

4E

Efficient Electrical End-Use Equipment
International Energy Agency

Bright Spark

ISSUE 2.AUGUST 2010

"One of the fastest, easiest and cheapest ways to make our economy stronger and cleaner is to make our economy more energy efficient."

US President Barack Obama

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“I am delighted with the achievements of our existing Annexes and excited by two new projects for 2010: the Solid-State Lighting (SSL) Annex, and the International Conference ‘Saving More Energy Through Compliance’.”

INTRODUCTION

In the last edition of *Bright Spark*, I spoke of the rise in government awareness of energy efficiency as a means to deliver solutions to environmental and energy security problems.

Since then, it has been the **job creation** benefits of energy efficiency that have risen to the forefront; with many countries implementing economic stimulus packages that include weatherisation programmes. This represents an important acknowledgement of the many ‘co-benefits’ provided by investment in energy efficiency.

Yet, there is still much more that has to be done! The work of the 4E Mapping & Benchmarking Annex shows that there are still opportunities to better focus appliance policies in all countries to achieve even greater savings. The exponential growth in new appliances and new modes of operation also presents major challenges, and this is the focus of the Standby Power Annex.

Achieving international policy harmonisation is the goal of many governments, and the Motors Systems Annex (EMSA) has been hard at work delivering this. Through attention to the details of standards writing, developing practical guidelines and tools, and improving the alignment of global test facilities, EMSA has shown how harmonisation is possible.

As 4E enters its third year of operation, I am delighted with the achievements of our existing Annexes and excited by two new projects for 2010: the Solid-State Lighting (SSL) Annex, and the International Conference ‘Saving More Energy Through Compliance’. Both of these have brought the work of 4E to the attention of a new range of governments and partner organisations and this provides a great opportunity for 4E’s work to have even greater influence.

For example, the 4E SSL Annex was launched at the Clean Energy Ministerial in Washington D.C.

this July as a collaboration within the Super-Efficient Equipment and Appliance Deployment Initiative (SEAD) – a new international market transformation initiative.

The achievements of 4E are entirely reliant upon the contributions from member governments and their representatives, so we are delighted that since the last newsletter South Africa has become the eleventh country to join.

Sincerely,



Hans-Paul Siderius – Chairman 4E

4E’s Shane Holt at the launch of the Super-Efficient Equipment Initiative (SEAD) where the new 4E Solid State Lighting Annex was announced (see page 14)



Shown from left to right are:
Secretary Steven Chu, Department of Energy, United States
Deputy Chairman, Montek Singh Ahluwalia, Planning Commission, India
Gene Rodrigues, Chair, Consortium for Energy Efficiency
Andrew Velthaus, Senior Policy Advisor, The Global Environment Facility
Shane Holt, Director, Appliance Energy Efficiency Program, Australia
& representing IEA 4E
Commissioner Gunther Oettinger, European Commission

Improving energy efficiency is one of the quickest, greenest and most cost-effective ways to address energy security, economic growth and climate change challenges at the same time. More efficient transport, industry, buildings and equipment help limit direct fossil fuel needs as well as demand for electricity which continues to be generated in large part from natural gas and coal. Thus, energy efficiency measures can reduce the region's reliance on oil and gas imports and carbon emissions from fossil fuel combustion. Energy-efficient buildings and appliances are key to a sustainable future since the building sector accounts for two-fifths of energy use in the region. Net Zero Energy Buildings are being developed using energy-efficient appliances, components and systems. Trade and investment in energy efficient appliances can be encouraged through more harmonized standards and testing methods. We are therefore launching a Collaborative Assessment of Standards and Testing (CAST) for such appliances.

**NINTH MEETING OF APEC ENERGY MINISTERS
FUKUI DECLARATION ON
LOW CARBON PATHS TO ENERGY SECURITY:
COOPERATIVE ENERGY SOLUTIONS FOR A SUSTAINABLE APEC
Fukui, Japan, 19 June 2010**

INTERNATIONAL COMPARISONS HIGHLIGHT POLICY GAPS

PROGRESS WITH THE 4E MAPPING AND BENCHMARKING ANNEX

“Robust, reliable information on the energy consumption and performance of products is the cornerstone for developing effective and relevant policies on energy efficiency”, says Davide Minotti, Chair of the Mapping and Benchmarking Annex Management Committee, “We’re pleased to report that the work on the Annex so far has demonstrated that the collation of this data and comparison of product efficiency across countries is both feasible and relevant.”

Since the Annex started work in June last year, product definitions have been developed for:

- ▶ Air conditioners
- ▶ Cold appliances
- ▶ Domestic lighting
- ▶ Televisions
- ▶ Washing machines

These set the boundaries defining the products for use in data collection and analysis. They are also useful documents for policy makers in their own right

– distilling the often complex data on the sub-groups and functionalities within a product category into a key set of metrics that describe the performance of that product. They are publicly available at <http://mappingandbenchmarking.iea-4e.org/matrix>.

Mapping sheets based on these product definitions are then developed for each country. These seek to provide a detailed breakdown of the product’s energy efficiency and consumption and the associated regulatory regimes, to allow identification of the impacts of policy on product performance over extended periods.

The mapping sheets are then drawn together into product benchmarking documents. These provide comparisons of the performance of products across national boundaries and seek to identify potential key factors that may cause these differences; thereby presenting policy makers with clear and concise information on the comparative performance of products within their own market and

“The work on the Annex so far has demonstrated that the collation of this data and comparison of product efficiency across countries is both feasible and relevant.”



“The product mapping sheets give policy makers a clear, concise summary of the information available on each product in their country”



identification of potential policies that may improve that performance.

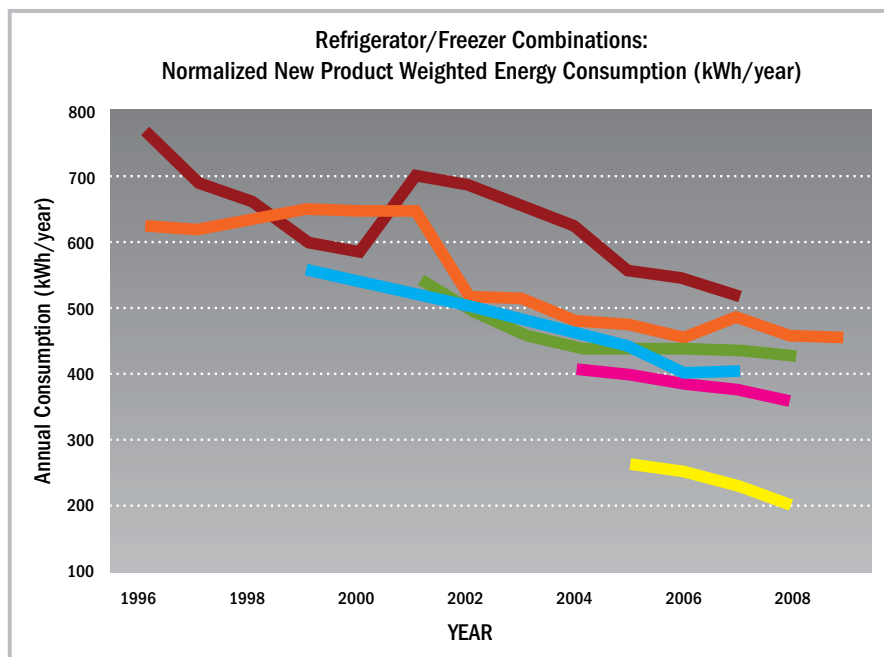
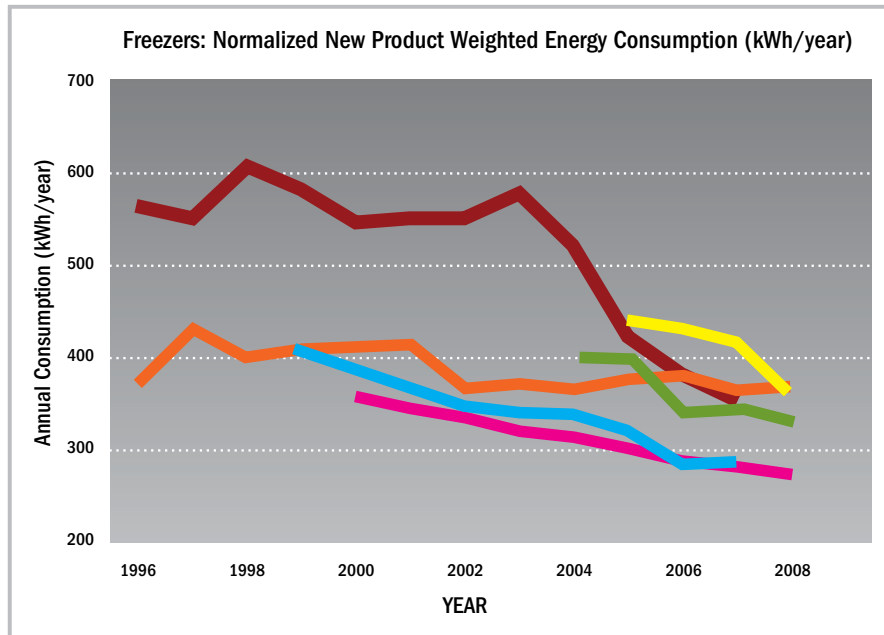
The full mapping and benchmarking process has now been completed for cold appliances and televisions. One of the major benefits of participation in the Annex is that members are able to view the individual country mapping sheets and the benchmarking reports for each product on the website prior to issue, thus enabling early use of the information and full review of content prior to public issue.

According to Stuart Jeffcott, Operating Agent for the Annex, “The product mapping sheets give policy makers a clear, concise summary of the information available on each product in their country and, in some cases, this is the first time that the information has been available in this way. Certainly, the benchmarking report makes it possible for policy makers to compare the performance of their products with that of other countries for the first time”

Indeed the benchmarking reports for cold appliances and televisions have provided some interesting insights, which are summarised in the inset box.

Davide concludes by saying, “The mapping and benchmarking exercise for air conditioners and washing machines is well advanced. We expect these benchmarking reports to be complete in about two months and we look forward to the insights and perspective that they will give us on these products”

Examples of the outputs from the benchmarking exercise - unmasked data available to 4E participants

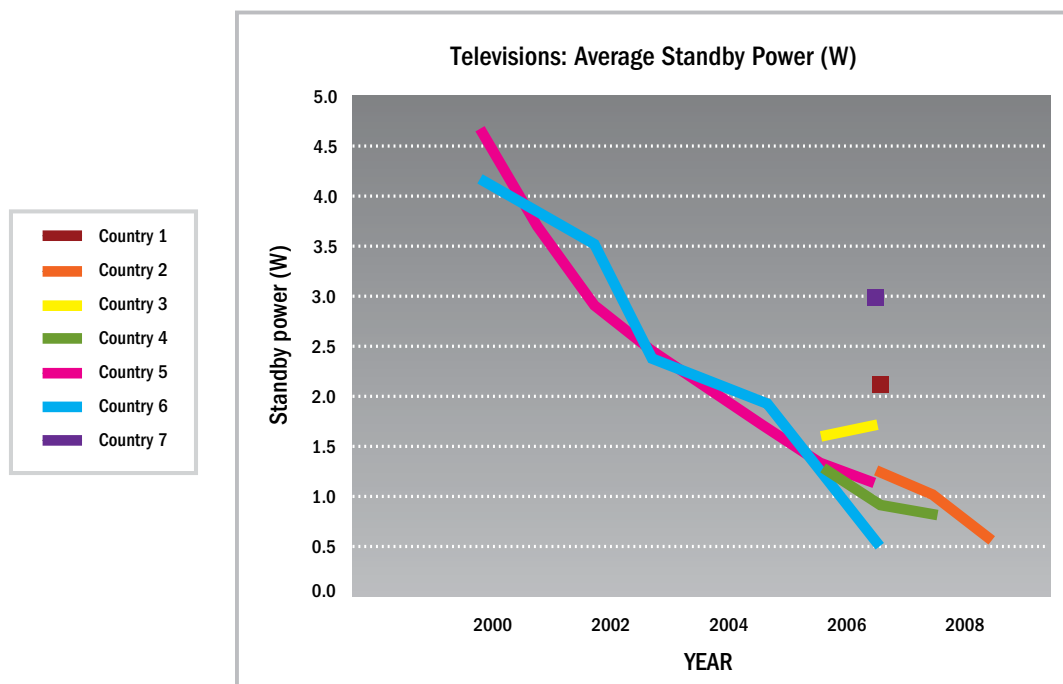


OBSERVATIONS FROM BENCHMARKING EXERCISE

COLD APPLIANCES

- ▶ The differences in cold appliance energy consumption between individual products in the various countries are relatively small and significantly less than expected given the large variation in internal storage volumes;
- ▶ Energy efficiency has been improving in almost all regions, although rates of improvement vary significantly between countries. However, there are indications that much of this improvement in efficiency may be through increased product volumes;
- ▶ Therefore, to manage total consumption, policy makers should consider measures to manage overall product consumption rather than relying simply upon management of product efficiency;
- ▶ The markets where mandatory labelling and/or MEPS were introduced earlier and/or are revised regularly tend to be the markets with the better performing products. The combination of MEPS and mandatory labelling appear to have maximum market impact;
- ▶ The explosive growth in ownership levels in China is more than outweighing any overall energy/efficiency gains made elsewhere (despite rapid improvement in the performance of Chinese products);
- ▶ Thus, policy makers outside China who are seeking to manage overall carbon emissions may wish to consider the value of redirecting some of their resources towards supporting the China government in actions being undertaken to manage demand.

Examples of the outputs from the benchmarking exercise -
unmasked data available to 4E participants



TELEVISIONS

- ▶ The data indicated that in 2009 LCD screens achieved over 35% better energy efficiency than plasma screens (measured using Energy Efficiency Index, EEI, as proposed for the European energy label scheme);
- ▶ Overall average efficiency appears to be improving slightly from 2008 to 2009, with efficiency improvement evident for both LCD and plasma screens;
- ▶ On mode power in Watts is probably the most useful indicator to track likely national consumption trends. Average on mode power for new televisions was in the region of 74W for CRT screens (in 2007); 134W for LCD screens (2009); and 287W for plasma screens (2009). The average new plasma screen consumes over twice the power of the average new LCD screen;
- ▶ Screen size is a significant issue affecting total consumption. Some evidence indicates that screen diagonal size may have grown by some 40% since 2000 (almost doubling the area and adding 60% to typical energy consumption). But growth in screen sizes has slowed to only a few percent since 2007;
- ▶ As new and emerging technologies are improving energy efficiency, this may offset the impact of further increases in screen size;
- ▶ Standby consumption has achieved, or is heading for achieving, less than 1W in 2010 for almost all new televisions. However, much higher consuming (non-default) standby modes are becoming available, for example to enable rapid start. These modes warrant monitoring for policy risk, as do emerging functionalities such as internet enabled televisions, televisions with multiple tuners etc.;
- ▶ There is a need for better quality and more consistent energy performance data, which should become easier now that a global test methodology has been established and energy labels for televisions are emerging in several regions.

“Electric motor systems are responsible for over 40% of global electricity use”

TOP GEAR FOR ENERGY SAVINGS

PROGRESS WITH THE 4E ELECTRIC MOTOR SYSTEMS ANNEX (EMSA)

“Electric motor systems are responsible for over 40% of global electricity use”, says Conrad Brunner, Operating Agent for EMSA, “Fortunately, Best Available Technology for motors and components is already available on the global market and, by taking into account the two key principles of ‘life cycle cost’ and ‘systems integration and optimization’, investments into more efficient motor systems can be realised with short payback times”.

Using this as a foundation, EMSA focuses on improving the efficiency not only of the motor itself but also the core motor system (such as the pump, fan, compressor and auxiliary components like variable speed drive, gear, transmission belt, brakes, etc.). Working through its seven tasks, each managed by one of the six Annex member countries (see inset box), it disseminates information and aims to support standards and policy development processes to improve the energy performance of new and existing motor systems in both industrialized and developing countries.

EMSA TASKS

A	Switzerland	Implementation support and outreach
B	Denmark	Technical guide for motor systems
C	Australia	Testing centres
D	Austria	Instruments for coherent motor policy
E	Denmark	Training and capacity building
F	Netherlands	Energy management in industry
G	United Kingdom	New motor technologies

The Motor Summit co-sponsored by EMSA is a key component of this effort, providing an international forum to bring policy makers and their technical advisers up to speed with motor system efficiency issues. These include the latest technological innovations, the current state of market penetration as well as strategies and actions to overcome barriers hindering the widespread use of highly efficient motor systems.

This year’s Motor Summit is being held in Zurich, Switzerland on 26-28 October 2010. See the inset box for an overview of the event or visit www.motorsummit.ch for more information on the programme or to register.

MOTOR SUMMIT 2010: PROGRAMME OVERVIEW

Monday 25.10	Tuesday 26.10	Wednesday 27.10	Thursday 28.10	
EMSA Internal Meeting	EMSA/ Australia Testing Centres	MS'10 International Day	MS'10 Swiss Day	EMSA/UK: New Motor Technology
Members only English	Members plus public English	Open English	Open German	Members plus public English
am session Progress report	am session Progress report	am session Key Note: BFE director, Walter Steinmann	am session Key Note: BFE ECH, Michael Kaufmann	am session Progress report
Lunch				
pm session Conclusions	pm session Discussion, Conclusions	pm session	pm session	pm session Discussion, Conclusions
Reception Welcome dinner	Free time	Reception MS '10 dinner	Apero	

According to Roland Brüniger, the Chair of the EMSA Management Committee, "The particular focus of the Motor Summit 2010 is to support the EU Energy-Using Products Eco-Design Directive, the harmonized IEC motor testing and energy classification standard and the US legislation on NEMA Premium Motors minimum energy performance standards".

The summit also provides an opportunity to showcase and further the work of two Annex tasks, with workshops on Task C, *Testing Centres*, and Task G, *New Motor Technology*, being held on 26 and 28 October 2010 respectively.

Task C: Testing centres

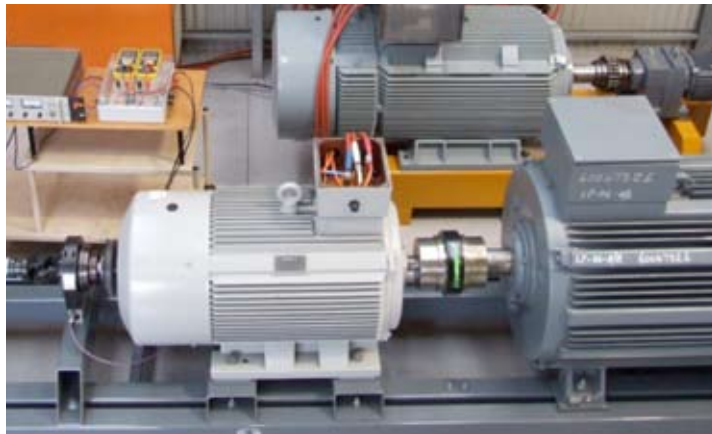
The aim of Task C is to raise the quality of motor testing worldwide by developing networks between laboratories around the world and producing an interpretive guide to the international test method. The testing centre network includes laboratories from industry, as well as independent government and university laboratories. To facilitate discussion among the test laboratories an online forum, www.leonardo-energy.org/testing-centres-motor-efficiency, was set up in September 2009 and articles are added periodically.

The potential benefits from improved energy efficiency of electric motors have been recognised by many governments leading to implementation of mandatory minimum energy performance standards (MEPS) for certain electric motors (primarily those from 0.75kW up to 375kW). However, although many regulators now recognize the importance of MEPS, there are still differences between motor MEPS and the test methods used around the world that impede market transformation programs.

Effective motor testing depends on both manufacturers and independent



CalTest, Australia



test centres undertaking tests as consistently as possible. With this in mind, the International Electrotechnical Commission (IEC) developed the international test standard, *IEC 60034-2-1, 'Rotating electrical machines - Part 2-1: Standard methods for determining losses and efficiency from tests'* for measuring the efficiency of electric motors. Although the standard was intended to harmonize test methods around the world, it still contains options for four distinct test methods which can be used to measure

motor efficiency with low uncertainty and six other test methods with medium or high uncertainty. Since there are some areas that remain open to interpretation in the standard, Task C is currently working to produce an interpretive guide to IEC 60034-2-1, and to develop a test data set for laboratories to compare algorithms.

Task G: New technologies

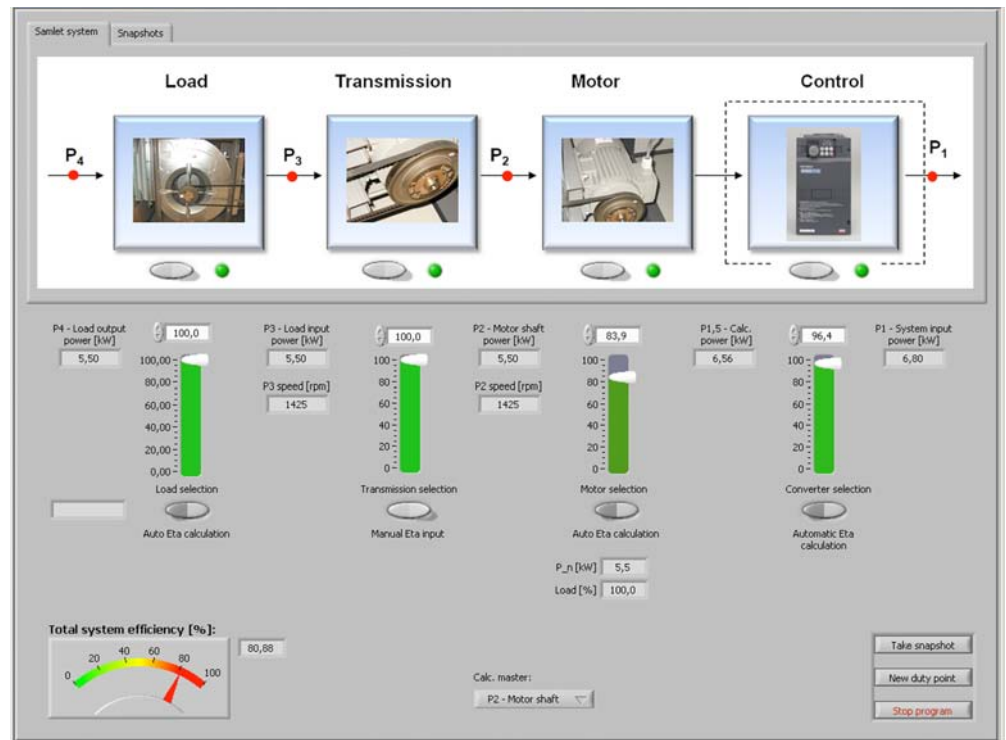
The aim of Task G is to ensure that new and efficient motor technologies are adequately covered by technical standards. To achieve this, the Annex facilitates dialogue between those involved in the standards development processes, technical experts and policy makers.

The performance characteristics of the most widely used electric motor, the squirrel cage alternating current induction machine, are well known and there are measures in place to encourage the take up of higher efficiency versions. Motor controls such as variable speed drives are used to vary the motor's torque and speed, thereby saving energy.

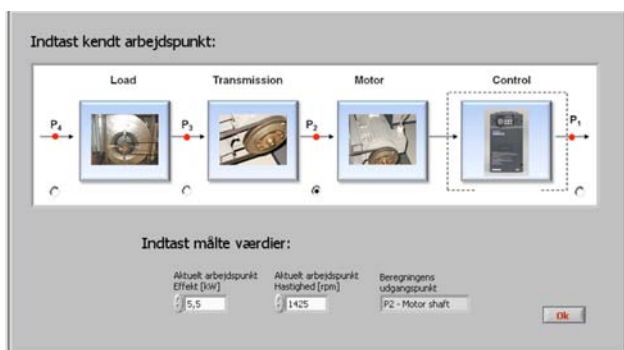
However, other more energy efficient motor technologies, such as permanent magnet motors and switched reluctance motors, are moving onto the market and the current testing standards and efficiency classifications do not cover variable speed drives or these new technologies adequately. To secure their market entry, increased knowledge for harmonized standards in these new fields is necessary.

The New Technologies workshop being held on 28 October 2010 during the Motor Summit provides an important opportunity for experts to discuss the new motor technology implication for standards.

Main screen



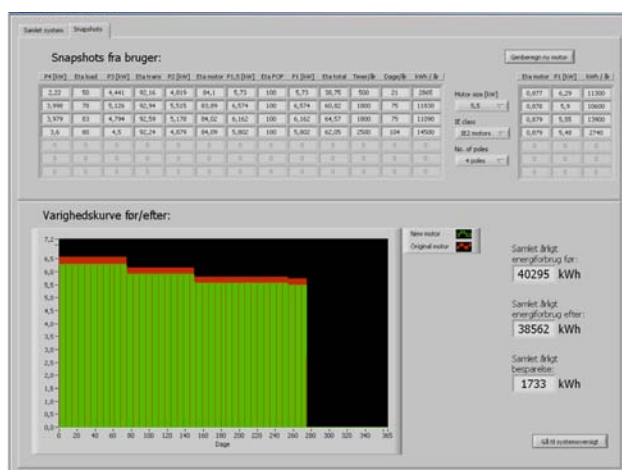
Duty point selection screen



Task B: Technical guide for motor systems

The goal of Task B is to set up an online technical guide for motor systems, which will describe and interpret new motor test standards, outline legislation topics worldwide, including an overview of MEPS, and collate existing motor calculation tools. Task B will also produce a motor systems tool in which all components of a motor system are taken into account.

Production of the guide is well underway and a pre-release version of the motor systems tool, which is a key component of the guide and allows users to calculate the efficiencies of different types of motors and motor systems, has already been developed. Although it is not yet ready for public release, it is proving a useful tool in consultation with stakeholders and for providing a focus for discussions on the content of the overall guide. A beta-version of the tool will be available during the fall of 2010.



Energy calculation screen



PUTTING NETWORK ENERGY CONSUMPTION UNDER THE SPOTLIGHT

PROGRESS WITH THE 4E STANDBY ANNEX

“Although network standby is a topic possibly unfamiliar to many, it is an area of growing importance and concern because of the rapidly increasing number of networked products and the magnitude of the energy used within these networks”, says Shane Holt, Chair of the Standby Annex Management Committee, “It is therefore extremely important that governments quickly find solutions to network standby and this is why it is a core to the Annex”

STANDBY ANNEX PRIORITY PROJECTS

- ▶ **PROJECT 1:** Network standby scoping study
- ▶ **PROJECT 2:** Global estimates of network standby energy
- ▶ **PROJECT 3:** Proof of concept project – detailed exploration of four products
- ▶ **PROJECT 4:** Proof of concept project – investigation of power use related to function
- ▶ **PROJECT 5:** Proof of concept project – cutting edge technology feasibility study
- ▶ **PROJECT 6:** Proof of concept project – list of exceptional best practice examples
- ▶ **PROJECT 7:** Map functions into modes for some (common) product types
- ▶ **PROJECT 8:** International battery charger test method
- ▶ **PROJECT 9:** Guiding principles
- ▶ **PROJECT 10:** Standard reporting of identity and power information over network



To this end, a dedicated meeting of Annex and IEA representatives along with network standby experts was held in Paris in April 2010 to discuss the issues of network standby and produce a roadmap for tackling these issues. The meeting identified ten priority projects for the Annex (see inset box).

The Annex will soon publish a network standby scoping study that summarises developments in this field and highlights the technical and policy opportunities to reduce network standby. It will be available on the **Annex website** in September 2010 and will map the way forward for network standby and help further define the scope and detail of the other nine projects.

International co-operation in this area is crucial in order to avoid duplication of effort and ensure that policies adopted by different governments and regions are harmonised. As a result, Annex consultants recently travelled to Brussels to meet European Eco-Design experts working on **Lot 26**, ‘networked standby losses of energy using products’, to discuss approaches to dealing with network standby issues and share their progress to date.

“International co-operation is of vital importance in this complex area”, reported Lloyd Harrington, co-author of the scoping study, “and we are extremely pleased to be able to announce that agreement was reached in Brussels for Standby Annex consultants and those representing EuP Lot 26 to speak via teleconference every two months to continue providing support and feedback for each other’s projects. This provides a framework for 4E to work closely with the Lot 26 authors to help create a global approach to network standby that is relevant to all countries, not only those in the OECD”.

The broader issues of standby will be addressed in the International APEC Standby Conference which is being supported by both APP and the 4E Standby Annex and is to be held in Tokyo, Japan on 19-21 October 2010. The conference is aimed at technical experts and industry representatives involved in all stages from component design through to product supply, along with government officials and national energy efficiency agencies responsible for developing and implementing standby policies. Covering both technology and power management options and policy approaches, it will provide an invaluable opportunity for these stakeholders to review and discuss the current status of standby issues and contribute to international agreement on the way forward. Further information can be found on the **Annex website**.

The next Standby Annex meeting will be held after the conference on 22 October 2010.

“International co-operation is of vital importance in this complex area.”



**QUALITY ASSURANCE
FOR LEDS****THE NEW SOLID STATE
LIGHTING (SSL) ANNEX****KEY AIMS OF
THE SSL ANNEX**

- ▶ Develop a suite of internationally recognised key performance characteristics and minimum performance values for defining 'good' SSL sources;
- ▶ Develop and validate, via round robin testing, test methodologies for assessing the performance of SSL sources against these characteristics;
- ▶ Carry out, and publicise the results of, wider testing of SSL sources using these validated methodologies;
- ▶ Work towards mutual recognition programs for SSL testing, including the development of SSL specific certification for testing laboratories if this is considered necessary;
- ▶ Make recommendations for a set of declaration marks to provide consumers with information on the performance of SSL sources;
- ▶ Report on the life cycle analysis (LCA) and environmental impact of SSL.

Solid state lighting (SSL) offers the next stage in the evolution of cost effective energy efficient lighting. However, to ensure a smooth and effective introduction into the market, the errors made during the introduction of CFLs must be avoided. In that instance, poor performance of some early CFL models and the lack of internationally accepted performance standards undermined consumer confidence and slowed market penetration.

Focussed as it is towards stimulating international co-operation on the development of standards and providing governments with the tools to assess performance of SSL sources, the 4E SSL Annex will play a major role in avoiding this pitfall.

It is being jointly proposed by prime movers in the SSL industry, Japan, along with France and the USA. Through a network of SSL experts, including SSL testing laboratories, lighting application professionals, representatives from the SSL industry and government agencies, the Annex will work with stakeholders and within existing technical committees to address the key barriers to the effective introduction of SSL technology into the market. The key aims of the Annex are summarised in the inset box.

According to Marc Fontoynt, the Operating Agent of this new Annex, "The Annex provides an exciting and unique opportunity to harmonise international efforts in the development and introduction of SSL as a mainstream lighting source".

These sentiments are echoed by Bruno Lafitte from ADEME, one of the key stakeholders in the new Annex, who says, "By recognising and avoiding the mistakes that have been made in the past, the Annex will ensure a positive experience for consumers as SSL sources enter the market place and give them the information they need to make informed decisions on whether to adopt the technology".



'SAVING MORE ENERGY THROUGH COMPLIANCE' INTERNATIONAL CONFERENCE ON COMPLIANCE IN ENERGY EFFICIENCY PROGRAMMES FOR ELECTRICAL EQUIPMENT

Over 75 countries now operate Standards and Labelling programmes covering 175 categories of appliances and equipment. Despite the outstanding success of these initiatives there is potential to increase energy savings by strengthening compliance regimes within these programmes.

In order to stimulate the sharing of experience and expertise in designing and implementing compliance practices, 4E is organising a three day conference from the 14-16 September 2010. To be held in London, and supported by the UK Government and the Collaborative Labeling and Appliance Standards Program (CLASP), the conference is targeted at relevant staff in governments and the private sector.

Featuring government speakers from the USA, European Members States, Australia, Korea, China and India; industry associations and verification organisations, the conference will provide an unparalleled chance to network and to discuss options for improving compliance rates (see inset box).



"There are now over 1,300 product policies worldwide based on minimum energy performance standards or labels covering most major appliances", said Mark Ellis, 4E Operating Agent and author of a new Best Practice Guide to Compliance published by CLASP. "Improving compliance rates by even a few percent represents a huge energy saving, and also helps to stimulate further investment by industry in energy efficient technology. By understanding what others are doing, it is apparent that having a compliance regime is not only about good governance, but also happens to be one of the most cost-effective ways to cut greenhouse gas emissions".

The Conference will be held at the Copthorne Tara Hotel London, UK from the 14-16 September 2010. Further information and booking forms are available at the 4E website at www.iea-4e.org/events/compliance-conference



AMONGST THE TOPICS RAISED DURING THE CONFERENCE WILL BE:

- Why are compliance rates important?
- How can high compliance rates be achieved cost-effectively?
- When to take remedial or enforcement action?
- Should compliance regimes differ between voluntary and mandatory programs?
- Can we learn from other compliance regimes, such as electrical safety?
- How do compliance regimes for manufacturing economies differ from those with a high proportion of imported products?
- How can modern approaches to Information Management contribute to effective low cost compliance?
- How can international co-operation improve compliance?

SNIPPETS

4E 2009 ANNUAL REPORT

The 4E 2009 Annual Report, which contains a record of the activities and achievements undertaken by the 4E Implementing Agreement during 2009, the first full year of its operation, is now available to **download** from the 4E website.



RELEASE OF NEW IEA PUBLICATIONS

► 'Energy Technology Initiatives - Implementation through Multilateral Cooperation.'

The IEA Implementing Agreements are a broad range of multilateral technology initiatives which enable IEA member and non-member countries, businesses, industries, international organisations and non-government organisations to share research on breakthrough technologies, to fill existing research gaps, to build pilot plants and to carry out deployment or demonstration programmes.

In May 2010, a new IEA publication which highlights the most significant recent achievements of these Implementing Agreements, was published and can be **downloaded** from the 4E website.

► 'Phase out of incandescent lamps Implications for international supply and demand for regulatory compliant lamps.'

This IEA information paper, published in April 2010, considers the implications of policy developments aimed at phasing out incandescent lighting in terms of demand for regulatory compliant lamps and the capacity and motivation of the lamp industry to produce efficient lighting products in sufficient volume to meet future demand. It is available on the IEA website at www.iea.org/papers/2010/phase_out.pdf.

► 'A summary of the country reports submitted to the Energy Efficiency Working Party.'

This new publication, which highlights energy efficiency policy action and planning in IEA member countries since the last meeting of the Energy Efficiency Working Party (EEWP) held in September 2009, is now available to download at www.iea.org/papers/2010/country_report_summary.pdf

Exco Member Profile 5 Minutes with Hans-Paul Siderius, 4e Chair



Where do you live?

I live in Utrecht, a city with 250,000 inhabitants in the centre of the Netherlands, with a beautiful medieval centre.

Who do you currently work for and how long have you been with this organisation?

Since 2000, I also work in Utrecht, at NL Agency, an agency of the Dutch Ministry of Economic Affairs that implements government policy for sustainability, innovation and international business and cooperation.

How did you get involved with the world of energy efficiency?

I have been involved in Energy Efficiency since the early 90s, when I worked as a researcher on projects determining appliance electricity consumption in Dutch households and energy efficiency of white goods.

You took your last vacation at...? My last vacation was a biking tour with the family along the Rhine, including the Lorelei and part of the UNESCO world heritage site. We cycled to Strassbourg and took the train back.

Outside work, your interests include...?

Reading, photography, walking and opera. Also, I spend several hours per week on my voluntary work as treasurer of one of the city churches.

If you had more time in the day you would...?

Spend more time on my outside interests, especially when I have been travelling a lot for my work

One book every person should read is...?

People should read more than one book, but among the best fiction books I read during the last year are *Atonement* from Ian McEwan and *Der Turm* from Uwe Tellkamp, which provides a compelling picture of the last years of Eastern Germany.

Which do you prefer, chess or scrabble or neither? Neither chess nor scrabble is a favourite game of mine.

Complete this sentence "If I could do one thing to make the world more energy efficient I would..."

Establish a rule that new products should (in absolute terms) use less energy than their predecessors.

FORTHCOMING CONFERENCES

► The 2010 ACEEE Summer Study on Energy Efficiency in Buildings, *'The Climate for Efficiency is Now'*.

Will be held in the Asilomar Conference Grounds in Pacific Grove, California, USA on 15-20 August 2010. This year, the conference will focus on how global activities related to energy efficiency in buildings need to address sustainable development and climate issues that go beyond buildings. Demand has been so high for the conference that registration has now closed, although a waiting list is available. For more information, visit the ACEEE website at <http://www.aceee.org/conferences>.

► The '6th International Conference on Energy Efficiency in Domestic Appliances and Lighting (EEDAL11)'.

To be held in Copenhagen on 24-26 May 2011. The conference will provide a unique forum to discuss and debate the latest developments in energy and environmental impact of residential appliances and lighting, heating and cooling equipment, ITC equipment, smart meters and smart grids, the policies and programmes adopted and planned, as well as the technical and commercial advances in the dissemination and penetration of energy efficient residential appliances, consumer electronics and ICT, heating and cooling equipment and lighting. More information can be found on the **EEDAL11 website**.

► ECEEE 2011 Summer Study, *'Energy efficiency first: The foundation of a low-carbon society'*.

The conference will be held on 6-11 June 2011 at Belambra Presqu'île de Giens (close to Toulon) in the south of France and will provide an informal but focused opportunity for discussion on energy efficiency policy, research and implementation. Further information can be found on the ECEEE website at www.eceee.org/summer_study and a call for papers will be issued shortly.

Copenhagen, Denmark



Hyères, France

FORTHCOMING 4E EVENTS

14-16 September 2010: 'Saving More Energy Through Compliance' 4E Conference, London, United Kingdom

19-21 October 2010: International APEC Standby Conference, Tokyo, Japan

26-28 October 2010: Motor Summit 2010, Zurich, Switzerland

2-5 November 2010: 4E ExCo Meeting, Ottawa, Canada

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