CALIFORNIA DELIVERS
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Journalist's Guide to California's Title 20 Standard for Computers/Monitors

As the California Energy Commission (CEC) adopts landmark energy efficiency standards for computers, monitors and displays, California Delivers created this resource for journalists to provide:

- An overview and rough timeline for policy adoption
- Relevant facts
- Expert sources

What is the Title 20 Standard for Computers/Monitors?

After years of consideration, California is preparing to take a big step toward setting new goals for a large source of energy waste in the state—computers and monitors—which represent more than five-percent of the electricity consumption in the commercial and residential sector in California. The California Energy Commission (CEC) proposed first-in-the-nation standards for these technologies, which could save Californians $400 million annually on their utility bills by 2024 and save the state enough energy to power all the homes in San Francisco county. The standards have the potential to cut desktop computer energy consumption in half, while cutting overall computer energy waste by 30 percent.

The CEC conducted two public hearings on the standards and has engaged in extensive negotiations with industry throughout 2015 and 2016.

What's at stake?

Consumers, businesses, schools and organizations shoulder the burden of unnecessary energy costs resulting from inefficient computers and monitors. The standard will spur innovation to correct for these inefficiencies, but it needs to be forward-looking. With the rapid proliferation of electronic devices in businesses and households, and the ever-evolving technology in the computer sector, it's vital that the CEC standard include emerging technologies that may have a low market share today, but will be mainstream when the standards are in effect. Anything less will not have the desired impact or provide the full range of benefits for consumers.

Who benefits?

- California families
- Schools (K-12)
- Universities
- Local and state government
- Businesses (small/medium/large)

THE SACRAMENTO BEE

"While federal and state policies have set minimum efficiency standards for appliances such as air conditioners and refrigerators for decades, when it comes to the fastest-growing segment of home energy consumption – networked digital devices – manufacturers lack incentives to make more efficient products. That is why standards are so important."

Joe Ridout and Mark Cooper, October 6, 2014

The Washington Post

"California's move could reverberate in the computer industry, given the size of its population and market and also the presence of key parts of the tech community within the state."

March 16, 2015

Why is this standard significant?

The proposed standards require that desktop computers reduce the power they draw by half while on but not actively used. The University of California Plug Load Research Center estimates that office desktop computers are switched on 77 percent of the time, but sit idle for 61 percent of that time, unnecessarily drawing power from the grid. The electricity consumption of desktop computers and monitors is not visible to consumers, and it's difficult for consumers to determine how much energy a device uses. These standards address the failure of the marketplace to incorporate cost-effective energy saving technologies into these products.

California is home to 1 in 8 of the nation's consumers and millions of computers are sold here each year. As no national efficiency standards exist for computers, the California standard could become the de facto standard in the country, and influence international standards. If the proposed California standards for computers/displays/monitors were applied nationwide, the country's electric bill would drop by $3 billion.

A 2014 analysis by the Consumer Federation of America found that between 2000 and 2013, the amount of electricity gobbled up by computers, game consoles and network connectivity devices increased more than five-fold in the U.S., reaching an average of 800 kWh per year per household. According to the International Energy Agency (IEA), Internet-connected devices waste $80 billion in electricity per year worldwide—the equivalent of 133 mid-sized, coal-burning power plants producing 500 megawatts of power each, according to the IEA's executive director.

What is coming up in 2016?

- Summer 2016: CEC has initiated the formal rulemaking and will finalize and publish draft standards
- Fall 2016: Public workshop for computer/monitor standards and 45-day comment period
- December 2016: Adoption of new computer/monitor standards

NRDC
NATURAL RESOURCES DEFENSE COUNCIL

"While manufacturers of portable devices such as laptops and tablets have made great strides in maximizing the efficiency of those products in order to make them run longer on a battery charge, desktop models and monitors have seen far less progress in energy reduction because they have access to a seemingly limitless supply of electricity from wall plugs."

Pierre Delforge, director of high tech sector energy efficiency, energy & transportation program for NRDC, March 31, 2016

POLITICO

"Electricity use by digital devices in U.S. homes...has significantly increased since 2000 and now uses around half as much energy as power-guzzling air conditioners."

February 26, 2014

Facts/Data

- It is estimated that the standards will save consumers around $60 over the five-year life of a desktop computer, while adding around $18 to the cost of the computer if industry chooses to pass those costs directly onto consumers.

- It is possible for computer and display energy consumption to be cut by more than a third cost-effectively. In California alone, this would save customers roughly $400 million on their utility bills and cut carbon pollution by 800,000 metric tons each year. https://www.nrdc.org/experts/pierre-delforge/california-energy-commission-proposes-new-efficiency-standards-will-cut

- Between the years 2000 and 2013, the amount of electricity gobbled up by computers, game consoles and network connectivity devices increased more than five-fold in the U.S., reaching an average of 800 kWh per year per household. The increase in electricity use of these devices is driven both by increased penetration of the devices into households and increased use of those devices by households. http://www.consumerfed.org/pdfs/CFA-Household- Digital-Device- Electricity-Consumption.pdf

- The Energy Commission's proposed standard would create slightly more than 12,000 jobs from 2018 – 2030, and result in modest increases in household income. Lower-income households that spend a higher proportion of their income on electricity are expected to benefit slightly more than other household groups. http://docketpublic.energy.ca.gov/PublicDocuments/16-AAER-02/TN212070_20160701T141710_Standardized_Regulatory_Impact_Assessment.pdf

- If the proposed California standards for computers/displays/monitors were applied nationwide the country's electric bill would drop by $3 billion. https://www.nrdc.org/experts/pierre-delforge/california-energy-commission-proposes-new-efficiency-standards-will-cut

- Internet-connected devices waste $80 billion in electricity per year worldwide—the equivalent of 133 mid-sized, coal-burning power plants producing 500 megawatts of power each. http://www.iea.org/etp/networkstandby/

- California's pioneering energy efficiency standards have saved families, businesses and institutions $74 billion in energy costs since 1977. http://www.energy.ca.gov/efficiency/savings.html

- Although office desktop computers are switched on 77 percent of the time, they're idle for 61 percent of the time while still using lots of electricity, according to the University of California (UCI) Plug Load Research Center. http://www.energy.ca.gov/publications/displayOneReport.php?pubNum=CEC-500-2014-093

San Francisco Chronicle

NORTHERN CALIFORNIA'S LARGEST NEWSPAPER

"In 2015, computers definitely count as a crucial and everyday device for many Americans. These devices use an ever-growing share of our energy use: The California Energy Commission estimates that computers and monitors are among the leading users of energy in our state. So it's right, fair and timely for the commission to consider developing the country's first-ever standards for energy efficiency in computers."

San Francisco Chronicle editorial board, May 2, 2015

Expert Sources

Mark Cooper
Consumer Federation of America
Dr. Cooper is director of research at the Consumer Federation of America, a fellow at the Stanford Law School Center for Internet and Society and a fellow at The Donald McGannon Communications Center of Fordham University. He has provided expert testimony in the Title 20 process and written two papers outlining the growing consumer impacts related to the inefficiencies of computers and related connectivity devices.

Contact: cfa@consumerfed.org (414) 453-0430

Pierre Delforge
Natural Resources Defense Council (NRDC)
Pierre Delforge joined NRDC in 2010 after spending 20 years in the information technology industry. At NRDC, he focuses mainly on reducing the consumption of electricity by the rapidly growing I.T. and consumer-electronics sectors. Previously, Delforge was lead energy and climate strategist for Hewlett Packard's sustainability group. He holds degrees in computer science from Cambridge University and L'Ecole Centrale Paris.

Contact: pdelforge@nrdc.org (415) 875-6100

Anna Ferrera
School Energy Coalition
Anna Ferrera is the executive director and legislative advocate for the School Energy Coalition, a membership organization representing school districts, community colleges and businesses that support the education sector. Anna is a former presidential appointee and senior advisor at the United States Department of Energy and former staff to the California State Senate on energy issues.

Contact: aferrera@m-w-h.com (916) 441-3300

Shannon Baker-Branstetter
Consumers Union
Shannon Baker-Branstetter has served as policy counsel for Consumers Union's Washington, D.C. Office since 2009, where she handles clean energy and climate change policy, toxics regulatory reform, and safe drinking water issues. Ms. Baker-Branstetter earned a B.A. from Yale University and a Master's in Public Policy from the University of California, Los Angeles. Ms. Baker-Branstetter is an alumnus of Georgetown Law and is a member of the California and District of Columbia Bar Associations.

Contact: sbaker-branstetter@consumer.org (202) 462-6262 Ext 1103

Steve Frisch
Sierra Business Council
Steve Frisch is president of the Sierra Business Council and one of its founding members. Over the last 20 years, Sierra Business Council has leveraged more than $100 million of investment in the Sierra Nevada and its communities through community and public-private partnerships. The Council also manages the Sierra Small Business Development Center focusing on advancing sustainable business practices and linking new and expanding businesses to climate mitigation and adaptation funding. Steve serves on the board of the California Stewardship Network, Capital Public Radio, and Leadership for Jobs and a New Economy.

Contact: sfrisch@sierrabusiness.org (530) 277-3763

Stephanie Chen
The Greenlining Institute
Stephanie Chen directs Greenlining's advocacy in energy and telecommunications policy. She oversees Greenlining's legal counsel at the California Public Utilities Commission and the Federal Communications Commission. Stephanie has litigated several high-profile cases impacting billions of dollars in utility rates, winning broad statewide protections for communities of color, low income ratepayers and small business owners.

Contact: stephanie@greenlining.org (510) 898-0506

Kirsten James
Ceres
Kirsten James develops strategy and policy objectives for Ceres' California-focused work. She is the lead for tracking and evaluating important statewide policy initiatives and implementation. Kirsten also helps establish and maintain business and investor partnerships within California and collaborates with the Policy and Water Programs to support public policies that call for sustainable water management, clean energy and greenhouse gas emission reductions in California. She graduated with a B.A. from Northwestern University and a Masters of Environmental Science and Management from the Bren School at University of California Santa Barbara.

Contact: james@ceres.org (310) 713-3091