

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

In December 2016, California adopted landmark energy efficiency standards for computers and monitors. California Delivers created this resource to provide a guide to the nation's first such standards, including:

- An overview and rough timeline for implementation
- Relevant facts
- Expert sources

## What is the Title 20 Standard for Computers/Monitors?

After years of consideration, California adopted groundbreaking goals for a large source of energy waste—computers and monitors—which represent more than 3 percent of residential electricity use and 7 percent of the electricity consumption in California. The California Energy Commission (CEC) proposed and adopted these standards to save Californians \$370 million annually on their utility bills while saving enough energy to power all the homes in San Francisco each year. The standards set a baseline energy use target and focus on reducing energy waste while machines are in idle modes.

The CEC engaged in extensive negotiations with industry and advocates and the final standard was passed with the strong support of consumer advocates, industry and manufacturers, and environmentalists.

### WHO BENEFITS?

Traditionally, consumers, businesses, schools and organizations have shouldered the burden of unnecessary energy costs resulting from inefficient computers and monitors. California's standard spurs innovation to correct for these inefficiencies. With the rapid proliferation of electronic devices in businesses and households, it's vital that the California Energy Commission and manufacturers continue to address common appliances and technologies that drive up energy bills.



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## Los Angeles Times

The Consumer Federation of America praised the regulations and said the percentages in cost savings more than make up for the increase in prices.

"Believe me, the average consumer who can barely get 2 percent on his CD today, that's a pretty darn good investment," said Mark Cooper, the federation's director of research in a teleconference after the commission passed the rules.

*Los Angeles Times, December 2016*

## 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*



**REUTERS**

The California standards set a benchmark for a machine's overall energy use and leave manufacturers the flexibility to choose which efficiency measures to use to meet it....

"This is a big deal," said Mark Cooper, a policy analyst for the Consumer Federation of America, adding that computer ownership per capita in California ranks second in the world behind Sweden.

*Reuters, December 2016*

## Why is this standard significant?

The 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 will become the de facto standard in the country, and influence international standards. If the 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.

## 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

## WHEN DO STANDARDS TAKE EFFECT?

### January 1, 2018:

Workstations and small-scale servers

### January 1, 2019:

Desktops and notebook computers

### July 1, 2019:

Computer monitors covering screens 17 inches and larger

### By mid-2021:

Desktops must reduce their power-draw by 50 percent when they idle

## 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*

## CAPITOL WEEKLY

"Our students need access to computers to stay competitive, while our schools need a way to handle rising energy costs. Strong computer efficiency standards will save energy and money — especially if up-front costs are kept in check — while giving our children access to the technology they need."

*Anna Ferrera, School Energy Coalition,  
September 2016*

# Facts/Data

- It is estimated that the standard will add about \$14 to the cost of a machine, while saving consumers around more than \$55 in electricity bills over five years.
- 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 \$370 million on their utility bills, cut carbon pollution by 800,000 metric tons each year and save enough energy to power 250,000 houses annually.

<https://www.nrdc.org/experts/pierre-delforge/california-approves-nations-1st-computer-energy-standards>

- 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 standard will 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](http://docketpublic.energy.ca.gov/PublicDocuments/16-AAER-02/TN212070_20160701T141710_Standardized_Regulatory_Impact_Assessment.pdf)

- If California's 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

"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.

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## **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.

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## **Anna Ferrera**

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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.

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## **Shannon Baker-Branstetter**

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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.

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## **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.

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## **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.

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## **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.

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