

Partner Update

U.S. Department of Energy • Office of Energy Efficiency and Renewable Energy

www.rebuild.gov • DOE/EE-0267

May – June 2002

Weatherization Works!

The U.S. Department of Energy's Weatherization Assistance Program is a key factor in President Bush's National Energy Policy. In fact, funding for this program is planned to increase \$1.4 billion over the next 10 years. It is evidence that weatherization will be in the forefront as the country adapts to the new future of energy.

In a March presentation to the lecture series sponsored by DOE's Office of Energy Efficiency and Renewable Energy (EERE), Gail McKinley explained how the program has fared since its inception.

What is Weatherization?

DOE began the Weatherization Assistance Program in 1976 to help low-income families deal with unpredictable utility bills. Weatherization reduces the ongoing expenses of needy families by

Continued on page 9

SEP, Rebuild America to Tackle Key Issues at National Conference



Up to 500 people are expected to converge on New Orleans for the 2002 State Energy Program/Rebuild America National Conference, July 29-August 1, 2002. The conference will be held at the Inter-Continental Hotel, located on the St. Charles Avenue streetcar line – just steps from the French Quarter.

This marks the first time that these two U.S. Department of Energy (DOE) programs – both housed in the Office of Energy Efficiency and Renewable Energy – join forces to host a single conference. Diverse sessions and excellent opportunities to

network and learn about community enhancement through smart choices about energy will draw energy-efficiency decision makers from all corners of the country.

“The All States Conference and the Rebuild America National Forum are excellent places to learn the latest about energy-saving technologies and initiatives,” says Rebuild America Program Manager Dan Sze. “With a combined conference this year, we benefit by sharing added perspectives and a broad base of practical experience.”

The conference planning committee has designed the event for two audiences that share common ground – the Rebuild America family and SEP representatives. With the increased attention energy issues have received the past 18 months, the committee wanted to ensure a variety of topics for sessions and workshops designed to help participants successfully implement energy-saving initiatives in their communities.

Agenda Notes

The conference will largely take place through 90-minute concurrent sessions organized into five tracks that include: *Technology Advancement; High Performance Buildings; Interconnections: Energy, Environment, Economy; Program Development; and Market Development and Transformation*. Topics explore tapping geothermal resources, connecting with Clean Cities, the latest on EnergySmart Schools, how to win with the media and how to market community energy partnership projects, showcasing success through metrics and energy's impact on the economy.

On July 29, SEP will hold its Parade of States as part of the pre-conference activities. Rebuild America, DOE and state and local dignitaries will officially launch the event on Tuesday, July 30.

The conference agenda provides sessions geared toward energy-efficiency efforts of all sizes from multi-faceted, state-wide initiatives to individual building projects. Presenters come from diverse areas of both programs to share best practices and real-world lessons.

Pleasant Diversions

Join us for Celebrate New Orleans! on July 31. This main event, held off site, offers opportunities to network and enjoy some of the finest cuisine at Generations Hall, an

Continued on page 9

INSIDE

- 2 Emerging Technologies Program Plays Vital Role
- 4 ORNL Geothermal Report on Colorado Schools
- 5 NAESCO Brings Partnership Opportunities for Performance Contracting
- 6 Three Federal Agencies Partner to Revitalize Urban Housing
- 7 Rebuild Representative Earns Ph.D. in Energy Management
- 8 Spotighting the Gateway Center for Resource Efficiency

Emerging Technologies Program Plays Vital Role

At the Rebuild America quarterly Strategic Partners meeting in February, Emerging Technologies Program representative **Brad Holloman** asked Strategic Partners for ideas and recommendations about how this U.S. Department of Energy (DOE) program could forge links with Rebuild America and its partners. The discussions focused attention on the mutual benefits to both programs.

Established through legislation in 1992, the Emerging Technologies Program identifies energy-efficient technologies and helps speed their way into the commercial market by fostering demand. It focuses on short-term projects involving products that are nearly or recently commercialized.

“Rebuild America communities want competitively priced, energy-efficient products,” Rebuild America Program Manager Dan Sze says. “The Emerging Technologies Program looks to bring these products to market. It’s a natural fit.”

Emerging Technologies has helped expedite the introduction and early market adoption of numerous products, including sub-compact fluorescent lamps (sub-CFLs), resource-efficient clothes washers, energy-efficient apartment-sized refrigerators, and a wastewater and heat-recovery system for commercial laundries.

Current projects include highly efficient commercial unitary air conditioners, airtight recessed CFLs – both pin-based and screw-in – rated for use in insulated ceilings (IC-rated), efficient portable lamps and residential heat pump water heaters.

These types of Emerging Technologies products can help Rebuild America partnerships achieve community goals in energy savings, building retrofits, building preservation and economic revitalization.

To date, Rebuild America partners, such as the **New York State Energy Research and Development Authority** (NYSERDA), have participated in the Emerging Technologies Program. Program officials hope to increase participation.

How the Program Works

Emerging Technologies’ demonstration/evaluation projects help new products penetrate the marketplace “by providing objective measurements and credible third-party verification of real-world performance that increase buyer confidence and build demand,” according to DOE Program Manager James Brodrick.

For example, since 1995 Emerging Technologies has conducted several evaluations and demonstrations of resource-efficient front-loading clothes washers. One study, conducted in the small town of Bern, KS involved replacing standard washing machines in 100 homes – most of the town – with energy-efficient front-loading washing machines.

The changeover produced a 38 percent savings in water and a 58 percent savings in energy. The results were widely disseminated to build consumer confidence in energy-efficient washing machines. Over 600,000 high-efficiency washers were shipped in 2000 alone, raising their market penetration from 2 percent in 1995 to 8.5 percent and growing. Five U.S.

manufacturers now produce this washing machine, as opposed to one five years ago.

Emerging Technologies also uses technology procurements, a method developed from the International Energy Agency’s Co-operative Procurement of Innovative Technologies for Demand-Side Management. Just as ENERGY STAR® encourages the purchase of readily available energy-efficient products, these procurements encourage the purchase of new products.

The idea is to bring large-volume potential buyers together with manufacturers. The buyers influence the product specifications and, by meeting them, the manufacturers reduce the risks associated with new product research and development. Potential suppliers bid on the “job” and the winners enter into ordering agreements, ensuring faster recovery

of development costs for the new products.

For example, the Emerging Technologies program worked with the New York Power Authority, the **Consortium for Energy Efficiency**, and the New York City Public Housing Authority to develop technology procurement for efficient, affordable apartment-sized refrigerators. The public housing authority needed 20,000 refrigerators per year to replace its aging, inefficient stock.

The technology procurement process allowed a new refrigerator 30 percent more efficient than required by DOE energy standards to penetrate the market at a very competitive price. Other housing agencies added purchases onto that bulk contract, resulting in the sale of more than 100,000 units during DOE’s 2-year involvement with the program. NYSERDA might “piggyback” on this order.

DOE is now conducting technology procurement for efficient commercial unitary air conditioners – the roof-mounted systems used to cool two-thirds of all commercial floor space in the United States – with help from its Pacific Northwest National Laboratory. Large-volume purchasers participating in the project include **McDonalds, Wal-Mart, Lowes, 7-Eleven**, and the **Defense Logistics Agency**.

To find out more about technology procurement and other opportunities to get involved with the Emerging Technologies program, contact James Brodrick at james.brodrick@ee.doe.gov, or visit the Emerging Technologies website at www.eren.doe.gov/buildings/emergintech/.



Nearly every home in Bern, KS got an energy-efficient washer as part of a unique study by DOE and Maytag that showed substantial savings in both water and energy consumption.

EnergySmart Schools is Making News

Rebuild America's spring media push is off to a great start. Much of the focus is on getting media attention for EnergySmart Schools' efforts towards school building retrofits, new school construction and energy education. Designated spokespeople for the media program are National K-12 Schools Sector Coordinators Blanche Sheinkopf (energy education) and Larry Schoff (technical analyst).

When kids get involved things change. A growing number of schools are forming student energy patrols to evaluate how their schools are using energy and make recommendations for improving energy-efficient practices. The "Light Up My Life" chapter of the Active Physics curriculum that DOE partially funded, which is also being promoted to the media, focuses on measuring energy use in a variety of venues.

Sheinkopf was featured in a news story on Washington D.C.'s Channel Eight discussing Rebuild America's partnership in School Building Day and WTOP Radio did a story too. WGGO, a large radio station in Des Moines, IA, featured EnergySmart Schools' energy saving tips for students on Earth Day. *Florida Today* did a story on Sheinkopf's work with Broward County schools to improve energy efficiency and energy education. And the Scripps Howard News Service did a feature article on EnergySmart Schools and student energy patrols in the Philadelphia region.

The media push is taking a market by market approach using success stories in markets such as Contra Costa, CA, Raleigh-Durham, NC and Worthington, OH to get attention for the program in regional newspapers. Event-driven media will concentrate on EnergySmart Schools events and those of its partners such as NEED's Youth Awards Program in Washington, DC this June.

Rebuild America's workshops are also getting media attention. Two geothermal workshops held in New Hampshire this spring were featured in the *Concord Monitor* and *Union Leader*. Rebuild America's partnerships were also featured on radio stations in Fairfield and Greenwich, CT and San Francisco, CA.

If you have a Rebuild America or EnergySmart Schools success story please share them with the media team. Contact Michelle Dietz at 202-466-7391 X1121, or email mdietz@pcgpr.com.

2002 Energy Champion Awards

Did you get your nominations in on time? Look for this year's winners to be announced August 1 in New Orleans at a special luncheon to top off the 2002 National Conference. Don't miss it!



View From DC By Daniel Sze

Some Rebuild America partnerships are taking a fresh look at how partnerships are structured in their states, and taking steps to re-tool to function more effectively at the community level. New York and Texas are taking decisive steps to change the way Rebuild America operates in their states. In New York, the **New York State Energy Research and Development Authority (NYSERDA)** has launched **New York Energy \$mart Communities** to redefine its partnerships. Partnerships have been reorganized into seven regional partnerships in Upstate New York, with plans for two additional partnerships to serve New York City and Long Island. Partnerships are managed by regional coordinators who are partnering with established community groups to share information and provide access to funding and technical resources.

The partnerships are focusing on **Energy Target Zones** in each region and on bringing resources to bear at the grassroots level to help raise awareness through energy education and save energy in buildings. The Energy \$mart Communities approach involves setting up pilot building projects and offering financial and technical incentives through NYSERDA to help get projects done. The partnerships serving the seven regions have been renamed as well, to reflect consistency and their new Energy \$mart Community status. **Rebuild Capital/Saratoga** has been folded into **Capital/Saratoga Energy \$mart Communities** and encompasses seven counties. **Rebuild Buffalo/Niagara** has become **Western New York Energy \$mart Communities** and now covers five counties. Energy \$mart Communities is seeking a high profile in the communities in which it operates, using storefronts, signage and posters to publicize its pilot projects and link to Rebuild America. In the process, the state is creating models to share with other partnerships in the state and in the Rebuild America network.

In Texas, legislation passed by the state in the form of **Texas Senate Bill 5** is changing the landscape of energy-saving efforts – and Rebuild America in Texas. SB 5 was enacted in 2001 to assist the state in complying with the federal Clean Air Act. The bill contains new energy-efficiency measures that are designed to decrease energy consumption and incorporates the new 2000 International Energy Conservation Code. All political subdivisions in 38 urban and surrounding counties, except school

Continued on page 11

ORNL Report Shows Low Life-Cycle Cost for Geothermal Heat in Colorado Schools

A report published by the U.S. Department of Energy's (DOE) Oak Ridge National Laboratory (ORNL) concludes that geothermal heat would often provide the greatest comfort at the lowest cost for Colorado schools. ORNL conducted the research for the Colorado Governor's Office.

The findings could lend credibility to the use of geothermal heat pumps in school designs over traditional energy, heating and cooling options. DOE engineers caution that the report looked only at Colorado's climate and geological conditions. Geothermal heat pumps may not be as cost-effective in other regions of the country.

Linda Smith of Colorado Gov. **Bill Owens'** Office of Energy Management and Conservation requested the report from ORNL. As the designated leader of **Rebuild Colorado**, Smith is responsible for overseeing partnership activity in the state. And because Colorado functions as an umbrella partnership with partners across the state, the energy projects are numerous.

Most of those projects involve schools. **Jefferson County Public Schools** based in Golden undertook major retrofits as the district expanded schools to meet the growing student population. Four schools in the **Poudre School District** in Fort Collins earned the ENERGY STAR® label for energy efficiency in 2000, with a fifth earning the label in 2001.

But as education moves to the forefront – a focus of the Bush administration – the state must improve learning environments, meet air quality standards and accommodate the influx of new students. That requires building new schools in addition to renovating and expanding existing ones. Choosing the right energy source will impact the state's energy purchases and education budget in the future.

The Report

Smith requested the report because “there has been an expanding interest in the past two years among school districts in this technology,” she says. But before encouraging geothermal energy's use, Smith contacted Rebuild America's Bill Mixon about doing a cost-effectiveness study “particular to Colorado.”

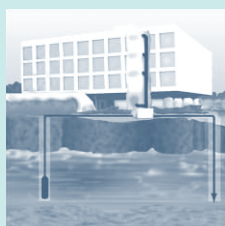
ORNL examined four new schools in Lincoln, NE equipped with geothermal heat pumps in order to approximate the life-cycle cost for geothermal heat pumps in elementary schools – and compared these costs to alternate HVAC technologies. By reviewing the data from existing schools in an area geologically similar to Colorado, the report's authors could apply those findings to Colorado schools.

While it is known among building and energy engineers that geothermal heat pumps have an excellent track record for efficiently heating and cooling buildings, the guidelines for their application have never been fully established. For example, geological, building design and climate-related factors impact how a geothermal heat pump system will perform in a given location.

The ORNL report, written by John Shonder and Jeff Thornton, shows that “when capital, operating and maintenance costs are considered for this elementary school application, geothermal heat pumps have the lowest life-cycle cost, about 15 percent lower than the next most attractive option.” The report focused on geothermal energy use in three different parts of Colorado, representing the three climate and geological regions in the state.

Shonder and Thornton's analysis showed that for

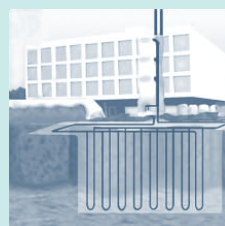
Continued on page 10



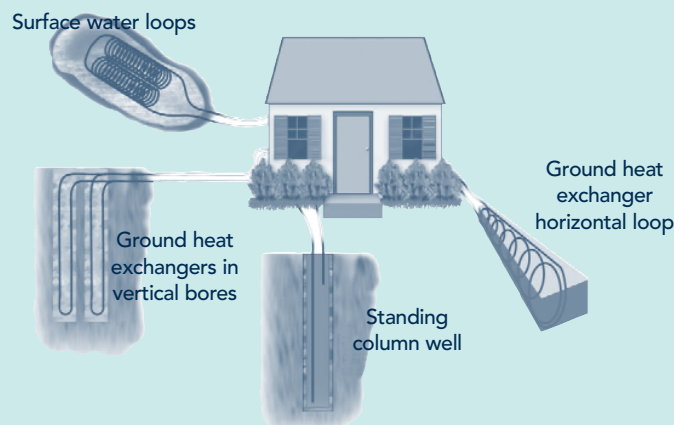
Wells to groundwater



Surface water loops



Matrix of ground heat exchangers in vertical bores



Through a system of pipes, geothermal heat systems transfer heat to the ground in order to cool, and harness energy from the ground in order to heat. An anti-freeze-water solution acts as a heat exchanger in the pipes, regulating this flow of energy depending on building temperature. The air or water delivery systems in the building operate like conventional systems.

NAESCO Brings Partnerships Opportunities for Performance Contracting

As a Strategic Partner since 1997, the **National Association of Energy Service Companies** (NAESCO) has played a key role in bringing performance contracting to Rebuild America partnerships around the country. NAESCO educates customers about the importance of energy efficiency and performance contracting and works with policy makers to shape legislation that benefits the various market sectors in the energy industry as well as the public.

NAESCO's partnership with Rebuild America is mutually beneficial. Funding from Rebuild America allows NAESCO to produce educational materials for states and public facility owners and promotes awareness of the energy service company industry. Since 1997, NAESCO has produced five books that address Rebuild America's partnership needs:

- *The Energy Efficiency Project Manual: The Customer's Handbook to Energy Efficiency Retrofits, Modernizing Facilities & Maintaining Budgets*
- *Energy Efficiency Retrofits in Local Government Facilities, Reducing Operating Costs and Improving the Facility Infrastructure*
- *Energy Efficient Capital Upgrades in Colleges & Universities, Reducing Operating Costs and Improving the Student Learning Environment*
- *Energy Efficient Capital Upgrades in K-12 Schools and Reducing Operating Costs and Improving Patient Comfort*
- *Energy Efficient Capital Upgrades in Hospitals and Medical Centers.*

"These case studies highlight the tangible benefits that can be generated by an energy-efficiency retrofit," said **Terry Singer**, Executive Director of NAESCO. "The projects demonstrate how schools, colleges, universities, hospitals, and municipal facilities have successfully reduced their energy consumption, generated dollar savings, upgraded their physical infrastructure, and improved occupant comfort and productivity."

In addition, NAESCO collaborated with other Strategic Partners to create state guides for Illinois and Texas on energy-efficiency retrofits, performance contracting and model legislation and standards for states that do not currently have legislation that supports performance contracting. The models include details for government facilities entering into performance contracts and sample regulations for implementing legislation. The models were widely distributed nationally and used by the Maine legislature in drafting their enabling legislation.

Certifying the Industry's Best

One of NAESCO's greatest strengths is its national accreditation program. The group conducts rigorous examinations of an ESCO's core competencies and business practices and renders NAESCO certification based on the review.

Accreditation certifies that a company has the experience and expertise to implement energy-efficiency projects under a performance contract and helps assure customers that they are using a reputable and experienced energy service provider. Public sector facility owners are, in many instances, indicating preference in the evaluation process for NAESCO-accredited ESCOs, and some require that the selected provider be accredited.

The program will expand in 2002 to include energy-efficiency contractors, single technology providers and providers of other types of services as well, such as brokering power or taking full outsourcing responsibility.

Documenting Rebuild America Successes

NAESCO has also worked with Lawrence Berkeley National Laboratory to double the number of projects to 1,600 in the industry database managed by the lab. The database tracks energy-efficiency projects completed by NAESCO members. Rebuild America strongly supported this effort. The collection of project implementation data is an important metric for the success of Rebuild America, FEMP and other DOE programs. Documenting industry practice and achievements enables Rebuild America and its many partners to determine which types of projects are successful and their level of market penetration, and increases the ability to replicate those successes in other areas and market sectors.

The projects in the database represent \$2.6 billion in ESCO project investment, an estimated 15 percent of market activity. The database program manager is also working with six state energy offices to capture additional available data.

Spreading the Word

NAESCO conducted two workshops with the **New York State Energy Research & Development Authority** (NYSERDA) on the benefits of energy-efficiency retrofits in public buildings. The workshops were held upstate and reached about 40 potential end users in schools, hospitals, and local government facilities.

NAESCO joined the **National Association of State Energy Officials** (NASEO) at their annual conference to host a workshop. The session focused on the use of energy efficiency retrofits as a tool for reducing emissions and helping states meet federal Clean Air Act requirements. Participants focused on techniques and technologies that

Continued on page 11

Three Federal Agencies Partner to Revitalize Urban Housing

The U.S. Department of Energy's (DOE) Rebuild America program joins the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD) to change the face of public housing in Miami-Dade County, FL. The community houses the two largest public housing structures in Florida, which have fallen into disrepair and been overrun by crime in past decades.

The Scott and Carver Housing complexes are housed on one city block and suffer from 40 years of structural and infrastructure defects. Scott has 754 units and is the largest public housing complex in the state; Carver, with 96 units, is second. Both high-rise buildings suffer badly from poor infrastructure and are riddled by problems with drugs and crime. Officials from the Miami-Dade Department of Environmental Resources Management (DERM) targeted the site which adjoins a brownfield, an abandoned and often environmentally contaminated piece of commercial property, as an area in need of revitalization.

Ernesto Perez, an EPA employee on loan to DERM, assumed lead in the project and turned to officials in the region's HUD and DOE offices for help. Project Manager for Community Initiatives in the Atlanta Region Steve Hortin, and Atlanta Regional Rebuild America Program Manager Greg Andrews, lead the way for DOE's Rebuild America to ensure that the new structures are efficient and environmentally sound.

"The most satisfying part of this project for me was bringing together 13 expert organizations and 10 local government agencies, many of which do not traditionally work together on a project of this type," said Hortin.

Enlisting the Help of HOPE VI

With plans underway for demolition and new construction, the Sustainable Development Office and the Miami-Dade Housing Agency (MDHA) applied for a HOPE VI grant from HUD. The HOPE VI program forges partnerships with other federal, community and non-profit agencies to leverage support and resources to eradicate severely distressed public housing. HUD awards roughly 20 grants per year, allocating approximately \$30 million for each project.

The Scott and Carver homes project won the grant in 1999 with committee and design plans taking shape ever since. Multiple design charrettes have produced a plan to tear down the high-rises and replace them with town homes. The most recent, held in December of 2001, brought together individuals from 20 different organizations in government, education and private industry to brainstorm about design.

Southface Energy Institute, an Atlanta-based non profit energy and environmental organization, facilitated the



The "building science" team from the Sustainable Design Charette worked on energy-related design, implementation and education.

charette, and divided participants into several "building teams" to identify strategies for site planning, building science, materials and pollution prevention. Mark Ternes from Oak Ridge National Laboratory (ORNL), Greg Andrews and staff from the Florida Solar Energy Center (FSEC) participated on the building science team and advised on energy-related design, implementation and education issues. The charette was funded through a community pilot grant from the Atlanta Regional Office in partnership with the Florida Energy Office. **Jim Nelson** of **Lithonia Lighting**, a Rebuild America Business Partner, served on the site planning team to provide technical information for lighting issues.

Replacing Old Buildings, Recharging A Community

The "building science" team produced a plan that reduces energy use by 50 percent compared to traditional construction. The design goal can be achieved at little or no additional cost. Rebuild America and DOE would provide ongoing technical assistance throughout the course of the project. Florida Power and Light (FP&L) and FSEC will work with HOPE VI design teams to identify the energy technologies and features that will yield the 50 percent savings. ORNL and FSEC will work with design teams on energy specifications and inspection procedures. FP&L and FSEC will perform the inspections and analysis necessary for the new buildings to receive **ENERGY STAR**® certifications.

Other plans for the community involve a residential education program to ensure energy goals are maintained. Upon moving into the new buildings, tenants will participate in workshops that teach efficient practices and utility-bill management. In addition, one or two residents will be trained to help other residents control high utility costs.

In addition to energy-saving technologies, MDHA's vision

Continued on page 7

Rebuild Representative Earns Ph.D. in Energy Management



As energy management issues become increasingly complex in buildings, managers must be experts on the subject to ensure buildings run at optimal efficiency. Fortunately, the academic world is responding with many universities offering advanced degrees to individuals working in the field.

Dr. Elizabeth Raman, an Energy Conservation Program Specialist with **Hawaii's Department of Business, Economic Development and Tourism**, is the first Rebuild America representative to earn a doctoral degree in energy-management studies. In December of 2001, Raman completed her dissertation, entitled "Evaluating Energy Performance Contracting: The University of Hawaii at Hilo," and her five years of study and research to earn a Doctor of Philosophy (Ph.D.) degree from California Coastal University with her specialty in energy management.

Raman's dissertation, as its title suggests, is an in-depth, 200-page assessment of performance contracting at the University of Hawaii at Hilo (UH-Hilo) and Hawaii Community College. Performance contracting has been a hot topic in energy circles in past years, so when Raman needed a specific focus for her research, this seemed a clear choice.

"Risk was a key aspect in performance contracting, because so little was known about it," Raman said. "Laws didn't exist for tax-exempt savings or third-party financing."

An opinion survey conducted as part of her research showed that prior to implementation of a project, managers are concerned with many elements of risk, but after the project is accepted, the concern becomes achieving savings and the reliability of maintenance services.

The element of risk associated with performance

contracting has prohibited its widespread acceptance in state government. Raman's research shows that the financial risk of using borrowed money to perform upgrades that cannot guarantee a pay-back or continued savings is important in most projects prior to the implementation of a performance contract. However, Raman's study of UH-Hilo shows performance contracting to be successful and to add value to the university infrastructure.

Projected energy and maintenance cost savings were achieved at the University of Hawaii buildings, and financing through an energy services company (ESCO) proved more efficient than financing through budgeted or appropriated funds. Government costs dropped while the local economy benefited from extra work. Raman projects that as demand for electricity increases, ESCOs will need to provide a wider range of services to meet consumer needs for high performance, sustainable buildings. Officials at the state level will need to learn and analyze the details of performance contracting to ensure efficient upgrades for aging local buildings.

Raman also holds a B.A. and an M.S. in Information Systems from American University in Washington, DC, an M.B.A. from the University of Hawaii and has published more than 50 articles and reports on energy and project development. She credits her varied experience in energy conservation, economics and business as factors in her professional success.

"The whole area of energy requires so many skills," she says. "You need to be educated in finance, economics, statistics and marketing. You need to have broad knowledge and narrow concentrations to make an impact. Now, if only I had a degree in engineering!"

For information, contact Dr. Elizabeth Raman at eraman@dbedt.hawaii.gov.

Continued from page 6

Three Federal Agencies Partner to Revitalize Urban Housing

for the project includes the use of alternative energy sources, water conserving landscape design, healthy indoor air quality and a comprehensive recycling plan to serve the new Scott and Carver single-family home developments.

The redevelopment of Scott and Carver homes is a major part of the greater community revitalization in Miami-Dade County. State and federal funds will assist in creating "traffic calming" elements for the urban setting such as roundabouts, pedestrian-friendly streets and route-diffusing traffic patterns. Neighborhood streets of varying types and widths will include on-street parking, landscaped medians and

aesthetically pleasing traffic signage.

The project is slated for completion in 2005. According to Andrews, the project, even in its early stages, provides an excellent example for communities in need of public housing redevelopment. A copy of the *Sustainable Design Charette Final Report* is available on the Rebuild America Web site at:

www.rebuild.org/news/newsdetail.asp?NewsID=1140.

For more information, contact Greg Andrews at greg.andrews@ee.doe.gov.

Spotlighting the Gateway Center for Resource Efficiency

The **Gateway Center for Resource Efficiency** is a leader for the city of St. Louis, MO and the U.S. Department of Energy's (DOE) Chicago Region in promoting the benefits and practices of energy efficiency, waste reduction, recycling and sustainability – particularly in area schools.

The center has been a division of the Missouri Botanical Garden since November 2000, and was formerly known as MERP – the MidAmerica Energy & Resource Partners. MERP joined Rebuild America in 1996 as one of the first partnerships in the country. It hosted the Chicago Regional Peer Forum in St. Louis last fall.

Recently branching out into other market sectors, Gateway Center historically has targeted K-12 schools. In June 2000, the center was part of a pilot initiative called Missouri EnergySmart Schools funded by Rebuild America and the Missouri Department of Natural Resources' Energy Center.

The **Missouri EnergySmart Schools** pilot grants qualified districts partial funding for energy analysis and projects that incorporate quantifiable energy improvements. In addition, these districts receive – at no cost – Gateway Center's **School Energy Efficiency Development (SEED)** program for students, as well as specialized energy efficiency training for building operators and maintenance staff.

SEED is a year-long energy education program which takes students from “awareness to action” to improve the energy efficiency in their school buildings. This program is often included in district-wide energy retrofit programs, paid for by savings generated from efficiency improvements.

Its success is widely recognized. Over a span of 16 years, SEED has worked with almost 300 teachers and 7,000 students in 69 schools as a specialized part of energy programs, creating energy savings of nearly \$9.5 million. School officials call the program a highly effective tool for improving science test scores and changing energy use behavior that saves energy and money for school districts.

SEED students from one St. Louis public school performed a musical as part of their energy project at the “Empowerment 2000: Green Schools and Energy Wise Students” in Madison, WI. The presentation and musical were a rousing success, as the students provided an incredible visual reminder of the impact of energy efficiency.

Currently, two St. Louis area school districts participate in the Missouri EnergySmart Schools pilot, but there are plans to expand this initiative's outreach. These new programs will teach superintendents, teachers, business managers and facility directors about energy savings opportunities and provide the tools to implement projects in their schools. The Gateway Center staff has always been involved in advancing energy efficiency in schools by offering information and



Recycled materials and energy-efficient technologies were used to renovate the EarthWays Home, new headquarters for the Gateway Center for Resource Efficiency.

assistance to school facility operators and business managers.

In a previous project funded by Missouri's Energy Center, Gateway Center staff conducted site visits to over 50 school districts in the St. Louis region to discuss potential opportunities for implementing facility improvements and energy-saving programs. Funding for other projects and programs presented by Gateway Center came from the districts themselves or from incorporating SEED into retrofit costs, using pre-determined energy conservation savings to pay for the programs. Rebuild America funding allows Gateway Center and Missouri's Energy Center access to those school districts that otherwise might not be able to afford investing in energy efficiency.

Gateway Center's leadership in energy and resource efforts has been done in collaboration with a number of Strategic Partners such as the **Alliance to Save Energy** and **National Energy Education Development**. It has also worked with Business Partners such as **CMS Viron**, **Philips Lighting Company** and **The Trane Company**.

While continuing many of its long-time successful energy and resource education programs, the Gateway Center is now expanding its outreach beyond schools. Most recently, the Gateway Center spearheaded the establishment of the St. Louis Regional Green Building Council, a local chapter of the U.S. Green Building Council. Using the Gateway Center for Resource Efficiency as its hub, over 100 local professionals have joined this new organization to promote energy-efficient and environmentally responsible building design and construction while promoting profitable and healthy places to live and work.

The Gateway Center has had an exciting year reinventing itself as a new division at the Missouri Botanical Garden. The Gateway Center also moved into new headquarters, the

Continued on page 11

Continued from page 1
Weatherization Works!

upgrading their homes with energy-saving technology and educating residents about energy conservation. DOE grants funds to local agencies in communities in every state across the country. Agencies, in turn, determine viable candidates for the program and perform the necessary work.

“Weatherization assistance saves low-income families hundreds of dollars each year in energy costs – money that can be spent instead on other necessities,” Secretary of Energy Spencer Abraham noted last fall. “President Bush’s National Energy Policy calls for a nationwide increase in weatherization to lower home energy costs; costs that are especially high during the winter months.”

Why Weatherization?

Low-income housing accounts for one quarter of the national housing market. Approximately 27 million households are eligible for weatherization assistance nationally. Energy bills are a heavy cost burden on low-income families, who typically spend 14 percent of their household income on utilities, compared to 3.5 percent spent by other households. This can add up to almost \$1,500 annually for families whose total income is less than \$15,000 a year.

Participants in the Weatherization Assistance Program have seen their bills decrease an average of 15 percent, saving families about \$300 each year. Weatherization saves money for low-income households while improving their health, safety and comfort. Families also become more self-sufficient with greater resources to provide for their own welfare.

How It Works

Low-income families who live in a single-family home, a multi-family housing complex or a mobile home are eligible

to apply for the weatherization assistance from local government and nonprofit agencies. Upon approval, technicians from local businesses conduct energy audits, identify problems and compile a list of cost-effective measures for the home. Evaluations like pressure diagnostics and blower door tests are conducted prior to performing upgrades that often include the installation of air sealing, digital monometers, controlled ventilation and insulation.

Preference is given to people over 60, people with disabilities and those with young children. Households with unusually high energy burdens may also receive special consideration.

How It’s Working

Returns are substantial, yielding \$2.10 for every \$1 invested by DOE. Weatherization also reduces carbon dioxide emissions by one metric ton and creates 52 direct jobs for every \$1 million of funding. In addition, weatherization decreases national energy consumption by 15 million barrels of oil every year.

Today, 5 million homes across the United States have been weatherized, and 970 local and non-profit agencies are involved in the assistance program. Total savings are estimated to be \$1 billion.

Other community benefits of weatherization include:

- Support for 8,000 jobs nationwide, often in blighted communities where jobs are needed most
- Re-investment of energy-cost savings back into the community
- Reduction of power plant emissions and improved local air quality
- Avoidance of greenhouse gas emissions
- Decreased demand for imported oil
- Education of consumers in energy-efficiency practices.

For more information about the Weatherization Assistance Program, visit:

http://www.eren.doe.gov/buildings/weatherization_assistance/.

Continued from page 1
SEP, Rebuild America to Tackle Key Issues at National Conference

elegant converted sugar mill that is now a showplace for fine jazz memorabilia.

Rebuild America again will recognize top community performers with its Energy Champion Awards. The winners will be announced during a conference-culminating luncheon on August 1, celebrating those partnerships that best exemplify how Rebuild America can make a difference in a community. SEP will announce their annual award winners during the same luncheon.

Rebuild America welcomes a new award category this year: Strategic Partner of the Year. While clearly a difficult decision to make, the Strategic Partner that best promoted the Rebuild America philosophy and assisted in furthering energy-saving initiatives will take home this first-ever prize.

But even before participants delve into energy, there are numerous pre-conference activities to entertain folks. City

tours, including a Gospel Brunch/French Quarter Stroll, Neighborhoods of New Orleans, Marshes and Mansions, Cooking Creole Tour and Gardens of New Orleans offer pleasant diversions for conference participants on July 28-29.

If you miss out on the various trips and excursions, don’t worry. Rebuild America and SEP will bring a bit of The Big Easy indoors by decorating the Exhibit Hall in a French Quarter theme. Our own Bourbon Street will be lined with numerous energy-efficient technologies, ideas and displays. You might even find some Mardi Gras beads.

Exhibitor and sponsorship opportunities remain, but space is limited so reserve your place today. Remember, the celebration for Rebuild America and SEP begins July 29 in New Orleans, LA.

For more information on registering for the conference, visit www.2002conference.com.

Snap Shot: Sharron Brown



Sharron Brown

Sharron Brown is the Director of Energy Programs for Strategic Partner **Public Technology, Inc.**

Vital Statistics:

I currently live in Loudon County, VA but I consider myself a die-hard Baltimorean.

No marriage, kids, or pets, but I boast of my “only” nephew and 12 godchildren ranging from ages 28 years to 9 weeks old that are a group of talented, gifted and enjoyable young people.

How long have you been working with Rebuild America?

I have worked with Rebuild America since its inception; in a different role. PTI has worked with Rebuild America for the past two years.

How did you get into this line of work?

My initial experience in the energy field began in the late 1970s in a low-income weatherization program in Baltimore City. This program allowed “hands-on” experience for the installation of insulation, windows and HVAC equipment.

My next position was Energy Planner for Montgomery County, MD. This began my career in energy planning and program implementation in various residential energy conservation programs. The most rewarding projects were integrating energy in the land use planning process, creating a “One-Stop” Energy Conservation Center and developing a Comprehensive Energy Plan for Montgomery County.

At the Energy Efficiency and Renewable Energy Clearinghouse, we were involved in the dissemination of comprehensive, current and reliable information in the areas of residential energy efficiency, renewable energy information and technical assistance. Our outreach and

marketing efforts exceeded over 100,000 inquiries from the general public nationwide.

As Director of Energy Programs with Public Technology Inc. and in conjunction with the Urban Consortium Energy Task Force we research, develop and deploy various innovative energy-efficient and renewable-energy technologies to reduce energy consumption and expenditures for municipal governments. We have been involved in distributed energy resources, photovoltaics in a natural disaster and technology transfer for over 400 applied research and development projects for and by local governments.

What is most rewarding about your work?

The **Urban Consortium Energy Task Force** is a group of 45 local government leaders who are innovative thinkers that provide daily challenges to me for various ways to develop research, and deploy energy-efficiency and renewable-energy technologies. This group has done excellent work and has a wealth of experience and technical resources. It has been my pleasure to work closely with this group over the last 3-1/2 years.

What do you like to do in your spare time?

I love to cook, watch *I Love Lucy* re-runs and enjoy relaxing time with my family and close friends

What is your dream job?

After retirement my dream job will be teaching Native American and African American History at the high school level.

What is your dream vacation?

A return trip to the lovely state of Hawaii and all its islands, especially Maui and the big island of Hawaii for a month.

If you could live anywhere in the world, where would that be?

Cape Town, South Africa.

Continued from page 4

ORNL Report Shows Low Life-Cycle Cost for Geothermal Heat in Colorado Schools

geothermal heat pumps compared to more mainstream chiller and boiler HVAC systems, maintenance costs are lower, operating costs are lower, and even implementation costs are lower. Geothermal heat pumps also have the lowest consumption of energy.

While the authors do acknowledge a potential 5 percent margin of estimation, they still conclude that “for school districts, geothermal heat pumps offer clear advantages in first cost, operating and maintenance cost, occupant comfort and

life-cycle cost.”

Smith says that, as Colorado expands existing schools and builds new ones to accommodate the high growth rate of student populations, the state tells school districts to at least consider these systems during renovation and new construction projects. Colorado will distribute the report to area school districts as soon as her office completes an overview.

For more information, contact Linda Smith with Rebuild Colorado at Linda.smith2@state.co.us. The full report can be found online at:

www.eren.doe.gov/femp/financing/espc/gbpresources.html

Continued from page 5

NAESCO Brings Partnerships Opportunities

measure and verify energy savings and translated those savings into a reliable measure of greenhouse gas emission reductions. This was part of a larger effort by NAESCO to focus policy makers on how to use energy efficiency as a cost-effective pollution prevention strategy.

In an effort to build awareness of the benefits of energy-efficiency retrofits among potential customers, NAESCO coordinated the participation of ESCO speakers at several consumer-oriented conferences. Among these were the Food Marketing Institute's Conference on Energy and Technical Services, which focused on the energy needs of supermarkets and grocery stores, and the Facility Management and Technology Conference, which was geared to facility managers from both the public and private sectors.

During 2002, NAESCO is collaborating with several Rebuild America Strategic Partners. In May, a NAESCO representative will speak on performance contracting at the **Energy Services Coalition** meeting in Nashville. NAESCO will participate in a June Energy Institute organized by the **National Conference of State Legislatures** in New York. In September, NAESCO will participate in a session on System Benefit Charges at the NASEO Annual Meeting. NAESCO will also conduct a workshop on energy efficiency and indoor air quality at the **Association of School Business Officials International**[®] Annual Conference in Phoenix in October.

"Working with Rebuild America has been a very positive experience," said Singer. "The partnership has enabled us to create and disseminate information about the delivery of energy efficiency which has significantly accelerated energy-efficiency project implementation and has helped create energy savings that would not otherwise have occurred."

For information about NAESCO programs, contact Nina Lockhart at nkl@dwgfp.com. To obtain copies of NAESCO publications, go to www.naesco.org/bookstor.htm.

Continued from page 3

View from DC

districts, are required to:

- 1) undertake all cost-effective energy-efficiency projects on existing buildings;
- 2) adopt a goal to reduce electric consumption by 5 percent a year for five years, beginning this year;
- 3) report annually to the State Energy Conservation Office (SECO) on their progress.

Rebuild America, with participation from EPA's ENERGY STAR[®] buildings, is collaborating with SECO to assist the affected counties in complying with the new law. The 38-county region will be a new Rebuild America partnership. The region consists of nearly 2000 political jurisdictions that represent more than 70 percent of the population and include the cities of Houston, Dallas/Fort Worth, San Antonio, Austin, El Paso, Corpus Christi, Beaumont/Port Arthur, Tyler/Longview and Victoria. SECO is working with Rebuild America to develop an information package about energy services, management tools and national, state and industry resources that will help communities throughout the region meet their goals. Workshops and training seminars are being planned in partnership with private industry on a range of topics that include energy services, financing and building technologies. The new partnership will focus on 12 model communities or regions, document lessons learned for the benefit of other Texas communities and sponsor workshops. The Metropolitan Partnership for Energy in San Antonio, formed by the City of San Antonio, Bexar County and local utility City Public Service, has been structured to serve as another umbrella partnership. This newly expanded partnership is poised to serve as a model for other regions in the roll-out of energy-saving initiatives.

By participating at the state level in collaboration with NYSERDA and SECO, Rebuild America and DOE's Office of Energy Efficiency and Renewable Energy are positioned to have a broader and more positive impact on quality of life in America's communities.

Daniel Sze is National Program Manager of Rebuild America.

Continued from page 8

Spotlighting the Gateway Center for Resource Efficiency

EarthWays Home, a three-story, century-old Victorian home renovated to demonstrate energy-efficient systems, recycled products and waste reduction practices. Features of the home include energy-efficient lighting sources and window options, recycled and non-toxic building products, cellulose insulation, a photovoltaic solar system powering high efficiency kitchen appliances, ground source heating and cooling, a high-efficiency

natural gas furnace and much more. The home is a popular site for tours by school groups as well as the general public.

This Missouri partnership welcomes visitors to view their offices to learn more about energy efficiency.

For more information or to set up an appointment to visit the EarthWays Home, contact Glenda Abney at Glenda.abney@mobot.org or 314-577-0288. Or you can contact Deborah Chollet at Deborah.Chollet@mobot.org or 314-577-0279.

Upcoming Events

June

24-25 Strategic Energy Management USA
Sponsored by Sempra Energy Solutions
Park Hyatt Philadelphia at the Bellevue,
Philadelphia, PA

See www.eyeforeenergy.com/sem/

**25-26 SBIC High Performance
School Buildings Workshop**
Sponsored by the Sustainable Buildings
Industry Council

Carrick High School, Pittsburgh, PA

See www.sbicouncil.org/workshops/schools.htm

24-28 Energy Performance Contracting for PHA's
Ralph H. Metcalfe Federal Building, Chicago, IL
Contact Eugene Goldfarb at eugene_goldfarb@bud.gov

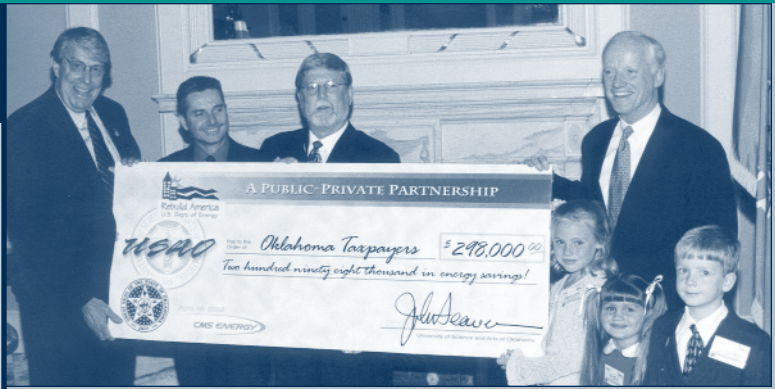
**26-29 Mid-Atlantic Sustainability Conference: Energy,
Buildings and the Bottom Line**
Rutgers University, Newark, NJ
Visit www.nesea.org

July

**21-23 Association of Higher Education Facilities
Officers Leadership Forum**
Phoenix Hyatt Regency, Phoenix, AZ
Visit www.appa.org

August

18-23 Summer Study on Energy Efficiency in Buildings
Sponsored by American Council for an Energy-
Efficient Economy
Asilomar Conference Center, Pacific Grove, CA
Visit www.aceee.org/conf/bldindex.htm



University of Science and Arts of Oklahoma President **John Feaver**, CMS Viron President **John Mahoney** of Kansas City, and **Bill Becker**, director of DOE's Denver office present a check to **Oklahoma Gov. Frank Keating** for \$298,000 representing one year's energy cost savings for Oklahoma Taxpayers.

New Partnerships

- Franklin Redevelopment & Housing Authority, VA
- Barnstable County, MA
- Local Government Commission, CA
- Town of Hamden, CT
- Community Housing Partners, VA
- City of Palo Alto, CA
- City of Richmond, CA
- Valley View Community Unit School District 365-U, IL

NEW!

**Marketing and Communications Rebuild
America Help Line 202-466-7868**

To submit news or story ideas, contact:
Maureen O'Brien, 202-466-7391, or email
mobrien@pcgpr.com

Check Us Out: www.rebuild.gov or 1-800-DOE-3732



Rebuild America is a network of partnerships – focused on communities – that save money by saving energy. These voluntary partnerships choose to improve the quality of life in their communities through energy efficiency. Rebuild America supports them with customized assistance backed by technical and business experts and resources.

Published bimonthly by the U.S. Department of Energy to report on Rebuild America activities, *Partner Update* now incorporates news from Building America and High Performance Buildings, energy-efficient initiatives of the Office of Energy Efficiency and Renewable Energy.



**High
Performance
BUILDINGS**

REBUILD AMERICA
Office of Energy Efficiency
and Renewable Energy
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585-0121

U.S. DEPARTMENT OF
Energy



Address Correction Requested