



Always-on inactive devices may devour \$19 billion worth of electricity annually


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ALWAYS-ON DEVICES GUZZLE HUGE AMOUNTS OF ELECTRICITY WHEN NOT ACTIVELY USED



THE COST




\$165
per household





\$19B
nationwide

ELECTRICITY FROM
50 LARGE POWER PLANTS
(500 MEGAWATTS EACH)



50

THAT'S LIKE BREWING 234 CUPS OF COFFEE EVERY DAY FOR A YEAR!

BUT IF ALL U.S. HOMES CUT ALWAYS-ON LOAD TO LOWEST QUARTER IN OUR STUDY:

\$8 BILLION SAVINGS

ON ANNUAL UTILITY BILLS

AVOID ELECTRICITY EQUAL TO THE ANNUAL CONSUMPTION OF ALL HOUSEHOLDS IN

ARIZONA & ALABAMA

PREVENT


44

MILLION METRIC TONS

OF CO₂ CARBON POLLUTION ANNUALLY, EQUAL TO 4.6% OF U.S. EMISSIONS FROM HOUSEHOLD ELECTRICITY USE

WHAT YOU CAN DO

- ★ Unplug devices when not in use
- ★ Choose more energy efficient appliances, electronics, such as ENERGY STAR™ models
- ★ Call for manufacturers to reduce product idle loads
- ★ Demand that lawmakers enact idle load product labeling and efficiency standards



Approximately \$19 billion worth of electricity, equal to the output of 50 large power plants, is devoured annually by U.S. household electronics, appliances, and other equipment when consumers are not actively using them, according to a groundbreaking study released today by the Natural Resources Defense Council.

The report, "[Home Idle Load: Devices Wasting Huge Amounts of Electricity When Not in Active Use](#)," found most of the devices either plugged in or hard-wired into America's homes consume [electricity](#) around-the-clock, even when the owners are not using them or think they are turned off. The annual cost for this vampire energy drain, which provides little benefit to consumers, ranges from \$165 per U.S. household on average to as high as \$440 under some utilities' top-tier rates.

"One reason for such high idle energy levels is that many previously purely mechanical devices have gone digital: Appliances like washers, dryers, and fridges now have displays, electronic controls, and increasingly even Internet connectivity, for example," says Pierre Delforge, the report's author and NRDC's director of high-tech sector energy efficiency. "In many cases, they are using far more electricity than necessary."

These always-on but inactive devices account for nearly 23 percent, on average, of the [electricity consumption](#) of homes in California – where electricity usage tends to be lower overall due in part to decades of energy efficiency success – but the share will vary in other states, depending on total electricity use. However, the amount of inactive consumption by household devices can be applied nationally as Americans tend to buy the same appliances everywhere.

The NRDC study is the first large-scale analysis of idle load use, combining usage data from electric utility smart meters in 70,000

northern California residences with field measurements concentrating on idle loads (an average of 65 devices were found in NRDC's onsite audit). Idle consumption includes devices in off or "standby" mode but still drawing power (such as furnaces and garage door openers); in "sleep mode" ready to power up quickly (like game consoles); and left fully on but inactive (computers).

"Consumers can take such steps to reduce their idle load as using timers, smart power strips, and changing settings on their devices, and manufacturers need to do their part by designing products to minimize energy waste, but ultimately policies like [energy efficiency](#) utility programs and standards are needed," Delforge notes. "Reducing always-on consumption is a low-hanging fruit opportunity to cut climate-warming pollution."

In fact, if all households in the United States reduced their idle load to the level that a quarter of the homes in NRDC's study already achieve, they would save \$8 billion on their annual utility bills; avoid 64 billion kilowatt-hours of electricity use per year; and prevent 44 million metric tons of carbon dioxide pollution, or 4.6 percent of U.S. residential sector carbon dioxide emissions from electricity generation.

Other key findings:

- The average always-on, but inactive consumption across the 70,000 California homes was 164 watts, the same as brewing 234 cups of coffee every day for a year (more than 85,000)!
- Among the average of 65 electrical devices found during an in-depth audit of 10 sample residences, about two-thirds drew more than 1 watt of power each in the always-on mode.
- The traditional large electricity uses (heating and cooling, lighting, and refrigeration) accounted for just 15 percent of always-on consumption. Consumer electronics (televisions,

computers, printers, game consoles, etc.) accounted for 51 percent, and other miscellaneous electrical load (MEL) items—such as recirculation pumps, fishponds, aquariums, and protected outlets in bathrooms, kitchens, and garages—comprised the remaining 34 percent.

- Idle load varied widely, depending on device models. For instance, the idle load of printers ranged from 2 to 26 watts per home, and cordless phones from 1 to 12 watts.
- There was little relationship between the vampire load and the age of the home, and a limited correlation to the number of occupants and size of the home – areas ripe for additional study.

The report also includes a list of 10 common devices with the cost of their worst-case "always-on" loads found in NRDC's onsite audit and solutions to reduce their annual energy bill cost (rounded to nearest whole dollar). They are: water recirculation pump, up to \$93; desktop computer, up to \$49; TV, up to \$38; cable set-top box, up to \$30; audio receiver/stereo, up to \$22; printer, up to \$11; furnace, up to \$8; coffee maker, up to \$6; dryer, up to \$4; and GFCI outlets, \$1 each.

Along with providing an action guide, NRDC has posted directions and a downloadable form to enable consumers to estimate the idle electricity consumption in their homes at www.nrdc.org/energy/files/home...oad-action-guide.pdf. Delforge's blog can be found at switchboard.nrdc.org/blogs/pde...es_may_cost_ame.html.

More information: "Devices Wasting Huge Amounts of Electricity When Not in Active Use." www.nrdc.org/energy/home-idle-load.asp

Provided by Natural Resources Defense Council

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