

**Partner Update**

July – August 2000

Office of Energy Efficiency and Renewable Energy

**Profile**

*John Snell, John Manning and Mike Sherman of Rebuild Boston*

**Rebuild Boston Pushes for Better City Housing**

Rebuild Boston Energy Initiative, one of the first Rebuild America partnerships, has carved its niche by using energy efficiency as a catalyst for revitalizing economically distressed neighborhoods of Boston. To date, the partnership has helped facilitate the increased energy efficiency of more than 13 million square feet of new and retrofitted facilities in the City.

From the beginning, Rebuild Boston was a broad-based effort involving city government, utilities, and energy services companies and community-based organizations belonging to its lead partner, the Northeast Energy Efficiency Council (NEEC).

**Finding its Niche**

The partnership hit its stride by targeting residences and small businesses that were under-served by existing programs – emphasizing those in distressed areas who were served least of all, says Mike

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**Mississippi Lives Up to “The South’s Warmest Welcome”**

Ellisville, MS (population 3,634) is a small town that is abuzz with energy this summer over the city’s Hotel Alice renovation project. The life forces behind this project are Rebuild Mississippi and the hotel’s owners, Jan and Eddie Malone.

In 1999, the Malones, near-lifetime residents of Ellisville, had a vision to convert the abandoned three-story, 11,500-square-foot historic building into a Bed and Breakfast, with a coffee shop/restaurant and antiques shop on the first floor. Built in 1902, the building is eligible for membership in the National Historic Registry, which will entitle the Malones to a 20-



*Nearly 100 years old, the Hotel Alice is getting a long-overdue face lift.*

percent tax credit. Jan Malone is working with the Mississippi Department of Archives and History to establish this designation.

Realizing the major renovation was necessary, Malone called upon Dr. Barbara Ousby, the Mississippi state Rebuild America representative, for support. After the City of Ellisville became a Rebuild Mississippi partner in March 2000, the Rebuild Mississippi team went into action. The team performed technical analyses on the building envelope, lighting, windows, plumbing, gas and electric systems, heating and cooling systems, roofing, and insulation and made numerous recommendations for improvements.

The Malones enlisted an architectural firm to help retain the charm and historical features of the building and to recommend building materials and equipment that adhere to National Historic Registry standards. The total cost of retrofits is estimated at \$335,000, which includes a new HVAC system, energy-efficient windows, hot water heaters and

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## Solutions

In 1998, the Rebuild Duke University Facilities partnership successfully completed lighting and water conservation improvements to 114 academic buildings. Now, the Energy Team of Duke's Facilities Management Department has shifted its focus to HVAC systems and controls and the need to renovate inefficient and aging systems in many campus buildings.

### **Heating and Cooling at War**

Thirty-year-old variable air volume (VAV) boxes in Duke's Perkins Library were wasting energy due to broken and jammed dampers, causing the boxes to stick – often in the cooling position. The substantial energy drain from overcooling was made worse by an electric reheating function that wasted even more energy as it strained to normalize the temperature. The Energy Team replaced each box with a working system that responds to heat and cold and keeps a stable room temperature with minimal energy required. Although the library VAV project will cost \$125,000 when complete, the electrical savings are expected to exceed \$25,000 annually. Thus, the measure will pay for itself in five years and will remove a continual source of maintenance headaches and customer complaints.

### **Variable-Speed Efficiency**

The Energy Team installed variable-speed-drives on fans along with premium efficiency motors to get the most out of their energy input in the Perkins Library and other campus buildings. Keeping a room at a stable temperature does not require the same amount of cooling or heating at all times. For most of the time, building cooling and heating loads stay at only a percentage of their full capacity. Variable-speed-drives enable computers to control air flow as needed during the day to maintain a standard temperature as well as in the evening, when buildings are generally vacant and call for less energy. Premium efficiency motors are built to higher standards and convert electrical to mechanical energy more efficiently. The variable-speed-drive project in Perkins Library cost \$40,000 and is expected to have a 5-1/2-year payback.

Duke's Energy Team also introduced a regular steam trap maintenance program. Though not nominally an energy conservation measure, regular steam trap maintenance can result in the prevention of significant amounts of steam loss. Steam traps function to separate the steam from condensate and noncondensate gases. An integral part of every steam distribution system, the traps require periodic inspection and replacement. Traps often fail in the open position, releasing raw steam. Losses to a system the size of Duke University's could run up to tens of thousands of dollars per year.

During fiscal year 1998-99, Rebuild Duke University Facilities' Energy Team saved the university almost 10 million kwh of electrical energy, over 42 million pounds of steam and over 7 million cubic feet of water. Duke is on track to equal these savings in the current fiscal year. As the Duke partnership continues to expand its HVAC efficiency upgrades, the university's energy and water expenses will continue to drop at an even more impressive rate. The vigilance and expertise of Duke's Energy Team provides the key to operating buildings at optimum efficiency.

*For more information, contact Bob Friedman of Duke University's Facilities Management Department at [bob.friedman@duke.edu](mailto:bob.friedman@duke.edu).*

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## View from DC

By Mark Bailey

The ranks of Rebuild America continue to grow as more communities awaken to the message that energy-efficiency improvements are a common-sense way to make a difference in their communities. To accommodate partnership needs, the program is growing in new directions and is taking shape as a gateway program to other DOE and agency initiatives.

This will enable Rebuild America to provide partnerships with access to an integrated array of resources to assist them in pursuing energy-efficiency and renewable energy initiatives. In one collaboration, Rebuild America and the Environmental Protection Agency (EPA) are expanding two publications for partnerships titled *Financing Energy Efficiency in Buildings* and *The ENERGY STAR® Small Business Guide—Putting Energy Into Profits*. Both should be available by the end of the summer. Also, a pilot project to integrate EPA's ENERGY STAR® small business allies into the Rebuild Long Island partnership is underway to strengthen the partnership's resources and impact.

On the schools front, Rebuild America and its EnergySmart Schools initiative continue to build bridges with links to Clean Cities (alternatively fueled buses); the Million Solar Roofs Initiative (solar technologies); the State Energy Program (DOE grant program); and ENERGY STAR® (DOE/EPA building energy performance program).

School budgets are tight and the need to upgrade the efficiency and increase the comfort of the learning environment is great. About 25 percent of the \$6 billion that America's schools spend each year on energy could be saved through better design of new schools and by upgrading existing schools with energy-efficient and renewable energy technologies. The task before us is considerable.

I am especially pleased to announce that Daniel Sze, formerly of DOE's Office of Field Integration, is joining me as we double our outreach efforts to schools and work to position Rebuild America as a gateway to energy-saving initiatives. Many of you will have an opportunity to meet Dan as we work to keep Rebuild America growing in strategic directions.

*Mark Bailey is national program manager of Rebuild America.*

# Housing Authorities Explore Performance Contracting with HUD Incentives

By Mark Ternes

Encouraging housing authorities to invest in energy-efficient improvements is now an easier task thanks to U.S. Department of Housing and Urban Development (HUD) incentives. Under HUD guidelines, a housing authority may retain the energy savings for work performed under a performance contract for up to 12 years. This allows a housing authority to tap into private sector financing to pay for energy conservation measures and other capital improvement projects and frees their modernization funds for use on non-energy-related projects.

To get the word out, Rebuild America teamed with the National Association of Housing Redevelopment Officials, a Rebuild America strategic partner, to present an in-depth performance contracting workshop in Chicago, May 1-4. The event was co-hosted by the Illinois HUD Office.

Three Rebuild America Partnerships—Stark Metropolitan Housing Authority, Pittsburgh Housing Authority and Chicago Housing Authority—joined other housing



Workshop attendees learn about integrating performance contracting with HUD incentives.

authorities, energy services companies and local HUD staff.

The workshop featured case studies, exercises and presentations that encouraged discussion among participants. Steve Ewing of Stark Metropolitan Housing Authority presented a case study describing the authority's use of an "add-on subsidy" to finance energy improvements that addressed how they partnered with local organizations to assist the project. James Cavallo of Argonne National Laboratory gave an overview of Rebuild America and discussed the benefits of joining the program.

In May 1999, more than 20 attendees from

10 housing authorities attended a similar workshop, and five housing authorities have since initiated performance contracts. Another workshop is planned for May 2001.

A new initiative between HUD and the U.S. Department of Energy will continue to promote performance contracting and other HUD energy incentives to housing authorities. The initiative aims to solve housing authority energy problems using innovative and novel technologies, financing arrangements and partnering approaches that can be replicated nationwide to successfully implement energy projects within public and assisted housing.

Rebuild America plays a major role in the collaborative initiative and has set a goal of developing 20 to 30 new partnerships with public housing authorities. Educating these partnerships about the benefits of performance contracting and HUD initiatives will serve to solidify the campaign in the public housing sector.

*For more information about the public and assisted housing market sector, contact Mark Ternes at 423-574-0749 or email [ternesmp@ornl.gov](mailto:ternesmp@ornl.gov).*

## Students Tackle Energy Efficiency in New Mexico

Rebuild New Mexico is receiving nearly \$200,000 in state funding from the Youth Conservation Corp. (YCC) to provide disadvantaged youths with vocational training in energy efficiency this fall. Rebuild New Mexico Director Peter Alexander is organizing a group of 40 students to participate - 30 from the Albuquerque area and 10 from the Taos Pueblo, the ancestral home of the Tiwa tribe. Youths aged 16 to 25 who are unemployed, have dropped out of high school or whose families are on public assistance will be eligible for participation.

The program will provide students with 90 hours of classroom training and several months of paid work experience. The focus will be on assessing opportunities for energy-efficiency improvements such as insulation, weatherization and mechanical systems, as well as methods of remediation. Passive solar methods such as planting deciduous trees on the south side of public buildings to cut summer cooling loads, also will be included.

"This training will serve as a springboard to help them become gainfully employed in the rapidly growing energy-efficiency

sector," Alexander notes. This is the first time that the YCC has become involved in energy-efficiency job skills training, he says.

"I am especially pleased because the very funding of this program is a validation of the cornerstone beliefs of Rebuild America: That energy-efficiency can be a driver for job creation and economic development while improving the performance of the buildings we live, study, play and work in."

*For more information, contact Peter Alexander at [cristobl@laplaza.org](mailto:cristobl@laplaza.org) or phone 505-776-1870.*

# Opening an Energy Dialogue with SW Tribes

In the interests of cultural preservation, Native American Tribes have been proponents of community sustainability, energy efficiency, solar and wind energy and environmental preservation. For federal agencies that can offer energy solutions in support of these ideas, the challenge has been determining the tribes' energy needs.

On May 16, the U.S. Department of Energy (DOE) and the Bureau of Indian Affairs (BIA) offered a one-day forum to discuss energy issues involving housing, economic development, energy entrepreneurship, equitable power distribution and energy-efficient building practices. The workshop's goals were to listen to and learn from the tribes; to identify and clarify energy-related needs and corresponding approaches and solutions; and to identify the technical and financial resources available to the tribes.

The event, held at the Yavapai-Apache reservation in Camp Verde, AZ, attracted participants from 14 area tribes and representatives from the U.S. Department of Commerce (DOC), the U.S. Department of Agriculture (USDA), the U.S. Department of Health and Human Services (DHHS), DOE and BIA.

Bob Gough of the Intertribal Council on Utility Policy highlighted the pressing energy issues facing the tribes: using more affordable energy sources; improving homes; controlling global climate change and the depletion of natural resources; and evaluating the impacts on quality of life, the environment, tribal health and cultural resources that stem from how energy is used.

## Assessing Impact

Amy Mignella, attorney for the White Mountain Apache Tribe, stated the crucial need for tribal decision makers to become more familiar with energy issues and their effect

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on the entire reservation and to understand the importance of juggling energy priorities with other tribal needs.

O. Roland McCook of the Northern Ute Tribe felt that initiating small-scale energy projects would help demonstrate to tribal members that energy development and economic development go hand-in-hand.

Themes raised from discussions included the need for tribes to invest in long-range planning. One tribal representative pointed out that historically Native American tribes have planned seven generations ahead when considering community changes and that energy issues should be no different. The tribes felt that they should evaluate projects in terms of where the tribe wants to be; who it needs to build or repair relationships with to meet its needs; and what the outcome is worth in terms of money, time and cultural impact.

Another common theme was a need for energy efficiency education at all levels – K-12 schools, tribal energy employees, policy makers and the general population.

## Agency Assistance

Agency representatives addressed the services they could provide to the tribes. DOE offers resources, training, nationwide connections and access to national labs

through the Rebuild America partnership network. DOE also offers renewable energy programs such as Million Solar Roofs and Wind Powering America.

Assistance offered by other agencies includes:

- Grants to further economic development through DHHS's Administration of Native Americans
- Funding for projects in community and economic development, housing and utility service through USDA's Rural Development
- Infrastructure and technical assistance grants to aid in business development and job creation through DOC's Economic Development Administration

Plans call for a follow-up meeting that will include tribal leaders, elected officials, non-profit organizations, Rebuild America Business Partner representatives and tribes that have implemented successful energy-efficiency programs.

*For more information, including notes of the proceedings and agency contacts, or to be included on the mailing list for the follow-up meeting, contact Paul Johnson at 206-553-2154 or email [paul.johnson@ee.doe.gov](mailto:paul.johnson@ee.doe.gov).*



Mark Randall of Daystar Consulting and Sharron Brown of Public Technology, Inc., pose next to the photovoltaic (PV) system at the Yavapai-Apache reservation daycare center. Before the installation, the daycare center was often impacted by lightning-related power outages. A grant from the Urban Consortium Task Force enabled the tribe to install a PV panel at the daycare center to eliminate this inconvenience. The tribe plans to use the structure as a tool to encourage other energy-efficiency projects throughout the reservation.

## The South's Warmest Welcome

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reflective roofing. The grand opening of the restaurant is scheduled for August 2000.

### Active on Many Fronts

Since joining Rebuild America in 1998, Rebuild Mississippi has turned up the heat on their community outreach by developing an array of marketing materials, including baseball caps, polo shirts and coasters. Headed by the Mississippi Department of Economic & Community Development's Energy Division, Rebuild Mississippi's partners include the Mississippi Main Street Association, Mississippi Valley Gas Company, Mississippi Downtown Development Association, Energy Rated Homes and the City of Jackson. The partnership is also collaborating with Rebuild Alabama to produce a 5-to-8 minute video to help educate potential partners about Rebuild America and the type of local assistance available through both state partnerships.



Barbara Ousby, left, with Eddie and Jan Malone

Rebuild Mississippi is working with the North Midtown Community Development Corporation and Entergy, a local utility, to plan several projects in Jackson. In June 1999, the partnership kicked off

its work in the city by recognizing Mark J. McCreery, president of Amerimail Direct, Inc., for renovating an abandoned, deteriorating downtown building to house his growing business. The 35-year-old building received over \$300,000 in extensive interior and exterior improvements, which included an \$8,000 grant through the city's Facade Matching Grant Program.

The state partnership is also reaching out to its Native American citizens. In May, Dr. Ousby and Mel Powers, the regional program representative, met with the Choctaw Indian Tribe to discuss their joining the Rebuild America family. Discussions centered on possible energy-efficient improvements to the reservation's 20-plus buildings to minimize energy expenses and on cogeneration and aggregate power opportunities.

Known as "The South's Warmest Welcome," Mississippi has opened its doors to Rebuild America and is actively sharing the program's ideals with the state's communities.

For more information about Rebuild Mississippi or its partners, contact Dr. Barbara Ousby, Mississippi Dept. of Economic & Community Development, at 601-359-6600 or [bousby@mississippi.org](mailto:bousby@mississippi.org).

## Rebuild America Communities Among "Most Livable Cities"



Boston Mayor Thomas Menino, left, and Stamford, CT, Mayor Dannel Malloy receive Outstanding Achievement Awards.

A number of Rebuild America communities were among those honored at the U.S. Conference of Mayors' 68th Annual Conference in Seattle, WA, on June 10. The City Livability Awards recognize and award mayors for their leadership and innovation in creating better, more "livable" communities. The City Livability Program is sponsored by the U.S. Conference of Mayors and Waste Management, Inc. and focuses on those exemplary leaders whose work has resulted in the implementation of pioneering programs that improve the quality of life for citizens.

Rebuild America communities that received awards were the City of New Orleans, LA, the City of Toledo, OH (Rebuild Toledo Energy Collaboration), the City of Stamford, CT, and the City of Boston, MA (Rebuild Boston Energy Initiative). Other winners included: Gadsden, AL; Lancaster, CA; Tacoma, WA; Everett, MA; Euclid, OH; Melrose, MA; Pasadena, TX; Buffalo, NY; Irving, TX; Pembroke Pines, FL; Tucson, AZ; Bristol, CT; Hoffman Estates, IL; Farmington, NM; Moore, OK; and North Adams, MA.

Additionally, the Outstanding Achievement Award was presented to Mayors Thomas M. Menino of Boston and Dannel P. Malloy of Stamford. An Honorable Mention went to Mayor Carleton S. Finkbeiner of Toledo. These visionaries have demonstrated how proactive leadership can improve communities.

# Walking the Talk: Energy Efficiency Begins at Home

Call it an occupational hazard. People active in Rebuild America are continually exposed to cutting edge energy-efficient and environmentally sensitive approaches to building, and some of them are taking it to hearth and home. Linda Smith of Rebuild Colorado, Partnership Development Manager Kirk Bond of Kansas City, MO, and Mike Glenn of the Utah Office of Energy Services are three Rebuild America players who have adopted green practices in the design and construction of their custom homes.

Smith and Glenn say that their new homes give them a greater connection to the outdoors. For Bond, whose home is under construction, the primary motivation was to live in a high-performance, comfortable house that operates at a fourth of the cost of an average Kansas City home. All three have invested considerable time and effort in getting the details right to create homes that are models of comfort and energy-efficiency.

Smith and her husband, Holland, designed and built their passive solar dream house at a 9,000-foot elevation in the Rockies, just west of Denver. At this elevation the heating season lasts nine months and there is no need for air conditioning. Drawing upon energy engineering principles she learned back in graduate school, Smith designed the floor plans and performed the energy calculations, while Holland designed the exterior, coordinated building plans, cleared the site and handled most of the construction.

Kirk Bond, a third-generation builder, gained a working knowledge of both solar and advanced technology while working on demonstration projects years ago with the U.S. Department of Housing and Urban Development and Kansas City Power & Light. With their three adult children moving out, Bond and his wife, Sally, decided to downsize their living space and upgrade home comfort by building their own “smart home.” They will be able to remotely control the energy, communications and security systems of their 2,800-square-foot home.

Mike Glenn’s plans to custom build his passive solar home coincided with the efforts of the Utah Office of Energy Services, where he works, to raise the standards of energy efficiency in new homes and with the startup of Utah’s Energy Rated Homes (ERH) and Energy Efficient Mortgages programs. Completed in April of 1997, the house served as the pilot for Utah’s ERH program and became the first home in Utah to receive a five-star rating. Since Glenn’s trail blazing, more than 725 homes in the state have been rated under the ERH program.

## Rocky Mountain Home

The Smith’s house was designed to allow the sun to enter through south-facing windows. Excess heat is stored in tile-covered concrete slab flooring that releases



*Linda and Holland Smith and their two dogs pose in back of their newly built passive solar home.*

the heat later in the day as temperatures drop. The house uses perimeter baseboard heating with propane for backup. Despite the winter temperatures, their propane boiler rarely needs to fire up, even when their neighbors’ chimneys are going full tilt. Theirs is a “Built Green Colorado” home, a designation that requires incorporating 38 energy-efficient and environmentally sensitive items into the design. The Smiths tallied 56 items.

Ultra-quiet bathroom fans on three floors are programmed to activate 15 minutes each hour to exhaust air, while windows emit fresh air that is circulated by ceiling fans. Each floor is a separate heating zone, compact fluorescent lights are installed throughout the house and appliances are geared to high efficiency.

The Smith’s deck is composed of recycled plastic and wood shavings and will outlast a wooden deck. The house is super-insulated with R-32 walls (R-21 fiberglass batt with 1-1/2 inches of exterior insulation) and an R-56 roof with energy heel trusses. An advanced sealing package helped ensure air-tight construction. The siding is composed of medium-density fiber board made of scrap wood and sawdust, which looks like traditional wood siding but costs less, Smith says.

In their home for a year now, the Smiths are pleased with their small energy bills – just \$500 annually and \$35 monthly for electricity. Smith says she and her husband are enjoying the comfort of their new home – along with striking views of Mount Evans and the Continental Divide.

## Urban Home Building

The high-performance Bond home is under construction on a severe slope that has proved to be a challenge, Bond says. The Bonds chose the lot for its central Kansas City location and wooded surroundings. The house features a 1,000-foot deck that’s 20 feet above the ground and at the same level as the tree canopy above a

creek. The home's inverted design features a first-floor master bedroom suite with a spiral staircase leading to a loft library, a living room-kitchen-sunroom that opens onto the upper deck, a workout basement with a guest bedroom, and an office that accesses the lower deck.

The house will have three air heating/cooling zones and eight warm-floor hydronic heating-only zones, which is the key to year-round comfort in Kansas City, Bond says. A closed-loop, ground-source heat pump will supplement a high-efficiency gas hot water heater for the hydronic floor. Strategically placed ceiling fans and skylights are designed to work in concert with a power-ventilated heat recovery system. The house is being built with R-26 rated structural insulated panels fortified with R-5 urethane foam insulation and sealed with lap-siding. A cathedral ceiling features heavy-duty R-45 insulation. Double, low-E-glazed Pella windows were optimally positioned for daylighting and to capture the best views.

The front of the house has a southwestern exposure and is shaded by trees while the back faces northeast. Four skylights in the rear of the house are positioned to miss direct sun. Two out-of-reach skylights are equipped with sensors and programmed to close if rain is detected. A 12-foot-high Palladian window in the sunroom is oriented to the northeast, allowing light to reach the kitchen and reducing the need for artificial light.

The Bond house will serve as demo to collect information about how thermal coupling works with a structural insulated slab with a hydronic-air heating/cooling combination home. Bond explains that holes and plastic piping were inserted in the concrete floor to



*The back of the Bond house (under construction), oriented to the northeast, features a sunroom that allows light to reach the kitchen and four skylights positioned to miss direct sun.*

says Sally Bond. The Bonds plan to move in this fall.

## Utah's first Five-Star Home

Mike Glenn purchased a floor plan and drawings from a local plan shop and set out to build a 2,550-square-foot energy-efficient house that included a basement with a finished 1-bedroom apartment. But Glenn was building more than a house. His was a groundbreaking Five-Star Energy Rated Home that would set a precedent for residential energy efficiency in Utah. Glenn's 20-year background administering DOE programs for retrofitting homes, schools and



*Mike Glenn's house was the first Five-Star Energy Rated Home in Utah.*

hospitals served him well during the design and building process. Ultimately, he incorporated 40 items on an energy-efficiency checklist to bring his home up to Five-Star status. In the interests of saving trees and taking the edge off the extreme

summer heat, Glen flip-flopped the building plan.

He selected a contractor with little experience in energy-efficient design who was interested in learning and open to Glenn's hands-on participation in implementing energy-efficiency measures. Glenn tackled a number of the installations himself, including the ventilation duct work, energy-efficient fluorescent fixtures, the indirect fluorescent lighting system, and the insulation of hot water piping and tanks and the headers on the exterior walls. Glenn selected cellulose insulation to more efficiently fill wall cavities and exterior foam sheathing for additional wall insulation.

He says his "favorite" upgrade was the low-E windows that experience only a fraction of the heat loss that occurs with standard windows. His house has an abundance of windows and no need for artificial light during the day.

Using information from the Sustainable by Design website ([www.sustainablebydesign.com](http://www.sustainablebydesign.com)), Glenn calculated an angle for a skylight that allows light and heat from winter sun to enter the interior while higher-angled summer sun is blocked out. The skylight is opened after hot summer days to release warm air and pull in cool evening air.

Specific energy and other "green" upgrades installed by the contractor cost \$6,200. Glenn installed an additional \$775 in measures.

Glenn reports that his total electricity and gas bill including the basement apartment averages \$37 per month. He has also saved with an energy-efficient mortgage that included a \$500 reduction in closing fees. In the wake of his trailblazing, an increasing number of Utah builders and contractors are adopting energy-efficient building practices. And an increasing number of homeowners are experiencing the comfort, energy savings and satisfaction that comes with living in an efficiently designed home.

Efficient, passive solar homes don't make everyone happy, Linda Smith has learned. Case in point is the propane delivery driver who announced "I hate your house!" when he found the Smith's tank still full while their neighbors' were empty.

*For more information, contact Linda Smith at [linda.smith2@state.co.us](mailto:linda.smith2@state.co.us); Kirk Bond at [kirk.bond@pnl.gov](mailto:kirk.bond@pnl.gov); or Mike Glenn at [mglenn@dced.state.ut.us](mailto:mglenn@dced.state.ut.us).*

## School Districts Make the Grade



DOE Assistant Secretary Dan Reicher and EPA Deputy Director Michael McCabe display the ENERGY STAR® label for buildings plaque, which will be affixed to award-winning schools.

In an unprecedented move, the U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency (EPA) bestowed the ENERGY STAR® label for buildings upon nine school districts across the country. DOE Assistant Secretary Dan Reicher, along with EPA Deputy Director Michael McCabe, announced the awards at the 11th Annual Energy Efficiency Forum in Washington, DC, on June 14.

The label is given to buildings that perform in the top 25 percent of their peer group. The nine districts to earn the designation are: San Diego Unified School District (CA); Academy School District 20 and Boulder Valley Public Schools (CO); New Haven Public Schools (CT); Kansas City Public Schools (KS); Columbia Public Schools (MO);

McAllen Independent School District (TX); Milwaukee Public Schools (WI); and Marion Public Schools (WV). These districts represent 150 individual schools that have achieved the ENERGY STAR® label.

“Looking back to your school days, you may remember that teachers rewarded the best students with gold stars,” Reicher told the audience, “The ENERGY STAR® label for buildings is our [DOE’s and EPA’s] way of rewarding buildings that have been successful in their energy-efficiency efforts.”

U.S. schools offer a unique opportunity for energy savings. The average school was built in 1960 and spends more money on energy than it does on textbooks and computers. Within the next 10 years, the nation will require 5,000 new schools to accommodate enrollments and more than 6,000 schools will need substantial repairs to continue being useful. Energy-efficient retrofits of these older buildings improve the learning environment for students, provide an opportunity to educate a generation of students about energy efficiency and allow wasted funds to be redirected to other needs.

Rebuild America’s EnergySmart Schools Initiative motivates schools to use energy wisely and provides training workshops, publications and access to a broad network of private and public sector partners for assistance. As part of a Rebuild America partnership, schools and school districts benefit from a network of DOE resources, including technical support and financing programs.

*For more information about the ENERGY STAR® label for buildings, visit the EPA web site at [www.epa.gov/buildings/label](http://www.epa.gov/buildings/label). For more information about Rebuild America’s EnergySmart Schools Initiative, visit [www.eren.doe.gov/energysmartschools](http://www.eren.doe.gov/energysmartschools).*

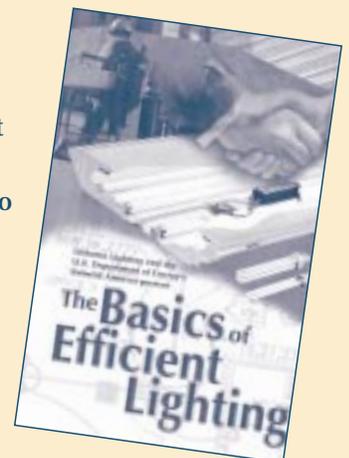
## Unanswered Lighting Questions?

*The Basics of Efficient Lighting* booklet, co-produced by Rebuild America and business partner Lithonia Lighting, has been flying off the shelves since its release in April.

The booklet was unveiled at the 250<sup>th</sup> Rebuild America Partnership Celebration in Austin, TX, by a representative from Lithonia Lighting. A copy was sent to each Rebuild America partnership along with the March-April edition of *Partner Update*. A useful tool for partnerships and

reps alike, the booklet outlines energy-efficient lighting, from explanations of high-benefit lighting and lighting types to what questions to ask a lighting contractor, and includes a list of helpful web sites.

Download the booklet from the toolbox section of the Rebuild America web site at [www.eren.doe.gov/buildings/rebuild](http://www.eren.doe.gov/buildings/rebuild) or call 1-800-DOE-3732.



## Upcoming Events

### August

**Aug. 21-23** - You Have the Power Energy-Efficiency Workshop and Expo, Pittsburgh, PA (David L. Lawrence Convention Center). Visit [www.energy2000.ee.doe.gov](http://www.energy2000.ee.doe.gov).

### September

**Sept. 10-12** - International Public Works Congress and Exposition, Louisville, KY (Kentucky Fair and Exposition Center). Visit [www.apwa.net](http://www.apwa.net).

**Sept. 24-27** - NACORE International Annual Symposium and Exposition, Las Vegas, NV (Bally's Paris). Visit [www.nacore.com](http://www.nacore.com).

**Sept. 30-Oct. 3** - CEFPI's National Meeting Orlando, FL (Disney's Coronado Springs Resort). Organizational focus is on planning, designing, equipping and maintaining school buildings. Contact Barbara Worth at 840-391-0841.

### October

**Oct. 5-7** - The Natural Step Fifth Annual Conference on Sustainability, Atlanta, GA. Visit [www.naturalstep.org](http://www.naturalstep.org) or contact Nicole Whiting at 415-561-3344.

**Oct. 19-20** - Profiting From Deregulation, Power Techniques for Power Purchasing Seminar, Dallas, TX. Visit [www.energywiz.com](http://www.energywiz.com) or call 877-NRG-GURU.

**Oct. 29-31** - 2000 NAHRO National Conference and Exhibition, Phoenix, AZ. Contact Jill Quaid at 202-289-3500 or visit [www.nahro.org](http://www.nahro.org).

# Saving Money: As Easy as Changing a Light Bulb

By Kathi Ruiz

**Q:** How can a home owner, business operator or energy-efficiency program make a sizable impact on the environment without spending a lot of money?

**A:** Change a light bulb.

Compact Fluorescent Lamps (CFLs) have been a responsible alternative to incandescent lighting for years, but many of these first generation bulbs had drawbacks, such as their large size, humming noise and prohibitive cost – and a cool color that consumers rejected in favor of a warmer hue. In 1998, the U.S. Department of Energy (DOE) decided to address these problems by encouraging the development of smaller, high-performance CFLs. Manufacturers have responded by offering a new generation of bulbs, called subcompact fluorescent lamps (sub-CFLs). These bulbs are nearly as small as the incandescent lamps they are intended to replace. Best of all, they are bright, noise-free and affordable.

Sub-CFLs last up to 10 times longer and use only one-fourth to one-third as much energy as incandescent lights. Though more expensive than incandescent bulbs, a sub-CFL can pay for itself in energy savings within six months in high-use applications. A typical household can spend \$55 a year for five 75-watt bulbs burning an average of five hours a day, while 15-watt sub-CFL replacements cost only \$15 for the same usage. Switching one incandescent bulb to a sub-CFL can keep up to half a ton of carbon dioxide out of the atmosphere over the lifetime of the bulb.

You can buy sub-CFLs through the DOE program for as low as \$4.95 per lamp



*Celina Oliver, a Portland, OR, homeowner, discovers that a sub-CFL easily replaces an incandescent bulb.*

(including shipping and handling) with a minimum purchase requirement of six or 10 lamps. Products carry a one-year warranty. Vendors currently participating in the sub-CFL program are JKRL USA, SunPark Electronics Corporation, Surya/PMI and Lights of America. All lamps can easily fit in most conventional fixtures, with lengths ranging from 4.56 to 5.8 inches. Over a million sub-CFLs have been sold since the program's inception, with more than 35 percent of total sales going to energy-efficiency programs maintained by utilities.

Although the program was designed to serve volume buyers – building owners, utilities, universities, public housing authorities, hotels and federal agencies – any individual may buy the sub-CFLs at the reduced program prices. Additional ordering information, a list of suppliers, prices and a savings calculator can be found at: [www.pnl.gov/cfl](http://www.pnl.gov/cfl).

*Kathi Ruiz, project coordinator on the sub-CFL program for Pacific Northwest National Laboratory, can be reached at [Kathi.Ruiz@pnl.gov](mailto:Kathi.Ruiz@pnl.gov) or 503-417-7551.*

## Rebuild Boston Pushes for Better City Housing

Continued from page 1



Rebuild Boston partners pose at Noah's Ark mural. Front row from left: Kate Bennett, Boston Housing Authority; Jean Cummiskey, PhD, Massachusetts Division of Energy Resources; and Caitriona Cooke, Conservation Services Group. Back row: Bruce Johnson, Energy Management; Harold Raymond, Design & Development Consultants; John Dalzell, Boston Office of Business Development; John J. Parisi, Jr., Honeywell DMC Services; and Charles Wheeler, NORESKO.

**Sherman**, one of Rebuild Boston's leaders. Sherman is part of a triumvirate that leads Rebuild Boston. Joining him are energy consultants **John Manning** and **John Snell**. All three are with the Peregrine Energy Group.

The partnership's goal is to make energy and water efficiency, balanced with the need to maintain comfortable, healthy and sustainable environments, a routine practice in construction, rehabilitation, operations and maintenance activities. To reach this goal, each of its leaders tend to specialize in one or two initiatives: Sherman's focus is on economic development and mixed-income redevelopment; Snell's area of concentration is public housing and indoor air quality; and Manning collaborates with utilities and other players involved in the design and assessment of energy-efficiency programs. They backstop one another with complementary roles and a mutually supportive work style, says Sherman.

NEEC's involvement in several Massachusetts gas and electric utility energy-efficiency collaboratives has helped the partnership make important contacts. Boston Edison and Boston Gas joined with NEEC early on as Rebuild Boston partners to help design economic development programs for distressed neighborhoods. This gave the partnership some guidance in achieving its goals.

Rebuild Boston then began developing linkages with programs such as Main Streets Boston, which is operated by the Boston Office of Business Development. Main Streets had established relationships with the same business owners the utility programs were targeting. With the help of Rebuild Boston, utility energy-efficiency services became a readily available resource for Main Streets participants and Manning notes that by the end of 1999, more than 70 Main Streets Boston projects included utility-funded energy-efficiency components.

these costs, Rebuild Boston and the Boston Housing Authority (BHA) have made long-term commitments to upgrade the energy efficiency of more than 15,000 apartments under the auspices of the BHA. Over the past four years, they have developed a viable performance contracting mechanism and the capacity to implement these improvements. The more than \$17 million in performance contracts currently underway will generate more than \$27 million in savings over 10 years, according to Snell. Further improvements will also address indoor air quality for improved health and resident comfort.

Rebuild Boston is also involved in efforts to provide rehabilitated housing and new affordable housing for low-to-moderate-income families. The partnership works with private and tenant co-developers to ensure that energy-efficiency measures are not eliminated in the redevelopment process, according to Sherman. So far, Rebuild Boston has helped facilitate energy-efficiency upgrades in more than 600 low- and moderate-income housing units.

### Early Intervention

The partnership also assisted the Boston Department of Neighborhood Development (DND) in revising its standard housing plans to conform to the lion's share of the ENERGY STAR® specifications. Rebuild Boston and DND are now working on a list of projects to target during the next two years to promote early intervention in project design.

"It's relatively easy to get individual energy-efficiency projects completed, especially where Rebuild Boston can provide a lot of ongoing support and attention to ensure project success," Sherman says. "It is a great deal more difficult to move to the point where a sponsoring agency or business incorporates energy efficiency as a basic feature of its activities, particularly if there is no continuing monetary or technical support or 'cheerleading' from the outside."

Rebuild Boston has evolved into a series of sub-partnerships organized around substantive areas such as public housing, affordable housing, economic development, indoor air quality and housing rehabilitation.

"There is a natural progression from concerns like improving energy efficiency in the apartments of low-income people to beginning to deal with pervasive problems related to poor indoor air quality like the extremely high incidence of asthma and other respiratory diseases," Snell says.

Rebuild Boston continues to emphasize community economic development in the enterprise zones and hopes to be part of the first large-scale retail development in the Roxbury neighborhood in more than a generation. The partnership is also about to begin to develop several new partnerships in other parts of the state through a grant from DOE's State Energy Program Special Projects in cooperation with the Massachusetts Division of Energy Resources.

For more information, contact Mike Sherman at [msherman@peregrinegroup.com](mailto:msherman@peregrinegroup.com) or 617-367-6144.

# 10

### Partnering with BHA

Studies show that energy and water costs typically consume about 22 percent of a public housing authority's budget. To mitigate

# Nevada Tribe Takes Hands-On Approach to Energy Issues



Paul Knight shows homeowner Sue Keller-Lynch her home's efficiency readings following a blower door test.

By Allie Smith and James Cavallo

Since the 1930s, the Fallon Paiute-Shoshone tribes have lived in a quiet community amid farms and ranches near the town of Fallon, NV. Most homes on the reservation were built nearly 40 years ago with U.S. Department of Housing and Urban Development (HUD) funds and according to their specifications.

Nearly 200 HUD homes on the reservation are in need of rehabilitation, which provides an optimal opportunity for reducing energy consumption. Saving energy is critical, as propane prices have increased by nearly 50 percent in recent months. To mitigate these concerns, the tribal council has teamed with Allie Smith, the Nevada state Rebuild America representative, to form a Rebuild America partnership to address energy-efficiency opportunities in housing and community buildings on the reservation.

## Field Training

The Fallon tribes hosted a workshop June 6-7 that integrated both health and energy issues and drew 22 participants. Topics addressed included moisture in crawlspaces, elevated radon levels, and asbestos in ceilings and wallboard, while discussions outlined renewable energy sources and opportunities for using environmentally sustainable materials in renovation projects. Hands-on field training focused on auditing methods and diagnostic tools, featuring blower door, crawlspace inspection and energy rating software demonstrations. The event succeeded in demonstrating how proper rehabilitation results in healthy housing while reducing energy use.

*For more information about Rebuild Nevada or the event, contact Allie Smith at 702-895-0539 or email [rebuildnevada@hotmail.com](mailto:rebuildnevada@hotmail.com).*



*Greg Andrews is Team Leader of DOE's Atlanta Regional Office.*

**Vital Statistics:**  
Resides in

Mableton, GA, with his wife, Darlene; 15-year-old son, Ryan, who consumes mass quantities of food and resources; and one dog, Max, an English Cocker Spaniel. Daughter Chene is 20-something, married and lives nearby.

**Most rewarding aspect of your work:**

Seeing the positive and lasting impact that a successful project can have on a community.

**Your greatest Rebuild America challenge:**

Helping an organization take plans and turn them into projects.

**How you like to spend your spare time:**

Fishing.

**Something you haven't tried but think you'd be good at:** Golf. I watched Tiger Woods at the U.S. Open. How hard could it be?

**A book or film you recommend:**

Film: *The Green Mile*

Book: *The Ecology of Commerce* by Paul Hawkins (\$25 reward to anyone who actually finished it)

**Where you'd live, if you could live anywhere in the world:**

Part year residence – St. Simons Island, GA (because it features the two great building blocks of human existence – fishing and beer); San Francisco, CA (it's everything a great city should be); Lake Victoria, East Africa (the world's most perfect sunrise).

Total Number of Partnerships..... **287**

Total Square Feet Committed For Retrofit..... **476** million sq. ft.

Number of States and Territories with Partnerships..... **51**

## Mark your Calendar!

**MARCH 2001**

			1	2	3	
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Announcing the Fourth  
Rebuild America Forum  
March 13-16, 2001  
Westin Peachtree Plaza,  
Atlanta, GA

### Share Your Success

To submit news or story ideas, contact:

- Elise G. Rand, 202-466-7391, or e-mail erand@pcgpr.com
- Anita Denning, 301-588-9387, or e-mail adenning@drintl.com

To be placed on the mailing list for *Rebuild America Partner Update*, e-mail rebuildamerica@drintl.com.

## Rebuild America Welcomes 4 New Partnerships

Hector Public Schools, Hector, AR

Solar San Antonio, Inc., San Antonio, TX

Alamo Community College District, San Antonio, TX

Educational Energy Managers  
Association of Florida, Winter Spring, FL



U.S. Dept. of Energy  
**Rebuild America**

Rebuild America is a network of community partnerships – made up of local governments and businesses – that save money by saving energy. These voluntary partnerships, working with the U.S. Department of Energy, choose the best ways to improve the energy efficiency of commercial, government and apartment buildings. Rebuild America supports them with business and technical tools and customized assistance.

By the year 2003, Rebuild America partnerships will be involved in over 2 billion square feet of building renovations, which will save \$650 million every year in energy costs, generate \$3 billion in private community investment, create 26,000 new private sector jobs, and reduce air pollution by 1.6 million tons of carbon dioxide a year.

Rebuild America  
Office of Building Technology,  
State and Community Programs  
U.S. Department of Energy  
1000 Independence Avenue, SW  
Washington, DC 20585-0121

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