



Energy Efficiency & Consumer Electronics: Industry Trends and Opportunities for Collaboration

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Presentation Overview

- CEA and consumer electronics
- Trends and energy use
- Position and approach
- Initiatives
- Role of technology
- Events at 2007 International CES



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Consumer Electronics Association (CEA)

- U.S. industry association with more than 2,100 members
- Represent entire range of CE industry
- \$125 billion in annual sales in U.S.
- Public policy, standards, market research, training, promotion, and International CES



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Consumer Electronics

- **Televisions and set-top boxes**
- **Video recorders and players**
- **Home audio and home theater products**
- **Portable audio and video products**
- **Desktop and notebook computers and computer accessories**
- **Video games**
- **Mobile phones and accessories**
- **PDA's and handhelds**
- **In-car information, communication and entertainment products**
- **Cameras and camcorders**
- **Cordless telephones and accessories**
- **Home networking and home office products**



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Consumer Electronics

- Market is dynamic, highly competitive and characterized by rapid innovation, significant time-to-market pressures, rapid rates of market penetration, and rapid transition from one technology to another.
- Products are vastly different by design, function, consumer use and performance than residential, industrial and commercial appliances and equipment.



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Trends

Major industry trends which naturally drive, support and sustain the energy efficiency of electronics:

- *Convergence*
- *Miniaturization*
- *Transition from analog to digital technology*
- *Innovation*



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Energy Use

- Energy efficiency is an important design consideration for CE products.
- CEA believes that practical solutions to advance energy efficiency are best reached through a public/private partnership and thorough analysis which balances energy consumption with consumer demand for greater product functionality.



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Energy Use

- Many estimates of CE electricity consumption rely upon data developed in the late 1990s.
- In its recent adoption of mandatory limits, California Energy Commission relied extensively upon assessments of CE energy consumption developed in the late 1990s.



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Energy Use

- Same values used in California Energy Commission analysis have been repeated in other reports (e.g. ACEEE's 2006 report, *Leading the Way: Continued Opportunities for New State Appliance and Equipment Efficiency Standards*).
- The U.S. Energy Information Administration, a leading source of U.S. energy consumption data, also presently relies heavily upon data developed in the late 1990s to estimate the electricity consumption of many CE products and miscellaneous electric loads.



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What is CEA Doing?

- Many CE products have changed dramatically over the last decade, as have their energy consumption characteristics (e.g., due to technological change and the success of the Energy Star program).
- CEA has engaged TIAX to study and report current energy consumption for CE products.



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Market Transformation

- To transform the market and deliver more energy efficient products to consumers and businesses over time, the CE industry has supported:
 - *Successful voluntary, market-oriented programs such as Energy Star, and*
 - *Voluntary, industry-led standards setting activities at the national, regional and international levels.*



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Global Industry Position

- *Support voluntary, market-oriented programs and initiatives, including industry-led standards, which highlight and sustain energy efficiency in the electronics industry;*
- *Continue to work cooperatively with governments in the development of energy efficiency initiatives that complement and support voluntary approaches and continued innovation, expanded consumer choice, and enhanced product functionality;*
- *Oppose government-imposed approaches that stifle innovation, reduce consumer choice, and limit product features and services.*



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Voluntary, Market-oriented Programs and Initiatives

- Incentive programs like Energy Star
- Voluntary codes like EU Code of Conduct
- Industry standards, which policy makers and other stakeholders can influence to save energy while protecting innovation and consumer choice
- Consumer education



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Energy Star

- Voluntary, market-driven and international
- Government-industry partnership
- Captures broad range of consumer electronics
- Strong participation by manufacturers
- Well-recognized by consumers
- Competitive incentive for energy savings



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Energy Star

- Designed to recognize products that are in the top 25% for energy efficiency.
- New criteria are phased in gradually.
- Over time, the Energy Star program leads the market toward higher efficiency levels.
- Consideration of active power in addition to standby power.



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Energy Star

- Home Electronics: Energy Savings Achieved: 7.5 Billion kWh; Emissions Prevented: 1.5 Million metric tons of carbon equivalent
- Office Equipment: Energy Savings Achieved: 33.7 Billion kWh; Emissions Prevented: 6.8 Million metric tons of carbon equivalent

Source: Energy Star 2004 Annual Report



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Energy Star: Threats to Future Success

- Prior to action by the California Energy Commission, no state government or agency had taken the voluntary Energy Star program criteria and made them mandatory for the market.
- CEC's action will fundamentally alter dialogue between industry and EPA on Energy Star specifications.



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Industry Standards

- Market-oriented
- Strong industry participation
- Credible and flexible
- Open to all stakeholders
- Performance neutral
- International



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Industry Standards: CEA

- American National Standards Institute (ANSI) accreditation
- More than 70 committees, subcommittees and working groups
- www.ce.org/standards



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Industry Standards: Current Projects

- Current industry standards projects for energy efficiency:
 - *U.S. standard for set-top box standby energy consumption (CEA Video Systems Committee "R4")*
 - *International standard for measuring TV on-state energy consumption (IEC TC 100 and TC 110 working groups)*



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Consumer Education

- The CE industry has developed consumer tips for saving energy with electronics, available at www.ce.org/green



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2007 International CES

- New International CES Innovations award for eco-design
- Energy efficient products and technology on display
- Conference session on energy efficiency
- www.cesweb.org



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Technology As an Energy Savings Solution

- Volumes in the CE industry drive semiconductor innovation that allow more efficient appliances and product controls.
- Information technology and telecommunications products allow teleworking and remote access to information and entertainment, both of which save fuel and reduce smokestack emissions.



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Opportunities for Collaboration

- Support and defense of voluntary approaches:
 - *Incentive programs, voluntary codes and industry standards*
- Research and analysis
- Consumer education



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