



Eco Wise



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This Issue

Rating Your Energy Performance

As a public housing agency (PHA), how well do you think you are doing to conserve energy and reduce operating costs? Have you ever wondered if your utility bills are higher than your neighbors'? Are your buildings operating at the standard level of efficiency? Better? Worse? Now you can find out. The [Office of Public and Indian Housing](#) (PIH) has created [building utility benchmarking tools](#) in partnership with the [Environmental Protection Agency](#), [ENERGY STAR® Program](#) and the [Oak Ridge National Laboratories](#). You can use the tools to compare energy and water consumption in your buildings to similar buildings in your climate zone. The data used to develop the tool was obtained from 349 PHAs nationwide, representing 9,100 buildings (all sizes represented)

Building utility benchmarking is a very useful starting point for PHAs to target energy- and water-savings opportunities and can help with a PHA's overall asset management strategy. Knowing where your buildings rank compared to other similar buildings is the first step toward improving utility efficiency and the overall financial performance of properties.

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A Note About Our Benchmarking Tools

These are whole-building benchmarking tools so for energy benchmarking, electricity AND heating fuel (if the building is not all electric) must be entered. Otherwise the score will be artificially high. Similarly, if residents pay all or part of the utilities, you must include their usage, in the "Annual Consumption" inputs in order to get an accurate benchmarking score.

The benchmarking tools score each building from 0 – 100. If a building scores low, that building appears to use more energy than it should and has a lot of room for improvement. A score of 50 is average. If it scores high it is probably relatively efficient. After using the benchmarking tools to score your buildings, target low scoring (60 or below) buildings to see how

they can be made more efficient. Schedule an energy audit to determine why the buildings are scoring low and make improvements based on cost-effectiveness. Use the benchmarking tool again after the energy conservation measures are installed to check on your improved performance.

Energy and water are benchmarked separately. Each tool requires a few inputs in order to provide a building's (or development's) energy or water consumption benchmark. Each tool is self-explanatory or you can follow these simple instructions for the [energy tool \(MS-Excel 769KB\)](#) or the [water tool \(MS-Excel 724KB\)](#). These easy-to-use tools are applicable for all residential buildings throughout the entire U.S. public housing stock: multifamily elevator, multifamily walk-up, row house/townhouse, semi-detached and single family residences.

Both benchmarking tools are still under development and PIH values your input. Statistically, the energy tool is a very good predictor and the water tool is not as good. But we cannot know how realistically either tool predicts utility consumption until we hear from PHAs, the intended users. Try them and report your experiences. Are the tools easy to understand? Do they seem to work? Do they give reasonable results or do you think your buildings perform better (or worse) than that? Please [let us know](#).

Events & Training

[Innovation in Energy Efficiency and Conservation: The Home and the Community](#)
July/14/2008 - July/15/2008
Chicago, IL

[Multifamily Buildings 2008 Conference](#)
July 21-23
Brooklyn, NY

[SolWest Renewable Energy Fair](#)
Jul 25-27
John Day, OR

[Annual Symposium on Green Homes and Sustainable Communities](#)
August 7-8
Chicago, IL

[GreenGov Conference 2008](#)
August 14-15
Washington, DC

[2008 ACEEE Summer Study on Energy Efficiency in Buildings](#)
August 17-22, 2008
Pacific Grove, CA

[Comprehensive 5-Day Training Program for Energy Managers](#)
July 28 - August 1, Phoenix, AZ
August 18-22, Chicago, IL

[2008 National Healthy Homes Conference](#)
September 15-17
Baltimore, MD

New & Improved PHECC Web Site

The new [PHECC Web site](#) is up and running. More informative and helpful than ever, PHECC brings you hot-topics in the green scene that relate to public housing.

If you haven't already, visit the updated Web site for access to useful on-line tools and resources, to stay abreast of current news issues related to public housing, or to nominate a Green Giant or Energy Star!

The image shows a screenshot of the PHECC web site interface. A red starburst graphic in the top left corner says "New Look!". Several callout boxes with arrows point to specific features on the page: "Quick links" points to a navigation menu, "Hot Topics" points to a section with a red background, "Green Giants" points to a section with a green background, and "Additional Resources" points to a section with a blue background. The page content includes sections for "Public Housing and Environmental and Energy Clearinghouse", "Public Housing and Environmental and Energy Clearinghouse", "Public Housing and Environmental and Energy Clearinghouse", and "Public Housing and Environmental and Energy Clearinghouse".

Power Purchase Agreements: Making Solar Power Affordable

What if your buildings could include on-site power generation that's environmentally sound, maintenance free, and promises a steady price for 15 years? Sound too good to be true? Until recently, it was.

A Power Purchase Agreement (PPA) is a long-term agreement to buy power from a company that produces electricity, commonly used in the large-scale power generation sector. Now a handful of companies are putting an innovative spin on traditional PPAs to overcome the obstacles of solar power – high up-front costs and on-going maintenance.

A company will design, install and maintain a solar system at minimal or no up-front cost to the customer. Under the PPA, the customer promises to buy the electricity generated from the solar system at a set rate for a certain period. At the end of that period, the customer may extend the PPA, cancel the agreement, or purchase the solar array, depending upon the terms of agreement.



Providers install and maintain equipment, taking the stress out of solar power.

By providing energy at a fixed rate, these PPAs stabilize an operating cost that is now highly variable and protect customers from spikes in electricity prices. According to the [Energy Information Administration](#), residential electricity prices will continue to rise, making a set rate locked in at today's prices an attractive option.

PPAs have been used for solar installations before, mainly on commercial properties. Half of all the solar systems installed on commercial buildings in the United States last year were PPAs, and this year that number is running between 60 and 80 percent. Interested in pursuing a PPA for your PHA? Type "Solar Power Purchase Agreement" into any internet search engine to find a provider near you.

PPAs At A Glance

- Provider designs, installs and maintains solar equipment
- User agrees to purchase power at set rate
- Contracts typically run for 15 to 20 years
- Little or no up-front cost to user
- End-of-Contract options vary, may include options to extend contract or purchase equipment at market value

Phantom Loads

Phantom loads, energy vampires, stand-by mode, call it what you will, this phenomenon is responsible for about 5 percent of all residential energy use, according to a [1998 study](#) conducted by the [Lawrence Berkeley National Laboratory](#). Phantom loads are the small but not insignificant amounts of energy that some appliances are sipping away 24 hours a day, even when they are turned off.

Culprits include televisions, clocks, cordless telephones, rechargeable razors, timers, temperature gauges, power adapters, cell phone, digital camera and battery chargers (even when they're not charging), computer monitors, printers, VCRs, DVD players, stereos, answering machines, microwave ovens, and anything that has "instant-on" capability. While the actual power needed to keep those indicator lights lit is quite small – in the milliwatt range – converting electricity into the low voltage necessary to perform the function is very inefficient. As a result, one to ten watts are drawn and paid for when only a few milliwatts are needed.

TVs are the biggest energy vampires. They can draw 12 watts of electricity even after you switch them off. Computer printers can draw 11.5 watts, and a sub-woofer 10.8.

Instead of a wooden stake, use power strips or smart power strips to kill these energy vampires. Unplugging individual chargers and electronics can be a hassle with hard-to-reach outlets. Plugging all the chargers and peripheral computer equipment into one power strip with an on/off switch makes it simple. Turn off the strip at night and save up to \$94 a year on electric bills.

Tips for Residents



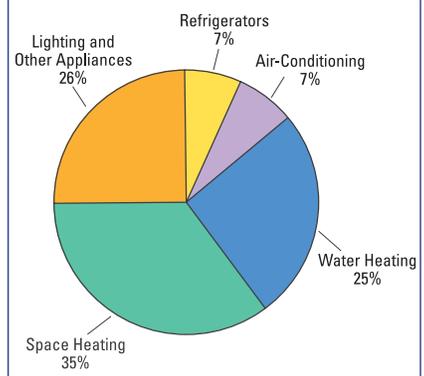
Power strips help reduce phantom load.

Success through Energy Efficiency: Denver PHA

25 percent reduction in energy use is the goal of the (EPC) that the [Denver Housing Authority \(DHA\)](#) announced almost one year ago. Applied to 3,700 public housing units across the city, that would equal about \$1.8 million in annual savings for the PHA.

The contract includes high efficiency appliances, boilers and furnaces, lighting retrofits, building envelope improvements, indoor and outdoor water conservation measures, and more. The EPC lasts 12 years. Building improvements have a 20 year life-cycle, so DHA predicts at least 8 years of pure savings! To learn more contact [Stella Madrid](#).

Where Does Your Energy Go?



Energy consumption across end uses in buildings with five or more units. Source: DOE

Resources

PIH [Utility Benchmarking Tools](#)

[Energy Conservation for Housing - A Workbook](#) (pdf 775 KB)

PIH's resources for [Energy Performance Contracting](#)

[ENERGY STAR® Quantity Quotes](#) bulk purchasing tool

Maintenance Corner: Eliminate the Phantom Load Tips for residents

Is your home haunted by a "phantom load"? Many electronics and appliances are using electricity, even when they are switched off or in stand-by mode. Televisions are the biggest culprits, sucking 12 watts every hour they're off. An appliance probably has standby power use if it has any of the following features:

- It has a remote control
- It has a soft touch keypad
- It charges the battery of a portable device
- It is warm to touch near the switch when switched off
- It doesn't have an "off" switch

Plug your computer and peripheral equipment, or the television and other devices into a power strip. Turning off the power strip cuts power to those electronics, saving you up to \$94 each year.

Email us with your Maintenance Corner questions at phecinfo@nelrod.com.

This monthly e-mail update is brought to you by HUD's Public Housing Environmental and Conservation Clearinghouse (PHECC) featuring news and resources to help agencies manage energy and water costs.

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