

ICT Energy Efficiency: Commercial and Industrial

<https://marketpublishers.com/r/I0530CEF309EN.html>

Date: April 2010

Pages: 162

Price: US\$ 4,800.00 (Single User License)

ID: I0530CEF309EN

Abstracts

ProdUnit Price (Global Site License): \$6 200

While global energy consumption is high and rising, conventional fuel sources are becoming increasingly scarce and expensive. Further, emissions resulting from the use of fossil fuels have been linked to global climate change and, within a rising number of countries, are subject to regulation. Consequently, governments, businesses and consumers around the world are seeking products and services to improve energy efficiency.

World marketed energy consumption was 462 quadrillion Btu in 2005. Going forward, global energy consumption is forecast to increase 19% between 2005 and 2015 to 551 quadrillion Btu. Conventional fuels such as oil and other liquid petroleum products, natural gas and coal are the world's leading sources of energy.

Together, these sources are expected to account for approximately 85% of the world's energy in 2010. Even considering the technological advancements and increasing penetration of renewable energy sources, the share of world energy supplied by conventional fuels is expected to remain flat to 2015. As fossil fuels, these resources are finite and current projections indicate that they will be depleted within a relatively short timeframe. Further, use of these fuels results in greenhouse gas emissions, which are linked to global climate change. Together with the fact that power generation using these sources is becoming increasingly expensive, current energy use patterns are unsustainable.

Products and services provided by the information and communications technology (ICT) sector enable energy efficiency and emissions reductions. ICTs can be employed to capture, analyze and respond to vast amounts of data which can lead to optimized energy use within large, energy-reliant sectors such as power, industry and logistics.

Additionally, the adoption of ICT products and technologies can reduce energy consumption across sectors by enabling smart buildings, dematerialization and travel substitution. Meanwhile, various innovations and trends occurring within the ICT sector are expected to reduce the energy consumption of ICT products themselves.

The continued development and adoption of more efficient PCs and peripherals, data center servers and cooling technologies, telecommunications devices and infrastructure is expected to improve energy efficiency of products produced within the ICT sector. Globally, these improvements are projected to reduce the in-use energy consumption of ICT products by 895 billion kWh in 2015.

While substantial, the magnitude of these savings is dwarfed by the impact that the use of these enabling ICTs are projected to have across other sectors of human enterprise. The global energy savings enabled by ICTs in the power, industrial, and logistics sectors as well as through the cross-sectoral impact of enabling energy efficient buildings, travel substitution and dematerialization are estimated to exceed 6,463 billion kWh in 2015.

The overall global energy savings due to the improved energy efficiency of ICT products themselves as well as the efficiency enabling impact of these products across other energy intensive sectors and activities is therefore projected to grow from 2,618 billion kWh in 2010, to 7,358 billion kWh in 2015. These energy savings equate to 4.5% of projected global energy consumption in 2015.

Along with the reduction in global energy consumption, ICT products are also expected to enable significant reductions in global emissions. The global emissions reductions enabled by energy-smart ICT solutions are projected to grow from 1,393 million tonnes of carbon dioxide equivalent in 2010 to 3,892 million tonnes in 2015. This reflects an 8.7% reduction in projected total global carbon emissions at that time.

The global value created through energy efficiency gains enabled by energy-smart ICT products and solutions across all sectors is projected to grow from \$170 billion in 2010 to over \$478 billion in 2015. Concurrently, the global value created through the potential monetization of emissions reductions is expected to reach \$70 billion by 2015.

In the aggregate, the global value created through the energy and emissions savings estimated at \$195 billion in 2010 and is expected to grow to \$548 billion by 2015. This substantial value creation represents the impact of incremental adoption of energy-smart ICT products and solutions across several energy intensive sectors that are

improving their energy efficiency relative to a 2005 baseline.

ICT Energy Efficiency: Commercial and Industrial includes a broad review of the global market for information and communications technologies which enable conservation of energy. The report examines opportunities for the ICT sector to improve the in-use energy efficiency of its products as well as the ability of the sectors' products to enable energy efficiency across other sectors. Select ICTs which enable energy efficiency are discussed. These ICTs are categorized into 4 sectors: the ICT sector, power sector, logistics sector and industrial sector. Three cross-sector opportunities for efficiency enabling ICTs, buildings, dematerialization and travel substitution, are also discussed.

Report Methodology

The information in ***ICT Energy Efficiency: Commercial and Industrial*** is based on primary and secondary research. Primary research entailed interviews with firms involved in the manufacture, distribution and sales of ICT products, analysts and consultants to the energy industry to obtain insight into the products, technologies and market factors shaping the industry. Secondary research entailed data gathering from relevant sources, including government and industry publications, company literature and corporate annual reports.

What You'll Get in This Report

ICT Energy Efficiency: Commercial and Industrial contains important insights and projections regarding the future of this market around the world. No other market research report provides both the comprehensive analysis and data that ***ICT Energy Efficiency: Commercial and Industrial*** offers. Subscribers will benefit from extensive data, presented in easy-to-read and practical charts, tables and graphs.

ICT Energy Efficiency: Commercial and Industrial includes a broad review of the global market for ICTs which are both energy efficient in themselves and enable energy conservation within various sectors of the global economy. The report outlines the need for improved energy efficiency and introduces several of the most significant opportunities to improve energy efficiency through the use of ICTs through 2015. Historic and forecast global energy demand 2005 to 2015 and energy demand drivers are presented.

Some of the most significant opportunities to improve energy efficiency through the use

of ICTs through 2015 are identified and representative ICT products, technologies and requirements are discussed. Opportunities are presented by sector including the ICT, power, industrial and logistics sectors. Additionally, opportunities for ICTs to improve energy efficiency across sectors such as reducing the energy consumption of buildings, substitution of hard goods with electronic goods and travel substitution are discussed.

Finally, the market for energy efficient and efficiency-enabling ICTs is covered. Historic and forecast (2005-2015) energy consumption and carbon emissions for the various sectors and activities covered in this report are presented. Energy and emissions savings enabled by the ICTs discussed within the report and the value of these savings is offered. The report also provides profiles of participants in the market for energy-efficient and efficiency-enabling ICTs.

How You'll Benefit from This Report

If your company is already doing business in the market for information and communication technologies which enable energy efficiency, or is considering entering the marketplace, you will find this report invaluable. It provides a comprehensive package of information and insight not offered in any other single source. You will gain a thorough understanding of the current global market for energy efficient and efficiency-enabling ICTs, as well as projected markets and trends through 2015.

This report will help:

Marketing managers understand the market forces shaping the market for information and communications technologies which enable energy efficiency and identify market opportunities.

Research and development professionals stay on top of competitor initiatives and explore demand for efficiency-enabling ICTs.

Business development executives understand the dynamics of the market and identify possible partnerships.

Information and research center librarians provide market researchers, product managers, and other colleagues with the vital information they need to do their jobs more effectively.

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