

The Fourth International Conference on Energy Efficiency in Domestic Appliances and Lighting (EEDAL)

London, 21 – 23 June 2006

A widely acclaimed success, EEDAL06 met its objectives to promote the sharing of practical policy design information and experience amongst the international research community, experts from governments and their policy advisors, energy and environmental agencies, appliance manufacturers and retailers.

EEDAL 06, hosted this year by the UK Government, has become established as one of the most authoritative networking events in this field. Around 300 experts, policy makers and manufacturers met for three days of working meetings, 32 workshops and with 130 authoritative papers and presentations. Over 180 public and private sector organisations from 38 countries were represented, including the key trading zones of EU, North America, and Australasia.

International co-operation provided a strong underlying theme, responding to and delivering in practice specific commitments made in Gleneagles by the G8 governments and in the wider Marrakech Accords on Sustainable Consumption and Production. In side events to the conference, supported by the International Task Force on Sustainable Products, good progress was made towards establishing effective global co-operative networks on labels and standards.

Stimulating and diverse perspectives on the issues were provided in the opening plenary by:

- Ian Pearson, UK Minister of State for Climate Change and the Environment
- Larissa Dobriansky, Deputy Assistant Secretary for National Energy Policy, US DoE, Office of Policy and International Affairs
- Johan Bygge, President of the European Committee of Domestic Equipment Manufacturers – CECED and Senior Executive Vice-President of AB Electrolux and CEO Major Appliance Europe, Asia Pacific and Africa
- Noé van Hulst, Director of the Long-Term Cooperation and Policy Analysis Office, International Energy Agency
- Ben Stimson, Corporate Responsibility Director, BskyB
- Paul King, Campaign Director World Wildlife Fund
- Laurence Singer, Corporate Responsibility Manager, Argos Retail Group
- Paolo Bertoldi, European Commission Directorate General JRC

This year's conference focussed on how to improve the energy efficiency of appliances and lighting products traded around the world, through improved technology, better information for consumers, and effective product standards and policies, posing two basic questions:

How can we

- Raise consumer expectations that products - lighting and appliances – should be sustainable and meet good standards of energy efficiency?
- Create the conditions for the manufacturers, retailers and service providers to respond to these expectations – and to supply more resource-efficient goods and services?

The overwhelming body of opinion was that while much has been achieved, we need to make further efforts to:

- Ensure, for consumers, use of sustainable products is 'easy, affordable and attractive'.
- Develop policies aimed at the supply chain, which are coherent, long-term and clearly signalled encouraging forward investment in product research, development and marketing.

This dual approach should be underpinned by:

- Reliable test methods, which are acceptable throughout the world;
- Clear labels and product performance information;
- Ambitious performance standards; and

EEDAL 06 Conference Communiqué

- Firm compliance and enforcement actions.

Global Product Policy Networks

In side events to EEDAL06, building on progress at other international events such as Right Light 06 in Shanghai and the Stand-by conference in Korea 2006, we were able to make good progress in the development of effective Global Sustainable Product Networks (GSPNs). GSPNs, supported by the International Task Force for Sustainable Products, aim to put into practice and deliver on G8 and WSSD high-level political commitments to encourage more international cooperation. In addition to the Communities of Practice on CFLs and on STBs, we launched three new GSPNs.

- The **International Compact Fluorescent Lamp (CFL) Harmonisation Initiative** – launched at RightLight6 in Shanghai, aimed at increasing the availability of higher quality, energy efficient compact fluorescent lamps around the world through co-operation on testing and standard setting.
- **TV Test Procedures and Performance Parameters** – co-operative action now could help reduce the sixty 500MW power stations which will be needed to power over 190 million TVs which are being sold annually, worldwide. It is estimated that together these TVs will consume 300,000 GWh of electricity over their 8 year life and cost consumers' \$360 billion US dollars.
- **Set Top Boxes (STBs)** – urgent policy action is needed to set standards for STBs. With the rapid transition towards digital TV services, over 100 million STBs are expected to be sold internationally in 2006 and similar sales patterns are predicted over the next 5 years. Experts estimate that the electricity consumption of these sales alone will be 370,000 GWh over their 8 year life, and cost consumers \$37 billion US dollars.
- **Standards for Energy Efficiency of Electric Motor Systems (SEEEM)** – is aimed at initiating a comprehensive market transformation strategy to promote efficient industrial electric motor systems worldwide, through harmonisation of test standards, introducing mandatory minimum performance standards and sharing international best practice.
- **Compliance Monitoring** – the group started in response to calls for more international co-operation on market surveillance and enforcement of standards and labels generally. This initiative also responds to obligations on EU Member States to communicate with each other and with the European Commission regarding policing of the EUP directive. Early deliverables could include protocols for sharing test results between governments and enforcement agencies.

More information about the International Task Force for Sustainable Products and GSPNs can be found at www.mtprog.com/Marrakech.aspx

With an agenda related to the Marrakech Task Force on Sustainable Procurement, an important new European Initiative on **Public Procurement for Energy Efficient Products** was launched. Eleven countries participated, including strong support from China and the US, which provides a good basis for expanding the initiative internationally. The aim is to identify products where common specifications for public procurement can be agreed, with the objective of establishing "harmonised" benchmarks for best products to be promoted across Europe and internationally. Follow up meetings for this new international task force are scheduled for September and November 2006.

The EEDAL 06 conference was organised by the UK's Market Transformation Programme and the European Commission Directorate General Joint Research Centre, with sponsorship from the UK's Department for Environment, Food and Rural Affairs (Defra), the Energy Saving Trust (EST) and the Intelligent Energy Europe Programme (IEE). Further support was provided by the Australian Greenhouse Office (AGO), the International Energy Agency (IEA), the United Nations Development Programme, Global Environment Facility (UNDP – GEF) and the Collaborative Labelling and Appliance Standards Programme (CLASP).

Plans are underway for the next EEDAL to be hosted in Europe during 2009.

Information about the EEDAL conference, including speakers' presentations and pre-conference papers is available at Defra's Market Transformation Programme website www.mtprog.com

The Fourth International Conference on Energy Efficiency in Domestic Appliances and Lighting (EEDAL)

London, 21 – 23 June 2006

EEDAL Conference Recommendations

The product policy area addressed by EEDAL represents a truly international agenda. Similar products are used worldwide, giving rise to similar problems. Consumers will not stop buying new products, but effective product policies, co-ordinated across the trading zones can encourage products that are as environmentally sustainable as possible. What is clear is that Government, business and consumers all have a role to play and a responsibility to act. In summary, the conference reinforced the need for:

- reliable test methods, which are acceptable throughout the world
- clear labels and product performance information for consumers
- ambitious performance standards
- firm enforcement to ensure compliance

However, the overwhelming view expressed at the conference was that it is the responsibility of governments to create a policy framework within which manufacturers are encouraged to provide the most efficient products. Furthermore, with markets for these products becoming increasingly global in nature, the framework must be long-term and truly international. Uncertainty in climate change policy beyond 2012 restraining investment was a recurrent theme. Many of the representatives from manufacturing industry asked for such a long term policy framework to encourage them to invest in producing and promoting the purchase of more energy efficient products. Such a framework would include:

- Clear targets for improving the efficiency of energy use;
- A regulatory framework for standards and labelling that provides a level playing field internationally and gives clear signals on future performance standards;
- Where required, tough measures to penalise inefficient practices, for example the relentless increase in standby electricity consumption;
- Market incentives (covering a wide range e.g. financial, fiscal, regulatory, etc.) that reward the most efficient products (or a move to the provision of more efficient services);
- Agreement on mechanisms to evaluate the resource efficiency of products, in particular covering whole life environmental impacts, and mechanisms to decide when accelerated replacement of products should be encouraged;
- Clear information provided to consumers to help them choose the best products and use them most efficiently;
- Removal of institutional and regulatory barriers to penetration of the most efficient products;
- A holistic approach covering renewables and energy efficiency. For example the rise in air conditioning use can be offset through passive solar architecture and the appropriate use of renewable energy technologies;
- Continuous public support for R&D directed at innovative and highly efficient technologies for domestic appliances and heating systems, consumer electronics and lighting.

In particular, manufacturers and industry representatives called for the following measures:

- Policymakers to avoid overlapping legislation and regulations ("putting them under one roof") and to close any legislative gaps. Manufacturers want to see an increasing move towards international rules;
- Test methodologies and labelling to be fair and transparent;
- Support for installer training to ensure that equipment is properly installed and supplemented by consumer advice on its optimum use.

EEDAL 06 Conference Communiqué – Appendix

The conclusion was, therefore, that action at the international level is essential to create such a framework. This will require governments to increasingly work together to provide a common labelling and standards framework and to establish common goals for achieving improved resource efficiency.

Co-operation can be achieved by encouraging the “3 C’s”:

Communication: sharing current practice with standards, labelling and incentive schemes between countries with the goal of identifying and promoting best practice.

Co-ordination: identifying opportunities for the harmonisation of test methodologies, standards and labelling approaches.

Collaboration: encouraging international co-operation for the development of new technologies and approaches that can provide equivalent services for much reduced energy input. Similarly, there is potential to collaborate on the evidence to underpin policy. There is also enormous scope for collaboration between developed and developing countries to achieve the transfer of efficient technology to the latter. (The conference noted that developing countries often have the highest growth rates in energy use coupled with inefficient existing products, therefore the scope for improvement is enormous.)

The UN’s International Task Force for Sustainable Products (ITFSP)

One important mechanism to address the many challenges discussed is the UN’s International Task Force for Sustainable Products, which was created with the aim of encouraging cooperation between policymakers in this field and is well placed to act as a catalyst for future activity. It will take the outcomes of the conference and progress them in practical ways. For example, it will support the onward development of new and existing co-operative initiatives (Communities of Practice) into effective Global Sustainable Product Networks (GSPNs). At EEDAL06, adding to the established compact fluorescent lighting initiative, we launched four new initiatives covering TVs, simple and multifunction set top boxes, motors and compliance. All these networks have will develop detailed work plans, following on from discussions during the EEDAL 06 week. The Task Force will help develop these networks by co-branding and promoting these initiatives, encouraging government-level recognition and support, wider participation, interlinking and extension to wider sustainability issues, where appropriate.

EEDAL and the Global Sustainable Product Network Action Plans

CFLs

Over 30 delegates from 11 countries attended the fourth forum of the International Compact Fluorescent Lamp Harmonisation Initiative. This Initiative seeks to increase the availability of higher quality, energy efficient compact fluorescent lamps around the world. Stimulating CFL sales will dramatically reduce the energy consumption of household lighting and abate greenhouse emissions. Participants at this and the earlier Community of Practice events relating to self-ballasted CFLs agreed to work toward:

- Creating a single international testing method to measure energy efficiency;
- Agreeing discrete performance levels or “efficiency bands” to help align future efficiency schemes;
- Informing the wider international lighting community of this work.

When the CFL initiative is successful, it will:

- Reduce manufacturing cost by minimizing regional and national variations and by facilitating entry to all markets throughout the world;
- Encourage promotion of energy efficient lamps and facilitate more effective regulation; and
- Help meet energy efficiency, environmental and trading goals for this globally traded product.

This fourth event presented an opportunity to engage more European-based lighting stakeholders in the initiative, building on the most recent event in Frankfurt and two previous events in Seoul and Shanghai. The 33 delegates attending were drawn from government agencies with lighting responsibilities, manufacturing companies, industry & professional associations, energy efficiency advocates, lighting professionals, academics and testing houses.

The programme, spread over two days, enabled participants to progress and agree the following issues:

- Test Procedure Protocol
 - Full support for the submission of the proposed CFL testing protocol (version 13) to the IEC for formal consideration and adoption. Consultation with the relevant IEC representatives should begin immediately with submission at the earliest opportunity, ideally within the next two months. Delegates agreed to lobby their national IEC delegates to support proposals and volunteer for working groups.
 - All further comments received by the CFL Initiative, and results from the Comparative Testing programme, will be fed directly into the appropriate IEC committee for formal consideration.
- Verification of Protocol
 - Consensus was reached that the comparative testing regime and analysis of results proposed for use in verification of the protocol was appropriate with minor issues raised for consideration when interpreting results.
 - Agreement was also reached on mechanisms for public reporting of results. First results are expected to be made available on the Initiative Website by August 2006.
- Performance Specifications
 - Agreement was reached on the principle of an internationally recognised four band (three threshold) system to reflect product performance, and the core criteria that will form the basis for these performance bands.
 - Agreement was also reached that the facilitators of the Initiative will propose revisions to the threshold levels before the end of July 2006 and circulate these for ongoing revision and refinement prior to the next forum in the USA in November 2006.
- Compliance Mechanisms

EEDAL 06 Conference Communiqué – Appendix

- Unanimous agreement was reached that strengthened compliance regimes were required around the globe. However, the needs and capacities of various market actors were diverse; therefore, agreement was reached for the development of proposals for the exchange of product and enforcement data between various market actors where this data already exists.
- Several parties agreed to begin sharing product information that they hold within their schemes as a first stage toward cooperation on compliance.

Participants agreed to meet again in the USA in November 2006 [to be confirmed] to progress matters.

TVs

EEDAL saw the launch of a new Community of Practice on TV Test Procedures and Performance Parameters. This Community of Practice has been formed due to concern over the increasing consumption of electricity by TVs worldwide. Over 190 million TVs are sold annually. It is estimated that together these TVs will consume 300,000 GWh of electricity over their 8 year life and cost consumers' \$360 billion US dollars. The generation capacity required to meet this energy demand is equivalent to the output of over sixty 500MW power stations.

Twenty four delegates from 7 countries participated in the launch, drawn from government officials, manufacturers, energy efficiency advocates and academics from around the world interested in television energy performance and efficiency. Delegates agreed goals for this three-year initiative as:

- To support the improvement of the IEC test method, to measure the power requirements for on and all low power modes by;
 - Assisting in the development of a series of testing sequences for IEC working group consideration;
 - Sharing information on various performance parameters that might influence the nature of the test procedure.
- To ensure that the new IEC test method is:
 - Suitable to measure all television screen display technologies without favouring any particular technology;
 - Capable of providing consistent results when conducted in testing facilities throughout the world using simple and easy-to-apply methodology;
 - Representative of normal signals processed by televisions in the home.

Supporters of the Community of Practice agreed to the following practical steps:

- Release of these notes to record the launch of the initiative.
- Reporting progress using the website www.apec-esis.org.
- Agreeing to meet at an event organised by the US Government adjacent to the next IEC television working group meeting in Washington during July 2006.

The agreed timelines for immediate actions are as follows:

- Provide testing sequences for evaluation by the IEC working group by the 18th July 2006.
- IEC working group to meet and discuss options on 18th and 19th July 2006.
- The officially designated IEC working group team leader has committed to provide a working draft of the revised test standard by the end of the final meeting of the working group in Berlin on 27th and 28th September 2006.

Set Top Boxes

The London forum in which 23 delegates participated from 6 countries was the first opportunity for the STB Community of Practice to meet since the launch in Korea in October 2005. This launch was precipitated by concern over the increasing electrical consumption caused by the worldwide adoption

EEDAL 06 Conference Communiqué – Appendix

of Set Top Boxes (STBs). Over 100 million STBs are expected to be sold internationally in 2006, and similar sales patterns are predicted over the next 5 years as digital TV services become increasingly available worldwide. Experts estimate that the electricity consumption of these sales alone will be 370,000 GWh over their 8 year life, costing consumers \$37 billion US dollars. Experts also agree it is possible and practical to reduce the energy consumption of these STBs by improving their energy efficiency when in use and when switched to standby mode. Conservative estimates suggest a saving of 25% would result if all these STBs were to consume less than 2 Watts in standby mode. A more challenging saving of up to 50% is possible if all these STBs were automatically switched to standby mode when consumers are not using the television. In Korea, the delegates launching the Community of Practice committed to:

- Support the universal adoption of the IEC testing method 62087, for the specification of testing conditions for simple STBs that only convert digital broadcast TV signals to analogue signals;
- Work toward defining the further specifications necessary for defining modes and other conditions for the more complex STB, which are increasing in sales and diversity of functions;
- Collaborate and support alignment of performance specifications that provide consistent frameworks for stakeholders to support energy efficient products and service systems;
- Gain endorsement of this initiative from the wider international home entertainment sector.

Participants were updated on developments in China, the USA, the EU, the UK and Australia where rapid growth of digital TV services are contributing to the growth in STB sales and the associated electricity demand. The forum agreed that to facilitate an appropriate policy response, STBs are best divided into two types: simple boxes that decode digital signals for analogue televisions (DTA) and more complex boxes that operate in an interconnected environment such as exists in subscription services and networked home entertainment systems. Agreed actions resulting from the separation of the two box types:

- Simple STBs
 - Australian and Chinese participants agreed to lead this aspect of the community of practice in the future by creating operating criteria for the international community to consider.
 - China and Australia are in the process of approving testing methods that are consistent with IEC test method 62087.
 - The community of practice should pursue the adoption of methods to ensure simple STBs automatically revert to a low standby mode when not in use to ensure that energy savings are maximised.
- Complex STBs
 - This international community of practice initiative will be led by the UK in collaboration with the USA and the EU participants.
 - It was agreed that an overarching priority was to establish and harmonise the power management protocols associated with these STBs and other interconnected or networked products using digital connected interfaces. The representatives from the Consumer Electronics Association (CEA) agreed to make contact with the Digital Living Network Alliance to begin this process.
 - It was agreed that operational states of complex STBs are not adequately covered by existing concepts of standby, passive standby, active, and on modes. A new set of definitions is a priority action for the community of practice.
 - The Community of Practice noted that the European Code of Conduct (CoC) for Digital TV Services working group continues to provide the major international forum for key stakeholders in the technical development and operational deployment of complex STBs. The CoC working group commitment to identify, urgently, design innovations that mitigate the impact of the energy requirement of these products and their related service systems will be an important input to community of practice objectives. The next meeting of the European Code of Conduct for Digital TV Services will be hosted in the UK during October 2006.

The STB community of practice agreed to meet again in Washington DC in July 2006, hosted by the US Environmental Protection Agency in conjunction with an International Electrotechnical Commission (IEC) TV working group meeting. The core agenda activity will be Simple STBs.

EEDAL 06 Conference Communiqué – Appendix

SEEEM

EEDAL saw the launch of a new Community of Practice on Standards for Energy Efficiency of Electric Motor Systems (SEEEM). Forty three delegates from 18 countries attended the launch and broad agreement was reached on the following goals:

- Initiate a comprehensive market transformation strategy to promote efficient industrial electric motor systems worldwide;
- Harmonize energy efficiency testing procedures, efficiency classes and marking schemes for motors;
- Introduce a timeline for mandatory minimum energy performance requirements for motors and harmonize them at a high efficiency level;
- Support and engage in the SEEEM community of practice to share experience, derive best practice and coordinate measures to promote efficient motor systems.

To achieve these goals, the SEEEM community of practice has identified four areas for cooperative action:

- Efficiency testing procedures and tolerances.
- Efficiency classes and marking schemes.
- Mandatory and voluntary performance requirements.
- Effective policies and incentives for energy efficient motor systems.

To maximise the likely to success of these actions, delegates agreed to establish three multi-stakeholder Working Groups to serve as open fora for SEEEM implementation:

- WG 1 Harmonization Issues.
- WG 2 Policy Issues.
- WG 3 Stakeholder Outreach & Support.

Information sharing and dissemination will be via the SEEEM website (www.seeem.org).

The next two formal events related to this Community of Practice are to be held in conjunction with:

- Motor Summit 2007 in Zurich, Switzerland (early 2007)
- EEMODS'07 in Beijing, China (10-13 June 2007).

Compliance

Unreliable product performance information presents a risk to the effectiveness of national and international policy to promote more energy efficient and sustainable products and can have implications for fair trade and competition. The EUP Directive places obligations on Member States to communicate with each other and with the Commission on market surveillance and policing actions.

There have been calls from industry in Europe for governments to monitor and enforce compliance with energy regulation. This is because European manufacturers believe that their products are not being compared on a fair basis with products imported to the European Union.

Therefore, as a first step, an informal network of government and other authorities met on 20th June 2006 in London to determine:

- the nature and size of this risk;

EEDAL 06 Conference Communiqué – Appendix

- which products and policy measures are affected;
- how governments, industry and other institutions are tackling the issues;
- what further national, or co-operative international actions would be helpful.

The meeting decided on the following initial actions:

- Communiqué to the EU – UK, Denmark and Sweden will draft a communiqué to the EU re: the establishment of an international compliance network which, inter alia, could help develop practical mechanisms for complying with information sharing obligations under EUP.
- Compliance Testing Map – The ITFSP secretariat will initiate a map of which countries are actively undertaking compliance testing activities, to identify the scope for co-operation.
- Information Sharing – Sharing of information on policing activity and test results can be a sensitive issue; information sharing protocols may be a way forward establishing a transparent mechanism for this to be done. UK will produce an initial draft.
- Outputs from Previous International Network – Members from the Swedish Energy Agency will look for the written report regarding the previous SAVE II network on compliance testing and circulate via the ITFSP.
- Publish meeting presentations online – Meeting secretariat to obtain web space and to publish meeting presentations online.

Proposals

- ACEEE: An offer for a workshop at this summer's ACEEE event – American Council for an Energy Efficient Economy <http://www.aceee.org/>
- CFLI: Proposed link with the CFL Harmonisation Initiative (offer of a weblink exchange; and to publish the meeting presentations online).

Other Issues (i.e. agenda items for discussion at future meetings)

- Validation of Test Laboratories – how do we ensure that test laboratories all follow the test standards in the same way? Can test results be interchangeable between countries?
- Developing Countries – how can we engage with ensure their involvement in this network?

EEDAL Side Meeting:

Public Procurement for Energy Efficient Products

Government at all levels represent an important share of GDP and spending in every EU country. By more effectively focusing its buying power, the public sector can significantly accelerate a market shift toward energy-efficient products. Representatives of public agencies and purchasing organisations in Europe convened at the EEDAL'06 conference side-meeting to discuss concrete steps for advancing energy-efficient public procurement in the EU. The focus will be on harmonizing the energy efficiency specifications now in use by different agencies, in order to create a market aggregation effect that strengthens the buyer-side market signal to suppliers of certain energy efficient products. Using common procurement specifications to create, in effect, a single "virtual buyer" for energy-efficient products will be an important step toward implementing provisions of the Energy Services Directive, calling on the public sector to "use energy efficiency criteria in tendering procedures for public procurement" and to "facilitate and enable an exchange of best practices between public sector bodies, for example on energy-efficient public procurement practices, both at the national and international level". Participants agreed in principle that harmonisation is welcome and should lead to enlarge the market for efficient products. Harmonisation can take place at several levels, e.g.:

- harmonisation of definitions and test methods;
- common levels/specifications.

The participants (15 delegates from 11 countries) agreed to work together to help create common European energy efficiency public procurement requirements at least for some products categories. One initial starting point is to develop a list of what is going in Europe on in terms of programmes (public procurement but also other relevant programmes such as labelling and Topten (www.topten.info) type programmes). The participant also agreed to work also on non technical issues to further promote public procurement and remove barriers; in particular on promoting public procurement to all policy makers at every level and to start outreach activities about the informal group activities. The new initiative will make a presentation at ICLEI Barcelona conference on public procurement (Eco Procura 20 to 22 September 2006 www.iclei.org/itc/ecoprocura2006). The next meeting will be organised during the autumn to present the new initiative to public procurers and policy makers.