

# Buffalo Green Happenings...

## WELCOME

July 2012

Summer has arrived all over New York! Get ready for the warmer weather with some spring cleaning tips:

- Keep shades drawn during the day to keep your home cooler.
- Mulching grass is not only good for your lawn, but is also better for the environment. By mulching grass clippings instead of bagging, you will reduce waste streams to local landfills.
- Make your own environmentally-friendly household cleaners with products such as vinegar and baking soda. Search online for recipes; you will not only save money, but also reduce waste and impact on the environment.
- Reduce waste and clutter by going paperless. Contact catalog companies and other bulk mailing culprits to be removed from mailing lists, or sign up for electronic communications instead.



## Spotlight On...

### EPIC

The Energy and Performance Information Center (EPIC) is a program designed to collect energy efficiency measures being implemented with PIH Capital Fund Formula or RHF grants. It is similar in appearance and functionality to the RAMPS program.

Starting April 2, 2012, PHAs are required to report their activities in EPIC on a quarterly basis after the conclusion of each quarter. PHAs must submit a report for **all open Capital Fun Formula and RHF grants**.

[More Details](#)

### Want to be featured in a future edition?

If you have any interesting success stories to share about EPC, going green at your housing authority, or interesting energy conservation measures, send your photos and stories to:

[karen.e.beljan@hud.gov](mailto:karen.e.beljan@hud.gov)

## EARTH DAY

All residents and employees of the Troy Housing Authority (THA) were invited to participate in Earth Day activities again this year. Over 200 residents, employees, family members and friends met at community rooms at all of the THA sites and assisted with clean up, spruce up and landscape enhancements.



Everyone that participated was provided a free T-Shirt that said Make Everyday Earth Day at THA. Congratulations, THA, on an effort well done!



**IN BRIEF:** The HUD Southeast and Midwest PIH Networks, in conjunction with Local Initiatives Support Corporation (LISC) and Enterprise Community Partners (ECP), hosted an Energy Conference for Public Housing Authorities, May 7th through 9th in Nashville, TN. Over 300 Public Housing Authorities, energy conservation organizations, and affordable housing partners from across Region IV & V were in attendance. Conference sessions focused on energy efficient retrofits, new construction technologies, energy performance contracting, financing energy activities, and energy conservation through resident and management activities.

Presentations from the conference are available online at the [LISC Website](#).

## ENERGY CONSERVATION MEASURES

### Energy Conservation in Action at the Watertown Housing Authority

By utilizing federal funds provided under the American Recovery and Reinvestment Act (ARRA), the Watertown Housing Authority (WHA) was able to implement a number of energy improvement measures to its facilities.

One of the measures was the installation of photovoltaic panels on two of their high rises. Skyline Apartments has a 15 KW system that generates 1,000 KWH per month on average. Leray Street Apartments has a 30 KW system that generates 2,000 KWH per month on average.

The complete photovoltaic system allows the Watertown Housing Authority to directly reduce its electricity consumption and reduce its carbon footprint on the environment.



Solar Panels at Leray Apartment Building



Solar Panels at Skyline Apartment Building



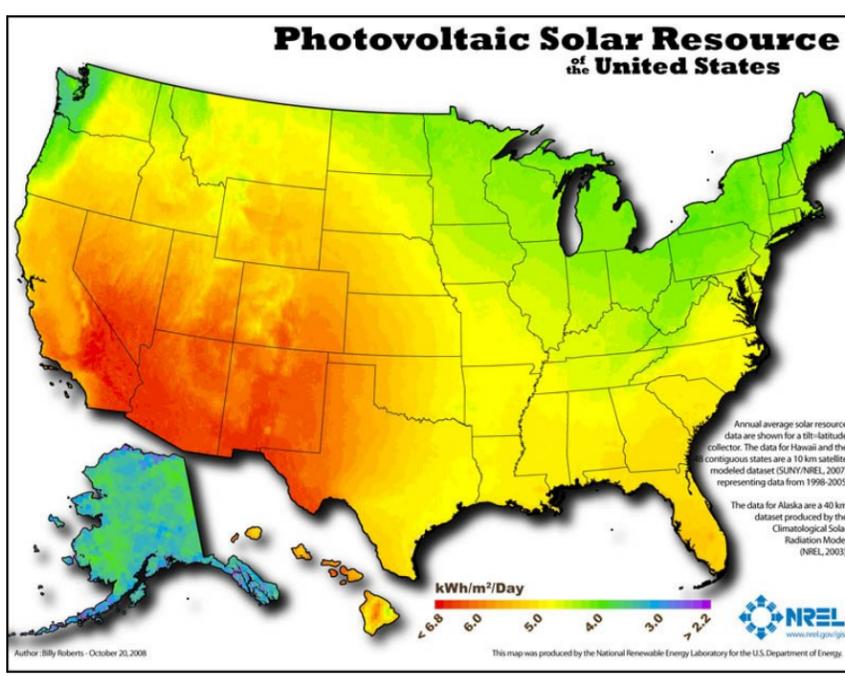
Typical Inverter Boxes and Meter Switch at Skyline Apartment Building

### Alternative Energy: Solar Energy

Solar energy (energy from the sun) in the broadest sense is necessary for all forms of life and energy. The sun causes movement of water for formation of hydroelectric energy from gravity and evaporation, formation of coal and oil resulting from the decay of biomass, and wind from temperature gradients formed by the heat of the sun. However, solar energy usually refers to harnessing the sun's energy to generate heat, lighting, and electricity. While there are many forms of solar energy, the focus in this article will be on passive solar energy and photovoltaic cells.

Passive solar energy is a free resource and can be utilized in many existing structures. Concepts for utilizing solar energy are also considered in green building design. These design features include orienting buildings towards the south with south-facing windows, using awnings and shades, skylights, and shade trees. Natural lighting can replace other energy-consuming lighting methods. The heat from the sun can warm the building in winter and shades can keep the building cool in summer. If these factors are considered in existing buildings, one can naturally reduce energy consumption.

The photoelectric effect was discovered by Edmund Becquerel in 1839. Certain materials would give off a spark of electricity when struck with sunlight. Photovoltaic cells have two layers of semiconductor materials, composed primarily of silicon crystals. On its own, silicon is not a good conductor; however, silicon's ability to conduct is improved by intentionally adding an impurity in a process called doping. The top layer is negatively-charged and contains silicon doped with phosphorus. The bottom layer is positively-charged and contains silicon doped with boron. Electron movement between the positive and negative layers creates an electric field, and when sunlight enters the cell, electrons want to move from the negative layer to the positive layer. The presence of an external circuit provides the necessary path for electron movement, resulting in the production of electricity.



Map of Photovoltaic Solar Resource Potential  
Source: National Renewable Energy Laboratory

A single photovoltaic cell produces very little power; thus, many cells are grouped together to provide a more desirable quantity. The cells are grouped into modules, which are often encased in plastic or glass to form the panels typically seen in conventional installation. Photovoltaic cells have increased in attainability in recent years due to increased incentives, further developments of the technology, and net-metering policies. Scientists continue to explore different materials and methods for improving the technology.

Source: [Union of Concerned Scientists](#)  
[National Renewable Energy Laboratory](#)

**REMINDER:** Measurement & Verification (M&V) Reports are due to HUD by April 30th of each year.

Questions or comments? Contact us at [karen.e.beljan@hud.gov](mailto:karen.e.beljan@hud.gov) or call 716-551-5755 ext. 5428