTS

The Mapping and Benchmarking Annex seeks to produce two primary outputs for each product:

#### A. Mapping of energy and efficiency for each country or region.

For each country where data is available, the Annex provides policy makers with a mapping of the changes in average product efficiencies and consumptions over time, along with the policy and cultural factors that may have influenced these changes.

Mappings also include overall consumption of stock (products already installed and in use). Figure 1 and 2 gives an example of such mappings from the first product (cold appliances).

#### B. Benchmarking of the product efficiencies and consumptions against others.

Such benchmarking is undertaken by "normalising" individual country/regional data to account for local regulations and test methodologies, thus providing

Figure 1: Product Energy Efficiency

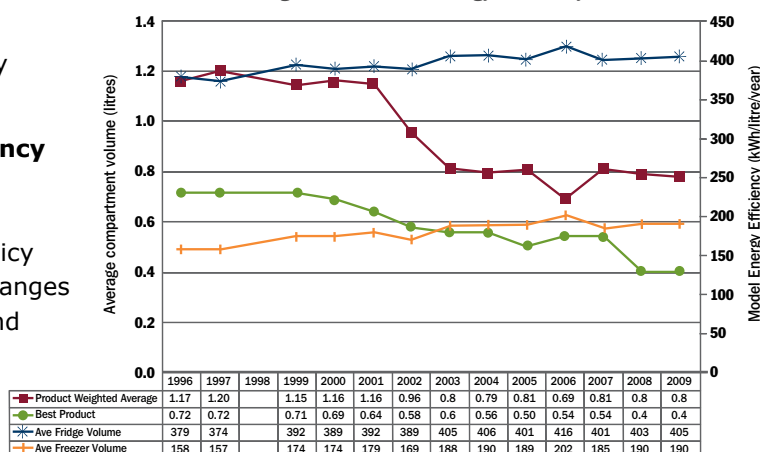
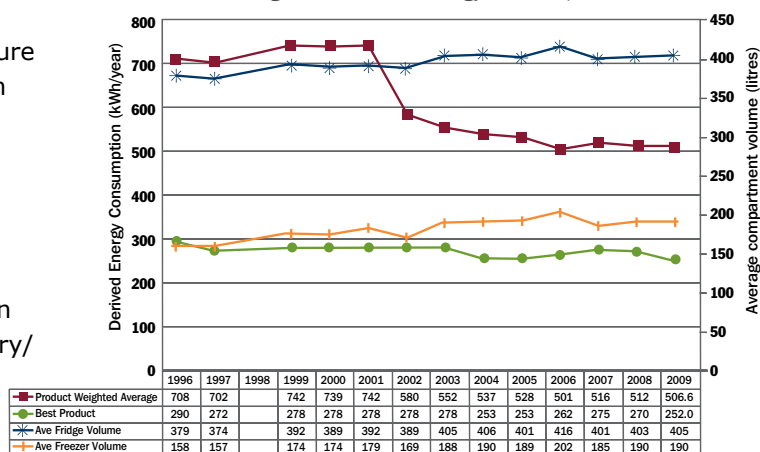
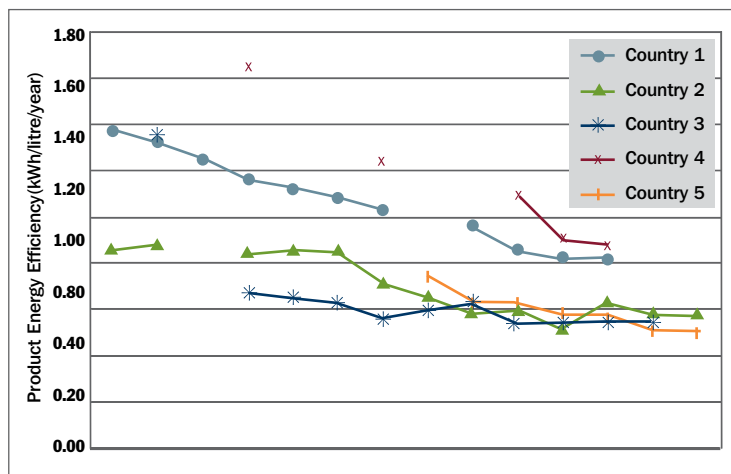


Figure 2: Product Energy Consumption



policy makers with a view of product consumptions and efficiencies in various countries or regions in a form comparable worldwide. The resulting comparisons are then further analysed to try to provide policy makers with guidance on trends in the market, which policies have been effective in the past and to signpost areas where policy makers should be focused in the short to medium term.

Figure 3: Comparative Energy Efficiency between Countries



## ANNEX WORK PLAN

Products identified as priorities for mapping and benchmarking are as follows:

- ▶ Fridges, freezers
- ▶ TVs
- ▶ Domestic Lighting
- ▶ Air conditioners
- ▶ Washing Machines
- ▶ Clothes dryers
- ▶ Laptops
- ▶ Water heaters
- ▶ Computer displays

During 2009, significant progress has been made with the following items:

- ▶ Establishment of the operation base for the Annex, including phase 1 and phase 2 website development;
- ▶ Completion of the overarching framework for the mapping and benchmarking process, definition of country coverage, and product listing (as outlined above);
- ▶ Draft Mappings and Benchmarking of the first two product groups (TVs and Cold Appliances);
- ▶ Initiation of detailed definitions for the next two products being appraised: Washing Machines and Air-Conditioning units.

## REPORTS PRODUCED IN 2009

Detailed briefings documents issued to participants include:

- ▶ Mapping of Cold Appliances energy performance for Australia, Austria, Canada, France, Korea, Switzerland, UK, USA, EU and China;
- ▶ Mapping of Television energy performance for Australia, Korea, Switzerland, UK, USA and EU;
- ▶ Benchmarking for both Television and Washing Machine to provide relative efficiencies and product consumptions between countries and indications of successful policy approaches.

- Discussion papers on geographical coverage of the Annex, Communications Strategies and third-party involvement.

In addition, two public newsletters were published.

### EXPERTS MEETINGS HELD IN 2009

Face to face experts meetings organised alongside the ExCo meetings have been alternated with teleconferences as follows:

- |   |                |                  |
|---|----------------|------------------|
| ► <b>1st M&amp;B Annex Management meeting</b> | Teleconference | 28 May 2009      |
| ► <b>2nd M&amp;B Annex Management meeting</b> | Seoul, Korea   | 3 November 2009  |
| ► <b>3rd M&amp;B Annex Management meeting</b> | Teleconference | 2 September 2009 |

### MEETINGS PLANNED FOR 2010

- |   |                 |                 |
|---|-----------------|-----------------|
| ► <b>4th M&amp;B Annex Management meeting</b> | Vienna, Austria | 3 March 2010    |
| ► <b>5th M&amp;B Annex Management meeting</b> | Teleconference  | July 2010       |
| ► <b>6th M&amp;B Annex Management meeting</b> | Ottawa, Canada  | 2 November 2010 |

### PARTICIPANTS

Australia, Austria, Canada, Denmark, France, Korea, Netherlands, Switzerland, United Kingdom, United States.

**Lead country** United Kingdom

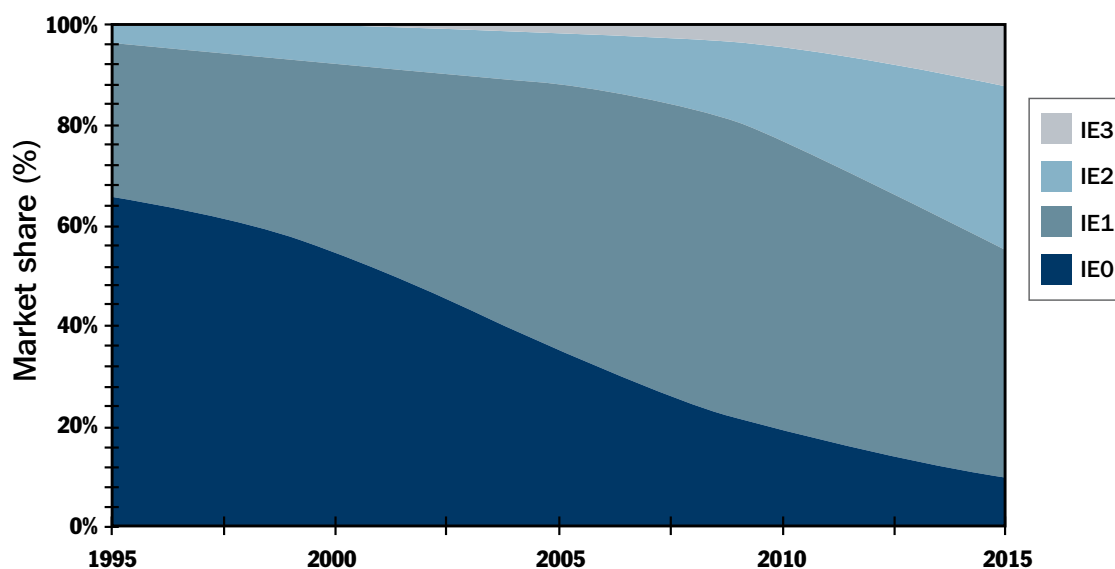
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## 4E ELECTRIC MOTOR SYSTEMS ANNEX (EMSA)

2009 has been an important year for the advancement of efficient motors and motor systems, with the European Commission decision to launch MEPS for electric motors in June, and the publication of major standards on testing, efficiency classification and a new guide for the application by the International Electrotechnical Commission (IEC) and CEN/CENELEC.

EMSA has played a substantial role in each of these initiatives through the direct participation of its members, its publications and coordination functions. Exploiting synergies between national efficiency programs, international work undertaken by the IEA and the IEC and other regional groups such as the Asia Pacific Partnership (APP), EMSA is already having an impact.



Source: A+B International 2009 global motor market study

Countries responsible for using 70% of the world's electricity will have Minimum Energy Performance Standards (MEPS) for motors by 2011. As a result, the market share of high efficiency motors (IE2) are estimated rise from 13% in 2005 to 50% in 2015. The market share of premium efficiency (IE3) will likely go from 3% in 2005 to 23% in 2015.

Nevertheless, subsequent penetration of the global running stock of electric motors will improve only very slowly - the IE3 share of running stock is estimated to go from 1% in 2005 only to 11% in 2015. This demonstrates that there is still a lot more that EMSA needs to do to reach its goal of increasing the energy efficiency of motor systems by 20% to 30%.



## ANNEX WORK PLAN

The Electric Motor Systems Annex tries to coordinate best technical practice and policy experience in order to stimulate market transformation towards energy efficiency in the field of electric motor systems applications in industry, infrastructure and large building. So far six countries (Australia, Austria, Denmark, The Netherlands, Switzerland and the UK) have agreed to collaborate, with several other countries expressing an interest.

The project deals with pumps, fans, compressor and industrial handling & processing and is organized into a work plan to 2010/11, structured into eight tasks as follows:

TASK	TASK LEADER
<b>A</b> Implementation support & outreach	Conrad U. Brunner (Switzerland)
<b>B</b> Technical guide for motor systems	Sandie B. Nielsen (Denmark)
<b>C</b> Testing centres	Sarah Hatch (Australia)
<b>D</b> Instruments for coherent motor policy (start 2010)	Konstantin Kulterer (Austria)
<b>E</b> Training & capacity building	Sandie B. Nielsen (Denmark)
<b>F</b> Energy management in industry	Rob de Klerck (The Netherlands)
<b>G</b> New motor technologies	Charles Gaisford (United Kingdom)
<b>H</b> Total motor systems integration (start later)	To be appointed

## REPORTS/PRESENTATIONS IN 2009

1st EMSA Newsletter	January
Electric Motor MEPS Guide: First Edition	February
2nd EMSA Newsletter	April
<i>Efficient Motor Systems, from Voluntary to Mandatory (4E EMSA),</i> Presentation EE Global by Conrad U. Brunner	April
2nd EMSA Newsletter in Chinese	May
EMSA Fact Sheet	May
<i>From Voluntary to mandatory, policy developments in electric motors between 2005 and 2009,</i> Paper presented at ECEEE 2009, Nils Borg & Conrad U. Brunner	June
<i>Harmonization of Energy-Efficiency Standards - The Pathway to Global Market Transformation,</i> EE Global, Paris France, Paper presented by Conrad U. Brunner	July
3rd EMSA Newsletter (English and Chinese)	September
Global Motor Systems Network: The International Energy Agency 4E EMSA Project. Presentation at EEMODS '09 by Conrad U. Brunner	September
Update on the IEA 4E EMSA Task C: Testing Centres. Presentation at EEMODS '09 by Sarah Hatch	September
Task G - New Motor Technologies for the IEA 4E EMSA project. Presentation at EEMODS '09 by Charles Gaisford <i>A total of 12 technical and policy papers were held at EEMODS'09 by EMSA members.</i>	September
EMSA Annual Report presented at ExCo in Korea	October

**EXPERTS MEETINGS HELD IN 2009**

- |                           |                     |                   |
|---------------------------|---------------------|-------------------|
| ▶ <b>1st EMSA meeting</b> | Copenhagen, Denmark | 29-30 April 2009  |
| ▶ <b>2nd EMSA meeting</b> | Nantes, France      | 14 September 2009 |

**SEMINARS/CONFERENCES HELD IN 2009**

- |                                |                |                   |
|--------------------------------|----------------|-------------------|
| ▶ <b>EMSA Testing Workshop</b> | Nantes, France | 17 September 2009 |
| ▶ <b>EEMODS '09</b>            | Nantes, France | 14-17 September   |

**MEETINGS PLANNED FOR 2010**

- |   |                     |                    |
|---|---------------------|--------------------|
| ▶ <b>3rd EMSA meeting</b>   | Vienna, Austria     | 1-2 March 2010     |
| ▶ <b>Public workshop: "Efficient Motor driven systems - International developments"</b> | Vienna, Austria     | 2 March 2010       |
| ▶ <b>4th EMSA meeting</b>   | Zurich, Switzerland | 25 October 2010    |
| ▶ <b>EMSA Testing Centres and New Motor Technology meeting</b>                          | Zurich, Switzerland | 26 October 2010    |
| ▶ <b>Motor Summit 2010</b>  | Zurich, Switzerland | 27-28 October 2010 |

**PARTICIPANTS**

Australia, Austria, Denmark, Netherlands, Switzerland, United Kingdom.

**Lead country** Switzerland

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## 4E STANDBY POWER ANNEX

Standby power is the term commonly used to describe the low power mode(s) which many electrical and electronic products use when not performing their main function(s) but when still connected to a power supply. Standby power has become ubiquitous in appliances and equipment as electronic controls become standard and, in most countries, there is evidence that energy consumption by products in standby mode is increasing rapidly.

The original standby “problem” that became apparent more than a decade ago related to electricity consumption by devices when apparently switched off or waiting to be activated by a remote control. This area has attracted significant attention and these issues have been largely tackled by policies all over the world. However, new challenges have emerged, especially in the field of network standby. The 4E Standby Annex therefore seeks to assist policy makers in development, implementation and measurement of effective policy action for standby power through:

- ▶ **Enhancing market knowledge:** The Annex will enhance the ability of individual countries to gather, analyse, and share market data on standby power, thus improving the overall knowledge base for decision making and enabling valid international comparisons so the rate of improvement or deterioration in standby power use can be quantified within and between countries against the backdrop of the policies employed.
- ▶ **Enabling improved policy application:** The Annex will assist in the development of tools for the application of horizontal approaches to standby which offer the most robust policy approach to tackling low power energy use across a wide range of products - enabling ongoing policy implementation without rapid redundancy and the possibility of coordination of policy approaches between countries.
- ▶ **Integration and co-ordination:** Building and developing the work undertaken by groups like the Asia Pacific Economic Cooperation (APEC), the Asia Pacific Partnership on Clean Development and Climate (APP) and the European EcoDesign Directive.



Measuring Standby Power in Indian and Korean retail outlets

## ANNEX WORK PLAN

To deliver the objectives of this Annex, a three year Work Plan has been agreed, containing the following elements:

TASK	DELIVERABLES
<b>A. DATA RELATED ACTIVITIES:</b>	
Undertake data collection, data collation and analysis, information dissemination through publication of reports, organisation of workshops and seminars, provision of information to other organisations, groups and conferences	<ul style="list-style-type: none"> <li>► Publication of an agreed methodology to undertake field measurements of standby power, and core products</li> <li>► Training workshops for in-store surveys in participating countries (one per participant)</li> <li>► Collate, analyse and publish national, regional and global data (Annual Report and web data)</li> </ul>
<b>B. EVALUATION OF POLICIES</b>	
Undertake studies to assess standby power policies in force and proposed, document different approaches and assess their relevance in different market structures information dissemination through publication of reports, organisation of workshops and seminars, provision of information to other organisations, groups and conferences	<ul style="list-style-type: none"> <li>► Collation of national standby power evaluation studies</li> <li>► Methodology for the assessment of standby power consumption and policy impacts</li> <li>► Technical assistance on the evaluation of policies</li> <li>► Inter-country evaluations of standby policies (one per year)</li> </ul>
<b>C. HORIZONTAL POLICY APPROACH</b>	
Undertake technical work which will assist in the development of a horizontal policy approach to tackle standby power for the growing number of products on the market information dissemination through publication of reports, organisation of workshops and seminars, provision of information to other organisations, groups and conferences	<ul style="list-style-type: none"> <li>► Review of current standby policy options adopted by countries (report)</li> <li>► Assessment of options for a horizontal standby approach (report)</li> <li>► Identification of key functions and power allowances</li> <li>► Organise three regional workshops (EU, USA, ASIA) over 2 year period</li> <li>► Produce final report summarising information and policy conclusions</li> </ul>
<b>D. NETWORK PRODUCTS:</b>	
While networking is technically a sub-element within a generalised horizontal approach to standby, it is an area of growing importance and concern, due to the number of products within this element and the magnitude of the energy related issues within networks. This task will examine the technical issues involved in network products and the potential for policies to enable effective power	<ul style="list-style-type: none"> <li>► Technical review of international and industry standards and protocols for networked products (report)</li> <li>► Identification of network functional allowances</li> <li>► Conference on network related energy issues</li> <li>► Produce final report summarising information and policy conclusions</li> </ul>



Following approval of the 4E Standby Annex in April 2009, significant progress has been made with the following items:

- ▶ Development and launch of the Standby Annex website, including a secure area, accessible only by members, containing all Annex meeting documents and papers;
- ▶ Co-operative arrangements with standby projects under the Asia Pacific Partnership on Clean Development and Climate (APP) and the Asia-Pacific Economic Cooperation (APEC).

### EXPERTS MEETINGS HELD IN 2009

- |  |              |                 |
|--|--------------|-----------------|
| ▶ <b>Network Standby liaison meeting</b><br>(4E representatives<br>and EU Contractors) | Berlin       | 18 June 2009    |
| ▶ <b>1st Standby Annex meeting</b>   | Seoul, Korea | 2 November 2009 |

### SEMINARS/CONFERENCES HELD IN 2009

- |   |              |                 |
|---|--------------|-----------------|
| ▶ <b>Joint 4E, APP, APEC<br/>Standby Power Workshop</b> | Seoul, Korea | 3 November 2009 |
|---|--------------|-----------------|

### MEETINGS PLANNED FOR 2010

- |   |                  |              |
|---|------------------|--------------|
| ▶ <b>International Standby Power<br/>Workshop Workshop,<br/>APP/SELINA/4E Standby Annex</b> | Vienna, Austria, | 2 March 2010 |
| ▶ <b>2nd Standby Annex meeting</b>  | Vienna, Austria  | 3 March 2010 |
| ▶ <b>3rd Standby Annex meeting</b>  | Japan            | late 2010    |
| ▶ <b>International standby conference<br/>(4E, APEC and APP)</b>                            | Japan            | late 2010    |

### PARTICIPANTS

Australia, Canada, Korea, Netherlands, Switzerland, United Kingdom.

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## 4E COMMUNICATION

In addition to the specific outreach activities targeted at associated groups and projects, more general communication under taken by the Chair or Operating Agent during 2009 included:

- ▶ Presentation to the EE Global meeting in Paris;
- ▶ Presentation to the European Council for an Energy Efficient Economy (ECEEE) Summer study in France;
- ▶ Presentation at the 5th International Conference on Energy Efficiency in Domestic Appliances and Lighting (EEDAL), Berlin;
- ▶ Articles in IEA Cutting Edge publication and IEA newsletters
- ▶ Six 4E newsletters including '*BrightSpark*'
- ▶ Distribution of 4E materials at COP 15;
- ▶ Publication of a 'Frequently Asked Questions' sheet to provide background information on 4E.



## WEBSITE

The 4E dedicated website provides a visible face to the work of 4E and platform for communication between participants. Designed by the Danish firm, Spang Media, the site contains is the main 4E portal and provides a gateway to Annex websites.

Other features of the website include:

- ▶ Featured front page articles on activities and accomplishments of the 4E IA;
- ▶ Automatic listing of News & Events from Annex website feeds;
- ▶ Background information and documents;
- ▶ Login area for participants.

## NEWSLETTERS

During 2009, 4E has produced 6 newsletters aimed at promoting the work of the Implementing Agreement and its Annexes to a wide range of stakeholders. EMSA produced three newsletters (including versions in Chinese), the Mapping & Benchmarking Annex published two, and the first edition of *Bright Spark* covering all of 4E activities was launched in October.



## LOOKING FORWARD TO 2010 AND BEYOND

As the demand for energy efficiency increases, 4E is considering further projects to improve the energy efficiency of electrical equipment.

At the ExCo meeting in Korea, delegates debated ideas and projects that could become the next initiatives launched by 4E. This debate generated robust and broad-ranging discussion that will be pursued at future meetings.

What is clear already is that 4E participants comprise a unique collection of expertise drawn from government in the field of efficient electrical equipment – both policy and technology – spanning most regions across the globe. This gives 4E the opportunity to work with other multilateral bodies with a wider charter, and to ensure linkages between regional projects, as well as initiating our own projects.

Some of the ideas that have been raised are included on this page. Others will no doubt be developed in further discussions amongst delegates and others through the 'Open Forums' which have become a feature associated with ExCo meetings.

### SOME OF THE IDEAS DISCUSSED BY 4E DELEGATES INCLUDE:

#### Beacon-on-the-hill projects

Exploring opportunities to integrate product policy within major international initiatives such as Zero Emissions Homes, IPEEC and the Smart Grid. By delivering the efficient electrical equipment component within these frameworks, 4E would gain increased support for more effective product policy.



Source: U.S Department of Energy, [www.energy.gov](http://www.energy.gov).

#### Targeted equipment projects

Analysis from the M&B Annex identifies electrical equipment with the most potential for improvements in efficiency – setting the priority for new Annexes supported by 4E countries. These new Annexes would identify the specific barriers facing technologies and address these through a clear set of tasks.

#### Promote Best Appliances

Initiating a global competition to identify and reward the most efficient existing models within major equipment categories. 4E could link with potential sponsors from industry and others bodies, such as the IEA and IPEEC, to deliver this initiative. This project could help in the identification of 'best available technology' used by countries in setting product policy.

#### Future Efficiency Levels

Answering the question: 'what is the least energy required to deliver the energy services we rely on', this project would give policy-makers important indicators of savings potentials. Projects in this field might marry efficiency and conservation goals and point policy-makers towards the technology and policy pathways needed to reach global climate change goals.

#### Efficiency vs Consumption

In most countries, electricity consumption is being driven up by the growing number of larger appliances, even though many individual devices are becoming more efficient. 4E could play a valuable role in identifying the policy options which could be used to tackle this emerging problem.



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