

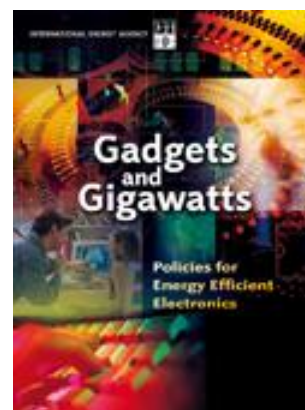
An IEA *OPEN Energy Technology Bulletin*¹ Interview

Issue No. 59, June 2009

Introducing the IEA's new publication

Gadgets and Gigawatts - Policies for Energy Efficient Electronics

Sophisticated household electronic devices simplify life. But they are claiming fast-growing shares of energy consumption. IEA's newly released *Gadgets and Gigawatts* provides perspective on just how consumers, manufacturers and governments can join forces to rein in the power consumption of these labour-saving aids. IEA Senior Policy Analyst Paul Waide discusses three of the book's key messages.



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What are the most commonly found energy-efficiency failings in today's generation of home electronic devices?

Paul Waide

The challenge for electronic devices now and into the future is to ensure that energy-consuming features match the requirements of the consumer. Many of the functions that products are now capable of performing are not actually used by consumers for the majority of the time but still continue to draw power unnecessarily. Up to 50% of energy could be saved by measures such as ensuring that these functions are switched off or enter into a very low power mode until they are needed by the consumer. For example, many set-top boxes remain fully "on" all the time in order to be able to download the occasional package of information, such as programme guides.

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How can technology provide solutions?

Paul Waide

We have seen over recent years that when power-saving is an important marketing feature the industry can achieve very high levels of functionality while also minimising energy

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

consumption. This is most evident in mobile devices such as cell-phones or laptop computers, where battery life is an important selling feature. The modern smart phone is an extraordinary piece of equipment that provides lots of functions, stays connected to the network, downloads and sends information, plays music and stores digital information. It does all this using a fraction of the energy used by devices which are connected to mains electricity supply. How does it do this? Simply by integrating the need for energy efficiency within the normal hardware and software design processes, and by ensuring that the two are working together to maximise energy savings at every opportunity. Often this does not involve different technology - just improved integration and design.

This contrasts strongly with design processes for most other electronic devices, where energy consumption is considered an unmarketable commodity and is therefore a low priority among design considerations.

As a result, you will notice that a cell-phone goes to sleep almost immediately when it is not in use. But it is still able to receive information, and to wake up quickly when needed. On the other hand, many other sorts of electronic equipment remain switched on fully, even when not being used. Computers, DVD players and recorders, or set-top boxes are among a large number of modern devices which constantly consume significant amounts of energy, even when not in use, or in use at only very low levels of functionality. With a bit of thought, these devices could also match their power requirements to the needs of the consumer when those needs arise. We have the technology for this. It just needs to be applied more widely.

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What sorts of government policy are the most effective in bringing industry, the market and consumers into the effort?

Paul Waide

First, we must acknowledge that it is only in niche markets for items like mobile devices that market power will achieve anything like the energy-efficiency potential that exists for electronic devices. The market is just too fragmented, the savings on individual items too small, and the competition for low-priced commodities too intense for there to be clear drivers for energy efficiency.

Given today's growth in use of electronic devices, governments need to be pro-active in developing policies which encourage industry to respond positively to the energy-saving challenges ahead. One way of achieving this is for governments to work with industry on establishing meaningful targets for product performance that ensure results but also allow industry some flexibility over choice of paths to reach those targets. Since many electronic devices are traded globally, it would be preferable if such targets were agreed internationally. Perhaps this is area where the International Partnership for Energy Efficiency Cooperation (IPEEC) and the IEA Implementing Agreement on Efficient Electrical End-Use Equipment could provide some valuable leadership.

Many of the national programmes governments have launched for other types of appliance have led the way in the transition to greater efficiency in electronic equipment. For certain

products, energy performance labelling and minimum energy performance standards will be the most effective way to provide information to consumers, stimulate awareness of efficiency differentials and raise average efficiency levels. But, in framing these policies, it is going to be important to move away from narrow definitions of products and to look towards regulating the components which are common to a large number of electronic products. Such 'horizontal' policies focusing on components make particularly good sense when you have a continual process of technology evolution and convergence, and where it is hard to clearly define a specific product for regulation.

This is an ongoing process in which all the stakeholders need to work collaboratively and internationally to ensure that energy savings really do contribute their maximum to countries' energy security and economic development while protecting local environments and the global climate.