

# An IEA *OPEN Energy Technology Bulletin*<sup>1</sup> Interview

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## Focusing Internationally on More Electricity-Efficient Equipment

An interview with Ture Hammar  
Interim Chair, Executive Committee of the  
IEA Implementing Agreement for a Co-operative Programme on Efficient  
Electrical End-Use Equipment (4E)

*With the blessing of the Governing Board of the International Energy Agency (IEA), a group of IEA member countries recently joined forces in this new international collaborative programme<sup>2</sup> to promote wider use of more energy-efficient electrical equipment.*

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Why was it decided to create the 4E programme?

#### Ture Hammar

More than ever before, energy efficiency is at the forefront of energy-sector priorities all around the globe. Use of more energy-efficient equipment is the major cost-effective means of addressing energy security and lowering greenhouse gas emissions in the short term. It offers economic benefits while helping to combat climate change. It helps take the pressure off energy resources.



Ture Hammar, Interim Chair,  
Executive Committee,  
IEA 4E Implementing Agreement

Efficient lighting, for instance, consumes less than a quarter of the electricity used by traditional incandescent lamps. Electricity wasted by equipment in stand-by mode accounts for up to one-tenth of all residential energy consumption. IEA analysis estimates

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<sup>1</sup> The IEA [OPEN Energy Technology Bulletin](#) is a free, web-based periodical newsletter published by the International Energy Agency ([IEA](#)).

<sup>2</sup> The IEA Implementing Agreement for a Co-operative Programme on Efficient Electrical End-Use Equipment (4E) is one of 42 international energy technology collaborations within the IEA's [international network](#).

that energy-efficiency improvements could contribute 47% of reductions in energy-related CO<sub>2</sub> emissions potentially achievable by 2030.

Addressing today's energy challenges at national level is of course essential. But the challenges are global because electrical equipment is produced and traded within the global market. There are major gains to be had by addressing energy-efficiency issues through international co-operation and interaction, both in developing the future "top runners" among equipment models and in accelerating innovation among players in the global market for such equipment. An international approach is also crucial when responding to governments' need for guidance to design optimum policies that tackle barriers and encourage energy efficiency. The new ["4E" IEA Implementing Agreement](#) constitutes an essential collaborative tool to meet these objectives, complementing existing IEA Implementing Agreements' focus on energy efficiency.

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**There appear to be several sorts of barrier to greater market uptake of more energy-efficient electrical equipment. Which are the most important?**

### **Ture Hammar**

Yes, there are many different barriers, associated broadly with markets, with policy and with international trade. An example of market/policy barriers relates to the huge rise I have already mentioned in electricity consumption from appliances in stand-by mode. Power losses representing 10% of residential energy use are clearly not sustainable. But the market barriers are now being addressed by measures, on the part of both manufacturers and national regulatory bodies, to reduce stand-by mode power consumption. Sharing experience of successful approaches is vital here to spur progress internationally.

Key barriers to technology deployment are poor information and diverging incentives, between the purchasers and the users of electrical equipment, to ensure that it is efficient. Demonstrating a way to enhance efficiency awareness, manufacturers and retailers of IT equipment in Denmark, for example, have reached an agreement with the Danish Electricity Saving Trust to use labelling identifying the most efficient technology.

Markets for electrical equipment are expanding at an accelerating pace. In many IEA countries, grid-connected electrical appliances already average between 30 and 40 per household. New types of equipment - audio, video, computers, intelligent houses, communication - will claim a rapidly growing share of electricity use over the coming years. Increased use of TV set-top boxes, for instance, will substantially swell electricity use.

Ways must be found to create incentives for the development and successful deployment of more efficient technology for these widely traded products.

Whatever the barrier targeted, we need to look ahead, mapping expected technological development and setting ambitious energy performance targets involving the best available technologies, and even technologies still being developed. Different barriers can be tackled simultaneously by combining up-front technology exploration and ambitious dynamic performance standards with promotional programmes such as awareness campaigns, labelling or rebate schemes.

Some barriers can be addressed nationally or locally and the sharing of experience and best practice through 4E's co-operative efforts will be instrumental here. But policies and measures relating to the global equipment market must be developed, too, through international co-operation to facilitate trade of best available technology.

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**Are we talking only about electrical equipment in people's homes? Or is the scope wider?**

**Ture Hammar**

A look at a simple list of priorities such as those in the European Union directive on energy-using products shows that more than twenty types of product need to be targeted; many of these are related to people's homes. If you look at levels of electricity use and the potential for savings, however, you will find that electric motors and lighting are rather prominent. These are regular components in supply systems, in manufacturing, in commercial buildings, schools and institutions, and in public utilities' installations. The 4E portfolio must therefore include this type of electrical equipment. But we are not considering transportation at present, even though interesting potential certainly exists where cars, trains or bicycles are concerned.

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**Could you briefly outline the initial areas of focus of the 4E programme, and any other projects you have in mind for the longer term?**

**Ture Hammar**

The creation the 4E Implementing Agreement has been welcomed by a strong group of IEA member countries, leading to a productive launch process and definition of a number of areas in which to work.

First of all, there is robust and wide interest in benchmarking and mapping the potentials for efficient equipment. All members of 4E will contribute to this activity, in which the aim is to arrive at up-to-the-minute information on standards across the industry. To assist us, we expect to establish an Annex - or Task - to co-ordinate these benchmarking activities. The shaping of this Annex was initiated by the United Kingdom's participants, in co-operation with the other team members. Different aspects of benchmarking will be addressed, notably innovative programmes involving stakeholders such as retailers.

In terms of product focus, we plan to initiate three Annexes. Our Annex on stand-by power will map out and co-ordinate a range of different activities, in which Australia has taken the lead. In particular, a number of regional workshops are planned over the next couple of years to bring together knowledge and experience in this high-priority area. The first meeting of this Annex has just taken place in New Delhi.

The second Annex will deal with set-top boxes and is currently led by the United States. A first step will involve follow-up to the [IEA workshop in 2007](#) and implementation of a demonstration project for efficient set-top boxes.

Our Annex on efficient electrical motors is well advanced and will deal with many aspects of this important domain, notably technologies, test procedures and motor programmes. It is our intention to conduct its activities through a technology network, or platform. Switzerland is leading the work on this Annex.

In addition, we have two or three more Annexes in the pipeline, dealing with commercial lighting, retailer programmes and energy-efficient design/behavioural aspects.

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**How will this programme seek to influence policy making, in practical terms?**

#### **Ture Hammar**

The 4E programme is intended primarily to provide a forum for sharing expertise, and for comparing and promoting best practice in getting the products with the highest energy performance into wider use. Our goal is to provide policy-relevant information and conceptual input for use by those who help to shape energy policies. Because our efforts will seek to create synergies, we shall co-operate with programmes like Energy Star, the Collaborative Labeling and Appliance Standards Program, the Asia-Pacific Partnership on Clean Development and Climate, the International Task Force for Sustainable Products, and the European Union, thus building on the international experience they have already acquired. Our mission will be to take the effort forward to a global level through studies, workshops where the most recent information can be exchanged, and dissemination of

reports and conclusions to the policy-making circles, where reliable information and innovative but realistic policy guidance can make a real difference.

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**How can individual countries benefit from addressing all these issues internationally?**

#### **Ture Hammar**

First of all, we see major opportunities for all participating countries through co-ordination of legal, regulatory and technological efforts internationally, for example through energy labels, promotion of reduced stand-by power use, and collaborative efforts to identify the best technologies. The 4E programme is well placed to provide bridges enabling governments to work together towards the same goals, thus avoiding duplication of effort and expenditure.

The impact of the 4E programme will grow as its membership expands, so we welcome new participants from both IEA and non-IEA nations. As part of our consolidation process, we shall be very active in seeking to involve large energy consumer non-IEA countries such as China and India. We are also anxious to involve stakeholder groups such as manufacturers, who can become sponsors of the new programme. The Interim Executive Committee comprises some 15 countries. Denmark, the Republic of Korea, the Netherlands and Switzerland are already official contracting parties in the 4E collaboration. The process is in motion for Australia, France and the United States to become members, and two more countries could well sign up before the first meeting of the 4E Executive Committee, which will take place at IEA Headquarters in Paris on 14-15 April 2008.

Our [website](http://www.iea-4E.org) - [www.iea-4E.org](http://www.iea-4E.org) - provides more information about our work. Interested parties should contact [Carrie Pottinger](#) or [Mark Ellis](#) at IEA.

The launch of 4E owes much to the dedication and hard work of many people. We are most grateful to our colleagues at the IEA Secretariat for all their assistance. And we should like to thank Peter Cunz, Chair of the IEA End-Use Working Party, who came up with the idea of 4E at the beginning and has worked hard to foster its development. Much work lies ahead, though, and many more positive contributions are needed.

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**Thank you, Mr. Hammar, for telling us about the new 4E programme. We wish you and your team well with this exciting new initiative.**

#### **Ture Hammar**

The pleasure is mine.