

Energizing EPA



EPA's Environmentally Preferable Purchasing (EPP) Program just announced a new resource guide intended to help federal offices meet some of the challenges of green purchasing. The guide compiles existing tools that help translate green purchasing into handy equivalencies, such as pounds of carbon dioxide offset and dollars saved. Check out *Promoting Green Purchasing: Tools and Resources to Quantify the Benefits of Environmentally Preferable Purchasing* on EPP's Web site at www.epa.gov/epp/tools/epp_metrics.pdf.



EPA Headquarters Models Stormwater Solutions With LID Project

EPA is working with the U.S. General Services Administration to showcase low impact development (LID) and sustainable stormwater management practices as part of a landscape renovation project at its Federal Triangle Headquarters complex in Washington, DC. With the second phase of the LID project recently completed, this multi-year, multi-phased demonstration aims to showcase techniques that reduce the volume and pollution levels of stormwater runoff from EPA Headquarters.

"This project demonstrates that environmental stewardship and sustainable design can satisfy the aesthetic requirements of high profile, urban locations," said EPA Assistant Administrator Luis A. Luna. "We hope this effort will serve as a model for the integration of stormwater management and LID opportunities at other facilities within EPA and across the federal government."

With an extensive network of roofs, sidewalks, courtyards, and parking lots, approximately 95 percent of the Federal Triangle complex is impervious to rain, preventing stormwater from naturally seeping back into the soil where it would eventually replenish aquifers, streams, and rivers. Storm drains and sewers can capture this rain, but they actually accelerate the flow of rainwater, causing stream bank erosion and flooding, and accumulating pollutants along the way. In fact, stormwater runoff is the most common cause of water pollution.



The redesigned Ariel Rios South courtyard at EPA Headquarters will serve as an outdoor educational area, demonstrating sustainable stormwater management techniques.

EPA's plan to manage stormwater in Federal Triangle involves three different phases in different parts of the complex: 1) the Constitution Avenue entrances, completed in April 2005; 2) the Ariel Rios South Building's courtyard, completed in December 2006; and 3) the garage cisterns at the EPA West Building, still under development.

Each phase addresses stormwater management through a variety of techniques, including strategic site design, measures to control the sources of runoff, and sustainable landscape planning, including the following:

- **Bioretention cells**, or small, landscaped areas, are constructed with a special soil mix that can absorb and filter runoff.
- **Cisterns**, which are storage tanks designed to capture stormwater runoff, can supplement or replace potable water used for irrigation, toilets, or cooling towers.



Labs21 Conference Goes Deep in the Heart of Texas

More than 550 participants from across the globe attended the Laboratories for the 21st Century (Labs21) 2006 Annual Conference, held October 17–19 in San Antonio, Texas.

Co-sponsored by EPA, the U.S. Department of Energy, and the new Labs21 co-sponsor, the International Institute for Sustainable Laboratories (I²SL), the conference kicked off with an inspiring keynote address from Juan Enriquez, who discussed the economic and political impacts of the life sciences. Enriquez challenged laboratory professionals to think holistically about what a laboratory will look like in 50 years, in a future where information dominates. Technical sessions, meanwhile, included presentations focused on sustainability issues and success stories of federal and private sector pharmaceutical and bio-containment laboratories.



Labs21 Project Manager Will Lintner (DOE) and National Energy Manager Dan Amon (EPA) listen to keynote speaker Juan Enriquez.

Labs21 symposia focused on high-performance hospitals, chemical and biological agent contamination risks, and facility preparedness. Other pre- and post-conference events included two Labs21 workshops introduced earlier this year, one focused on facility operations and maintenance and another on the Labs21 Environmental Performance Criteria.

The Labs21 2006 Technology and Services Fair, sponsored by I²SL in partnership with the Scientific Equipment and Furniture Association (SEFA), featured more than 50 manufacturers of the most innovative laboratory technologies—almost half of which were SEFA members. An evening tour and reception at the Southwest Foundation for Biomedical Research included a look at the facility operations behind the nation’s only privately owned biosafety level 4 laboratory.

For more information about Labs21, please visit <www.labs21century.gov>.



With more than 50 exhibiting organizations, the 2006 Technology and Services Fair was the most successful to date.

Once Is Not Enough at Narragansett Laboratory

EPA’s National Health and Environmental Effects Research Laboratory (NHEERL) Atlantic Ecology Division (AED) facility in Narragansett, Rhode Island, completed installation of a compressed air delivery system in October 2006 that is expected to save nearly 600,000 gallons of water per year. The system will provide for the elimination of once-through cooling water and will also add fully automatic control, 100 percent back-up capacity, and reserve capacity for future expansion.

The old system used two ring compressors to generate compressed air used to aerate wet laboratory and microcosm growth chambers containing water obtained from Narragansett Bay. Air supplied by the ring compressors was hot, and, unless cooled using single-

pass cooling water, would dispense lethal temperatures for the organisms in the experimental tanks. The ring compressors were replaced with aeration blowers, which results in cooler air being supplied to the experimental tanks, thereby eliminating the need for cooling water. The cooling water in the old system was used once and then discharged to the sewer system. By eliminating this waste, the facility has been able to reduce its water use by nearly 6 percent.

The project was initiated in January 2006 as a follow-up project under NHEERL’s water management plan, which was completed in 2003 as part of the water conservation requirements under Executive Order 13123, *Greening the Government Through Efficient Energy Management*.



This new compressed air delivery system is expected to save EPA’s Narragansett facility nearly 600,000 gallons of water per year.

For more information, contact facilities manager Russell Ahlgren at (401) 782-3080 or <ahlgren.russell@epa.gov>.



EPA Advances Energy Conservation Efforts With New Agencywide Facility Metering Strategy

For an energy conservation plan to be successful, it is crucial that information about a building's performance be available to both facility staff at individual sites and senior management at the top of an organization. To provide quicker and easier access to this important information and enable more informed decisions about future energy conservation measures, EPA plans to install new advanced utility metering hardware and software in its more than 30 reporting facilities during the next six years.

To comply with the Energy Policy Act of 2005 (EPAAct 2005)—which, among other goals, aims to increase energy efficiency across the federal sector—agencies are required to install advanced metering (see text box) in all federal facilities by October 1, 2012, where it is found to be cost effective. While EPAAct 2005 only requires agencies to install advanced metering for electricity, EPA plans to exceed this mandate and install advanced metering for additional utilities, including natural gas, propane, hot and chilled water, and fuel oil.

In August 2006, EPA met its federal mandate to submit an Agencywide strategy for installing advanced metering throughout its portfolio of reporting facilities to the U.S. Department of Energy. As part of its strategy, the Agency plans to integrate metered energy data from all of its reporting facilities into a single Web-based clearinghouse of Agencywide energy consumption data. EPA anticipates that this integrated network of advanced metering hardware and software will replace the Agency's existing practice of manually collecting and entering energy consumption data, thus improving accuracy and saving time. The system will also provide facility staff and senior management instant access to

What Is Advanced Metering?

Advanced meters are defined as those meters with the capability to measure, record, and communicate hourly interval data to a remote location for collection and analysis. EPAAct 2005 requires at least a daily collection capability. Advanced meters

provide valuable utility data that can be used to identify energy and water conservation opportunities, perform diagnostics/benchmarking, enhance planning and evaluation capacities, obtain less expensive energy, and streamline reporting processes.

valuable data with the click of a mouse, which will ultimately help EPA reduce energy consumption and utility costs.

Throughout the remainder of fiscal year (FY) 2007, EPA will complete a number of tasks to prepare for a prioritized and phased-in installation of advanced meters beginning in FY 2008. In January 2007, EPA's advanced metering implementation team from EPA Headquarters will begin making visits to the Agency's highest energy-consuming facilities. During these visits, the team will work with site leads—individuals responsible for advanced metering implementation—to develop site-specific metering plans. Based on a number of factors, including existing mechanical equipment, potential for energy savings through sub-metering, and the availability of alternative rate structures offered by local utilities, the group will establish the facility's unique advanced metering objectives and hardware needs.

Finally, to prepare sites for their procurement of appropriate hardware, EPA plans to complete its parallel development of performance specifications for both advanced metering hardware and software in spring 2007. These specifications will be based on important feedback collected during site visits and phone interviews with site leads. They will ensure that EPA's final network of

hardware and software provides the desired functionality that will support cooperative efforts to improve facility performance and help EPA meet its federally mandated energy reduction requirements.

For more information about EPA's advanced metering implementation plan, contact Dan Amon, EPA's national energy manager, at <amon.dan@epa.gov>.

Thanks, Margie!

Thank you, Margie Buchanan, for more than 25 years of service with EPA. On behalf of everyone at EPA's Office of Administration and Resources Management, *Energizing EPA*, and Labs21, we wish you the best on your retirement. You will be missed!



EPA Laboratories Expand Recycling

Recycling at EPA involves more than just office paper, bottles, and cans. Recent recycling assessments at EPA laboratories reveal that the facilities are going to great lengths to expand their recycling and reuse efforts—from implementing vermicomposting to solvent recycling to chemical adoption programs. Below is a sampling of the laboratories' best practices.



EPA's laboratory in RTP reduces waste by redistributing excess laboratory supplies, such as glassware and chemicals.

- The new main laboratory in Research Triangle Park (RTP), North Carolina, has implemented a chemical adoption program that redistributes excess laboratory supplies, such as glassware and chemicals. These excess materials are entered into a database; EPA employees can access and claim these materials for two weeks, after which time the materials are made available to schools and nonprofit organizations. External groups are required to sign a waiver to ensure that Department of Transportation shipping regulations are followed. These groups must then send EPA an e-mail confirming that they received the materials.
- Employees at the Region 4 Science and Ecosystem Support Division (SESD) Laboratory in Athens, Georgia, use a number of solvents in their work. Spent solvents (such as methanol, acetone, hexane, methyl chloride, and isopropyl alcohol) are collected, distilled, and reused by SESD laboratory employees.

- The Region 4 Ecosystem Research Division (ERD) Laboratory in Athens, Georgia, wants to ensure that its employees are familiar with the facility's recycling program. To accomplish this goal, ERD has created and distributed a Laboratory Operating Procedure document that explains the recycling procedures.
- The Region 7 Kansas City Science and Technology Center, in Kansas City, Kansas, is giving new meaning to "closing the loop." The facility keeps a number of fish for its research. Employees implemented a vermicomposting program to compost the facility's food scraps, which simultaneously cultivates a food source for the laboratory's fish. The program is relatively new but has been very successful. Now employees can use the worm castings to fertilize the facility's gardens, and the laboratory fish can eat worms!

For more information on EPA's recycling best practices, contact Gail Wray at (202) 564-7683.

Stormwater Project

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- **Permeable pavement** made with a specially mixed concrete allows water to travel to a stone reservoir underneath the pavement, where it slows down and is filtered back into the ground or is captured and channeled back to a cistern for reuse.
- **Sustainable landscaping** uses native plants and some non-native plants that require minimal maintenance and

watering. However, landscaping inside the bioretention cells, which hold water, needs to be water tolerant.

For more information about LID, stormwater management, and EPA's demonstration project, visit the Headquarters LID Program Web page at <www.epa.gov/greeningepa/stormwater/hq_lid.htm>.

Events Not to Miss!

Building Energy 2007

March 13–15, 2007
Boston, Massachusetts
For more information, visit <buildingenergy.nesea.org>.

National Facilities Management and Technology Conference/Exposition (NFM&T)

March 20–22, 2007
Baltimore, Maryland
For more information, visit <www.nfmt.com>.

National Conference on Building Commissioning

May 2–4, 2007
Chicago, Illinois
For more information, visit <www.peci.org/ncbc/ncbc.htm>

National Recycling Coalition Annual Congress

September 16–19, 2007
Denver, Colorado
For more information, visit <www.recyclingconference.org>.

Contact Us

For more information about *Energizing EPA* or the activities of EPA's Sustainable Facilities Practices Branch in the Facilities Management and Services Division, please contact:

Bucky Green

E-mail: green.bucky@epa.gov

Phone: (202) 564-6371

Web site:

www.epa.gov/greeningepa