



# Greening Headquarters Update

JULY 5, 2011

## Greening Updates:

### Office of Operations

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## Sustainable Landscaping

**People's Garden Apiary (Beehives):** The roof of the Whitten Building now includes a second beehive added this spring. The first hive did well over the first year. It produced almost five gallons of honey (and already over seven gallons so far this year) while helping pollinate the veggie plants in the People's Garden. The honeybee is an important pollinator.



## Green Purchasing

This spring Melwood Horticulture, our Landscaping Contractor, applied a BioPreferred certified lawn fertilizer made from bio-based products like kelp over a test area on the Whitten lawn. Operations staff use many environmentally-friendly alternative products to maintain and operate the headquarters complex. Because of its location on the National Mall, the grounds of the Jamie L. Whitten Building are a high profile site for demonstrating USDA's commitment to the BioPreferred Program.



## Energy Management

**New Light Emitting Diode (LED) Exterior Lighting.** We are phasing in our new outdoor LED lighting. The new lighting will not only help significantly reduce our electrical usage and cost at night, but also improve the lighting quality. The original lighting creates a yellowish hue on the white marble façade. Several of the light fixture's ballasts are malfunctioning, turning the lights on and off during the night. Operations staff tested one LED light on the center portion of the front of the Whitten Building (see photo below of the Whitten Building). The improvement was dramatic. The LED light was not only much brighter; the quality of light was also improved. The marble façade looked great.



LED lights are now in vogue.

## Green Buildings



You may have noticed that there has been a lot of construction activity on the Arches over Independence Ave. Did you know that a "cool" roofing system will replace the old, leaky roofing? The new cool roof is not in place yet, but once it is in place, it will do more than just keep the roof watertight. Cool roofs are light colored roofs designed to reflect radiant heat from the roof instead of absorbing it. Not only that, the roofing will use a bio-based roof coating. Cool Roofs help save energy and reduce heat island effects in urban areas. To learn more about Cool Roofs, visit <http://www.epa.gov/heatisld/mitigation/coolroofs.htm>



COOL roofing  
saves energy  
and money!



USDA employees are not only using what they learn to help "green" USDA, they are also taking what they learn home and "greening" their homes and communities. Mark Sajbel, Office of Property and Procurement Management, recently installed an EPA Energy Star-qualified "Cool Roof" on his townhouse. Light colored roofs absorb far less of the radiant heat from the sun. As a result, his light colored Star White CertainTeed shingles keep his roof 10 -15 degrees Fahrenheit cooler than a dark roof, saving money and energy while helping keep the townhouse cooler in the summer.

## Forest Service Net-Zero Energy Installation and Building Model

The FS is building net-zero energy installations, including the San Dimas Technology and Development Center (SDTDC), shown below.



### The San Dimas Technology and Development Center

The SDTDC, in Southern California, is a net-zero energy installation at which the FS expects to accomplish zero net energy use soon. Using American Recovery and Reinvestment Act (ARRA) funds, the center recently installed 1,288 solar polycrystalline silicon panels (PV) rated at 235 Watts each for a total projected annual energy output equaling 594,091 kWh/yr. In addition to these new sources of renewable energy, SDTDC also completed numerous energy efficiency projects to reduce the facilities total energy demand. Projects included motor efficiency upgrades, HVAC system replacement, energy efficient lamps, installation of occupancy sensors for overhead lighting and the installation of plug-load sensor at each desk. Through the installation of PV and a decreased energy footprint, the SDTDC expects to become the FS's first net-zero facility.

The FS is collaborating with the U.S. Department of Energy's National Renewable Energy Lab (NREL), a LEED Platinum building for New Construction, on a net-zero energy model for buildings, and partnering with EPA on what net-zero waste means.

## South Building Modernization

The Modernization of Wing 5 is completed, and tenants are now moving into the new "green" offices. Though it may look like work on the renovation is complete, there is one final important task remaining, commissioning. Commissioning is a systematic process used to test and adjust building systems to ensure that they are operating as designed. This process started during the projects design phase and will continue through one year of operations. Commissioning helps maximize energy efficiency and reduce employee complaints.



New modular systems furniture with high-recycled content is here!

One interesting green feature about Wing 5 is the modular systems furniture. The style selected provides enough height to allow acoustical privacy while providing for an open office environment. The clear top panels allow outside views. The materials have high-recycled content such as the 100% recycled content of the fabrics used on the panels and pedestal seat cushions. The furniture design allows the furniture to be recyclable at the end of its useful life.

## Waste Minimization & Recycling

As we mentioned in the last issue of Greening of the Headquarters Updates, we are now collecting CDs, VHSs, computer cables and other techno waste and recycling it. With all the offices that are moving, we have already diverted hundreds of pounds of techno-trash.



## GWCC Trash Sort

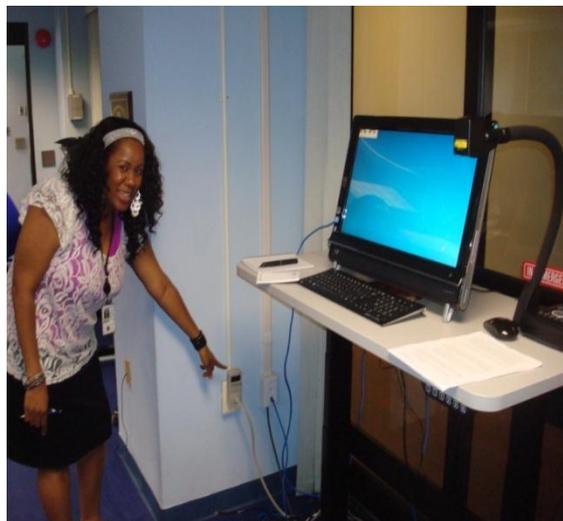
On June 17, Green Team members conducted a sort of the George Washington Carver Center office trash. Over 220 pounds were sorted out. This was a follow up from the baseline trash sort conducted last year. Since the baseline survey completion, additional new recycle containers were added, and there were several outreach and education efforts for building occupants and operations staff. Overall, there was a significant improvement in recycling at the Carver Center. There was an especially large drop for paper found in the regular trash during the trash sort in June.



## Greening the TARGET Center



Please recycle when you are in the office.



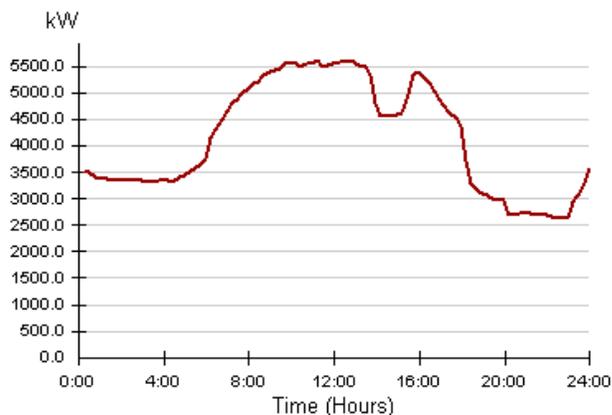
The TARGET Center staff is "greening" their office. They have developed a Green Plan and have been working with the HQ Green Team to start implementing the plan. As the USDA Assistive Technology Resource Center, TARGET is a heavy user of power consuming electronic products. In June, an energy engineer went through the center measuring the energy usage of all the computer hardware including energy use during the "sleep" mode. As part of this new initiative, the Center will decrease energy usage and promote electronic product stewardship and recycling. The Center has implemented an assistive technology recycling program through the Department of Defense Computer/Electronic Accommodations Program; identified specific ways to incorporate purchasing, recycling, and energy conservation into the Center's operating procedures; established a "paperless office" goal; and automated the cooling system to minimize use.

## Managing Electrical Demand at USDA Headquarters.

Every summer USDA energy managers and the region's electric grid operator (PJM) work together to reduce our utility costs, improve reliability of the electric grid, and provide environmental protection. PJM provides communications and major incentives to USDA Headquarters energy managers to reduce electrical usage when power usage on the electrical grid is at peak levels. By reducing our electrical usage when it is at its peak, PJM does not have to build and maintain power infrastructures that are required to ensure power is available on those few critical days. Adding additional power plants and transmission lines needed for only a dozen or so hours per year is very expensive. The "green" alternative to building more power plants and transmission lines is to encourage consumers either to shift their electrical usage or to conserve energy on days of peak energy usage. USDA Headquarters uses various methods to reduce electrical usage while only minimally affecting the building occupants. These methods might include shutting down the escalators early, shutting off the electric hot water heaters, using hot water that is in storage tanks and using "stored" cooling generated at night when electrical use on the grid is lower. This is all part of the "smart" grid.



Controlling our energy use.



The graph to the left shows the Headquarters Complex's electrical power use for June 21, 2011. The graph shows the 2 p.m. test of our ability to reduce electrical load. During our test, we reduced our power demand by approximately 1 MW.