

INTERNATIONAL ENERGY AGENCY



Gadgets and Gigawatts

**Policies for
Energy Efficient
Electronics**



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Policies for Energy Efficient Electronics

By 2010 there will be over 3.5 billion mobile phone subscribers, 2 billion TVs in use around the world and 1 billion personal computers. Electronic devices are a growing part of our lives and many of us can count between 20 and 30 separate items in our homes, from major items like televisions to a host of small gadgets. The communication and entertainment benefits these bring are not only going to people in wealthier nations – in Africa, for example, one in nine people now has a mobile phone. But as these electronic devices gain popularity, they account for a growing portion of household energy consumption.

How “smart” is this equipment from an energy efficiency perspective and should we be concerned about how much energy these gadgets use? What is the potential for energy savings?

This new book, *Gadgets and Gigawatts: Policies for Energy Efficient Electronics*, includes a global assessment of the changing pattern in residential electricity consumption over the past decade and an in-depth analysis of the role played by electronic equipment. It reviews the influence that government policies have had on creating markets for more energy efficient appliances and identifies new opportunities for creating smarter, more energy efficient homes. This book is essential reading for policy makers and others interested in improving the energy efficiency of our homes.





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INTERNATIONAL ENERGY AGENCY

The International Energy Agency (IEA) is an autonomous body which was established in November 1974 within the framework of the Organisation for Economic Co-operation and Development (OECD) to implement an international energy programme.

It carries out a comprehensive programme of energy co-operation among twenty-eight of the thirty OECD member countries. The basic aims of the IEA are:

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- n To operate a permanent information system on international oil markets.
 - n To provide data on other aspects of international energy markets.
 - n To improve the world's energy supply and demand structure by developing alternative energy sources and increasing the efficiency of energy use.
 - n To promote international collaboration on energy technology.
 - n To assist in the integration of environmental and energy policies, including relating to climate change.



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The OECD is a unique forum where the governments of thirty democracies work together to address the economic, social and environmental challenges of globalisation. The OECD is also at the forefront of efforts to understand and to help governments respond to new developments and concerns, such as corporate governance, the information economy and the challenges of an ageing population. The Organisation provides a setting where governments can compare policy experiences, seek answers to common problems, identify good practice and work to co-ordinate domestic and international policies.

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FOREWORD

Amid increasing concerns regarding energy security, economic development and climate change, the need to switch to more efficient energy-using technologies becomes urgent. Previous IEA studies have estimated that residential appliances accounted for 30% of electricity generated in OECD countries and predicted further growth in appliance energy use. Retrospective analysis has shown that policy measures implemented to improve energy efficiency in appliances over the past fifteen years have been extremely effective. As a result, governments and inter-governmental organisations everywhere are beginning to give energy efficiency the attention it deserves, and develop new policy initiatives in this field.

Residential electricity consumption continues to grow and at a rate faster than earlier predicted. If we are serious about the issues of climate change and energy security, we have to understand why household appliances are using more electricity than ever before, and whether this trend is likely to continue. We then need to find further ways to ensure this energy is consumed efficiently.

This IEA publication, *Gadgets and Gigawatts* shows that electronic devices have made a major contribution to the recent growth in total residential electricity use and will become one of the largest end-use categories in years to come. The digital age has brought huge innovations in the way we communicate and access information and entertainment services at home, but has also heralded a new area of energy consumption. As electronic devices such as flat screen televisions and monitors, computers, printers and set-top boxes have become more affordable, numbers have increased dramatically in almost all countries.

Whether this will drive increased energy consumption and greenhouse gas emissions critically depends upon the policies which countries put in place to stimulate the uptake of more energy efficient products. Already, most of the technologies exist to cut energy consumption in this area by as much as 50% but there are many barriers which inhibit their wide scale adoption.

To date, new markets have sprung up at such a speed that policy development processes in most countries have struggled to keep pace. Furthermore, the global nature of these markets and the degree of innovation in product design pose particular challenges for policy makers.

As a result, the publication of this book is extremely timely, providing an insight into the technologies, barriers and energy efficiency policies for the digital age.

Nobuo Tanaka
Executive Director
International Energy Agency

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