

Partner Update

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

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March – April 2001

Pulte-Tucson Wins Energy Value Housing Award

Pulte Homes, a Building America program partner, has received the Energy Value Housing Homebuilder of the Year Award from the National Association of Homebuilders (NAHB) Research Center for its homes in a Tucson, AZ subdivision. An awards ceremony was held March 20 at the Third Annual Green Building Conference in Seattle, WA.

"Pulte Homes in Tucson is a large volume builder that's pushing the envelope of production building," says Building America Program Manager **George James**. "Pulte has committed to quality construction and resource efficiency is part of its everyday business practices. By partnering with contractors and suppliers, the company is able to streamline production processes and reduce costs."

Pulte's award-winning home features optimum value engineering; R-23 walls; minimized ductwork runs located in conditioned space through the use of an

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Alabama School Opts for Geothermal Energy



When the state of Alabama issued a mandate to eliminate temporary schools, the Geneva County Board of Education was faced with the challenge of building a new, cost-efficient school. With assistance from **Rebuild Alabama**, the school board did its homework, weighed its options and selected a

geothermal heat pump system.

The result is the 33,000 square-foot Slocomb Elementary School, a model of efficiency that boasts the first geothermal system installed in a new school in Alabama. The school opened its doors in January 2001.

"One of the goals of Rebuild Alabama is to have at least one EnergySmart School in Alabama constructed from the ground up using a geothermal heating and cooling system," says **Linda Cooper**, leader of Rebuild Alabama and program manager for the Alabama Department of Economic and Community Affairs (ADECA). Cooper, assisted by Rebuild Alabama partners, helped guide the school board through the process and arranged to have Slocomb Elementary School participate in the Rebuild Alabama Pilot Program as its EnergySmart School model.

They considered a number of factors before arriving at the decision to go with a geothermal system. Among them was the fact that Slocomb's population was increasing, but the county tax base was not growing fast enough to fund new schools. Another consideration was Geneva County's remote, humid location near the Gulf of Mexico. All of this pointed to the need for an HVAC system that offered cost efficiency for the long-term and ease of maintenance.

Sherlock, Smith and Adams, Inc. (SS&A), architectural and engineering consultants on the project, has a record of successfully designing schools throughout Alabama. SS&A's **Frank Garcia, P.E.**, designer of the system, notes that the school board became interested in the geothermal heat pump system because of its simplicity and low maintenance. It was also being used successfully at a nearby community college. School board members were accustomed to the earth being used for farming in their communities and were open to the idea of using it as an energy source to provide a comfortable temperature for their new school building. In addition, the geothermal heat pump system met the initial planning goals of the project.

Garcia compared conventional HVAC systems with geothermal heat pump systems for the school board. Three resources that proved useful during design were:

- The Geothermal Heat Pump Consortium, an information clearinghouse for

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Pulte-Tucson Wins Energy Value Housing Award

unvented attic; solar control windows; drought-resistant landscaping; and 90 percent furnace and a utility bill guarantee. Pulte Homes received technical support from **Joe Istiburek** and **Betsy Petit** of Building America's **Building Science Consortium**.

"Other members of the building industry should look at EVHA-winning practices as they develop their green business strategies," says **Liza Bowles**, president of the NAHB Research Center, Inc. According to a recent survey by *Professional Builder* magazine, energy efficiency is the number-one upgrade that homebuyers seek in a new home. EVHA winners are adding green building features to their new homes, including innovations in wastewater

management, landscaping practices, the use of recycled and recyclable building materials, and building materials and methods that improve the indoor environment.

Trend setting practices of the EVHA-winning builders include:

- diagnostic testing to determine air tightness
- ductwork located in conditioned space
- guaranteed energy costs
- multimedia, educational-based marketing campaigns that rely on the Internet and CD-ROM
- use of low-VOC (volatile organic compounds) paints and finishes
- urban infill development
- locating homes near public transportation and existing utilities

EVHA award winners cover a broad range of building practices and

climates. Building America program partner **Tierra Concrete Homes** won a Gold award in the custom builder category for their passive solar building design. **Green Village Company**, another Building America partner, took home the Silver in the affordable housing category for its work on the highly energy-efficient Erie-Ellington project in Boston. For more about the award winners, visit www.nahbrc.org.

The EVHA is managed by the NAHB Research Center and operated in partnership with the NAHB Energy Subcommittee, *Professional Builder* magazine, the National Renewable Energy Laboratory and Building America.

To find out more or to request an application for the 2002 awards, contact **Jeannie Leggett Sikora** at 301-430-6289 or evha@nahbrc.org.

Rebuild America salutes our 2001 National Forum sponsors for their valuable support.

Corporate Sponsors:

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Building America Consortia Showcase Atlanta Projects

The National Association of Home Builders' (NAHB) International Builders Show in Atlanta showcased a number of award-winning energy- and resource-efficient homes built by Building America consortia members. More than 70,000 housing industry professionals attended the Builders Show, held February 9-12 at Atlanta's Georgia World Congress Center.

Attendees of the show could travel by shuttle bus to tour eight homes in the vicinity of the Builders Show that involved Building America consortia members and partners, including three highlighted below:



Hedgewood Properties' New American Home

New American Home

The award-winning New American Home for 2001, a collaborative effort of Hedgewood Properties, the Southface Energy Institute and Building America's **IBACOS** consortium, incorporated clean industry, sustainable manufacturing processes, resource-efficiency and high energy-efficiency in building a four-level home. To optimize energy efficiency, the team incorporated advanced building technologies – including two high energy-efficiency furnaces, an energy recovery ventilator, low-e, argon-filled windows and improved insulation – into the design of the house which also featured a wine cellar, home theater, music room and separate carriage house.

Key contributions by IBACOS included durability-related *Continued on page 4*

The Energy Efficiency Doctor Is In



Dr. Sartorstein, the Einstein-esque “emcee” of *The BIG Picture*, the newly released Rebuild America CD, wants everyone to understand lighting and energy-efficiency issues. The wacky professor with the German accent adds a strong dose of fun to *The BIG Picture* as he navigates such

topics as strategic planning, financing energy-efficiency projects, lighting audits, measurement and verification, and lamp and ballast technologies, among others.

Business Partner Team Leader **Doug Avery**, who produced *The BIG Picture*, wanted to create a character to draw attention to key points about effective approaches to energy-efficiency projects. He looked no further than the silver-haired **Dale Sartor**, Applications Group Leader at the Lawrence Berkeley National Lab. Avery recalled seeing Sartor, with his hair teased and a lab coat on, do a spoof on Einstein at a National Association of State Energy Officials’ meeting.

“I had him in mind from the beginning,” says Avery. “I knew it had to be him.” For the CD, Sartor teased his hair once again and donned a sweater, a favored piece of apparel for Einstein, and his physical transformation into Dr. Sartorstein was complete. A few clicks of the camera later Dr. Sartorstein was gracing the frames of the evolving *BIG Picture*.

The BIG Picture, the first in a series of energy-efficiency training CDs planned by the U.S. Department of the Energy and Rebuild America, is available free from Energy Efficiency and Renewable Energy Clearinghouse (EREC). “It’s a useful tool for anyone who trains, educates or raises awareness about energy efficiency – or who needs to make a good case for investing in energy efficiency,” Avery says. “On the flip side, it can serve as a basic primer for people who don’t know much about energy efficiency and the options available. The solutions presented apply to both residences and businesses.”

The BIG Picture features nine energy-efficiency modules. Users can click to an online quiz at the end of each module to gauge their progress and offer comments about the CD.

“It’s important that users take the online quizzes,” Avery says. “Not only does it help the lessons stick, but it also gives users the means to provide us with feedback. This helps us track how many users we have. Their comments will help us develop future CDs in the training series.” Dr. Sartorstein’s new-found celebrity will surely last longer than 15 minutes, given plans to include him in subsequent CDs in the series.

For a free copy of *The Big Picture*, contact EREC at 1-800-363-3732.



View From DC By Daniel Sze

At the National Forum in March, we celebrated the achievements of many of our partnerships and partners through the Energy Champion Awards. Once again, our local champions have demonstrated that it is possible to bring about community improvement through energy efficiency. That it is not only possible, but pragmatic, responsible and commendable to plan and implement energy-efficiency programs that bring real energy and dollar savings to communities. Rising fuel prices and rolling blackouts on the West Coast are painful, daily reminders to Americans that our energy supplies are not inexhaustible and that each of us must act responsibly in our use of energy.

Energy Champions like **John Root** of **Rebuild Muscatine** and **Elaine Barnes** of the **Ohio Energy Project** remind us of the importance of educating both students and teachers about the role energy-efficiency can play in the classroom. Efforts to encourage young minds to consider energy use and meet energy challenges are vital steps in the effort to boost national awareness about energy efficiency. When such efforts are coupled with implementing energy-saving measures, we deliver a one-two punch to energy waste.

It is time for Rebuild America partnerships to step out of the shadows and share their many success stories. The message that taking steps to save energy is a beneficial and worthwhile course to pursue, is one that many communities need to hear and to act upon. Rebuild America partnerships are uniquely positioned to offer leadership and solutions concerning energy use in their communities. By exploring distributed generation technologies such as fuel cells, partnerships can tap into a world of possibilities for meeting future energy demands. There is no better time than now for partnerships to expand their outreach and spread the word that communities can help ensure their energy future by pursuing energy-saving solutions today. This will lead to healthier communities, from both economic and environmental perspectives.

Dan Sze is a National Program Manager of Rebuild America.

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Alabama School Opts for Geothermal Energy

contractors and engineers that offers design assistance

- ASHRAE handbooks, journals and design guides
- *The Design of Geothermal Systems for Commercial and Institutional Buildings*, by **Dr. Steve Kavanaugh**.

Partners of the Slocomb School project sprang into action. The Alabama Power Company agreed to pay for the cost of test wells and the ground conductivity sampling as an incentive for the school to use all electric. During the engineering design of the facility, the Geothermal Heat Pump Consortium funded design assistance by geothermal designers R.J. Dooley and Associates to help SS&A lay out and optimize the geothermal ground loop system. Smith's Inc., mechanical contractors, installed the mechanical work inside the building. Georgia Geothermal, the geothermal contractor, identified interferences that were not in the original site survey that prohibited eight wells from being drilled. As a result, all wells had to be drilled deeper to give the same total well length.

As part of the Rebuild Alabama program, Garcia and **Kenny Spain, PE., C.E.M.**, of the University of Alabama in Huntsville, toured the Anderson Mill School campus in Spartanburg, SC, a model school that is heated and cooled with a geothermal heat pump system. The tour afforded the opportunity for design professionals to exchange ideas about geothermal technology to benefit both the Slocomb School and future projects.

The Slocomb School's geothermal heat pump system is quiet both indoors and outdoors because there is no noisy air-cooled equipment, and the ground loop field is being used as a playground for the school children. Finally, the

operating and maintenance costs are expected to be the lowest of any modern school building in the county.

Funding for the project was provided by the Alabama Public Schools and College Authority and ADECA-Science & Technology Division (a \$100,000 grant from Rebuild Alabama).

The geothermal system school is saving the school district and taxpayers more than \$13,000 annually in energy and maintenance costs over more traditional heating and cooling systems, according to Garcia. Also, the incremental cost of the geothermal system is completely paid for with the energy grant.

For more information contact Frank Garcia, P.E. at 334-263-6481 or at Garcia_f@ssainc.com; or Linda Cooper at 334-242-5321 or lindac@adeca.state.al.us

Building Energy

Technology:

Energy Saved:

Annual Savings:

- 92 vertical ground wells, 250 feet deep, 90 tons of cooling
- Building energy management system
- De-coupled central outside air system with waste heat recovery
- Lighting with high-efficiency fluorescent and electronic ballasts
- 93.5 million Btu/year (compared with an electric air source heat pump system)
- \$13,510 per year in energy and maintenance savings

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Showcase Atlanta Projects

improvements to address airtightness and moisture control. The New American Home, an annual showcase project sponsored by NAHB's National Council of the Housing Industry, will be monitored extensively for one year while occupied. Monitoring data will be posted on the web site and accessible to those involved in the project.

Genesis Homes Modular Design

Champion Enterprises worked with Building America's **Consortium for Advanced Residential Building (CARB)** to develop a cost-effective set of technologies that allow its new line of modular Genesis Homes to meet both ENERGY STAR® and EarthCraft House™ requirements. The custom 2,300 square-foot modular home incorporates materials derived from recycled content and factory waste, hybrid modular/panelized construction, low-flow plumbing fixtures, and the use of paints low in volatile organic compound

emissions. Champion plans to produce the modular homes in 12 of its 60 plants across the country.

Habitat for Humanity House

A three-bedroom single family home in Smyrna, GA, a collaboration of Building America's **Building Science Consortium** and Cobb County Habitat for Humanity, was designed to cut energy costs in half. The home met "Engineered for Life" platinum-level requirements which qualifies homeowners for utility bill guarantees. The house features controlled ventilation, high-performance windows and advanced framing.

For information on:

- IBACOS' energy design approach for The New America Home, contact John Broniek at jbroniek@ibacos.com or 412-765-3021.
- The Genesis line, visit www.geneshomes.com
- The Habitat for Humanity project in Smyrna, GA, contact Betsy Pettit at Betsy@buildingscience.com or 978-589-5100

2001 Rebuild America National Forum Review

When Rebuild America participants from all corners of the country convene in one location, a special dynamic takes over. The 2001 Rebuild America National Forum at Atlanta, GA's Westin Peachtree Plaza Hotel on March 13-15 serves as a prime example. Participants were encouraged to expand their horizons through an agenda that ventured beyond the energy retrofit of buildings and into a vast array of issues involving community sustainability.

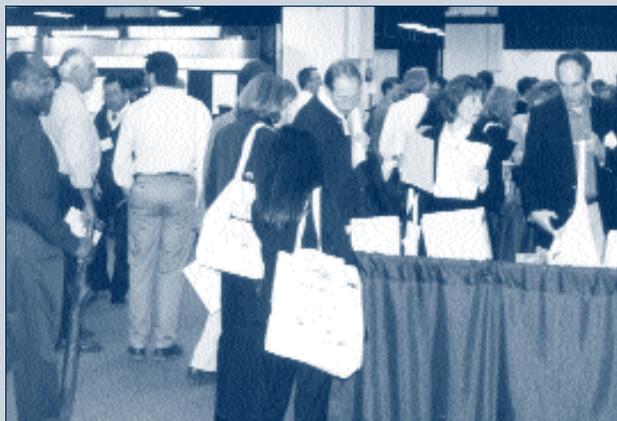
For many, it was a time to catch up with friends and colleagues, to share new ideas and experiences, to make new contacts and to entertain some fresh approaches to getting things done. A full day of sessions jointly shared by Rebuild America and Southface Energy Institute's Greenprints 2001 Conference brought a new dimension to this year's Forum.

The National Forum began with an event with a different twist. Rebuild America partner dcPlanet.org held a media event to launch a new web site for K-12 students about environmental and energy issues. U.S. Department of Energy Deputy Assistant Secretary **Mark Ginsberg** joined NBA Star **Shareef Abdur-Rahim** of the Vancouver Grizzlies, **Tom Tamblyn** of Duke Solutions, Atlanta City Councilman **Derrick Boazman**, Georgia State Senator **Donzella Jones**, **Randy Morse** of dcPlanet.org and others for the kick-off. Other Forum highlights included a lively Mardi Gras dinner event, sponsored by Allied and Corporate Sponsors, complete with door prizes provided by **Johnson Controls**. On March 14, the Energy Champion Awards luncheon put the spotlight on a new line up of community champions and their achievements.

Other highlights included a keynote address by **Kennedy Lawson Smith**, executive director of the National Main Street Center. Smith shared her pithy, insightful and often humorous observations about downtown trends and

revitalization efforts. **Christine Ervin**, former DOE Assistant Secretary of the Office of Energy Efficiency and Renewable Energy, addressed the Forum within the context of her current post as president and CEO of the U.S. Green Building Council. The Greenprints Visionary dinner on March 14 drew an audience of 700 to hear featured speaker **William McDonough**, the internationally acclaimed architect who is known for his unorthodox, creative and eco-minded approach to design challenges.

During Forum sessions, presenters, panelists and members of the audience rolled up their shirtsleeves and explored a full range of topics, from successful approaches to lighting, to how to leverage public benefits funds, to approaches to energy efficiency that work in classrooms and on campuses, and everything in between. The following images will help tell the story of the Forum in pictures. See page 6 for snapshots of The Forum. Energy Champion Awards coverage begins on page 7.



2001 National Energy Champions

Award Winning Lineup, from left back row: Mark Ginsberg, DOE; John Root, Rebuild Muscatine; Bernell Loveridge, Utah Office of Energy Services; Dan Sze, DOE/Rebuild America; and Dave Rylaarsdam, Semptra Energy Services. Front row, from left: Linda Cooper, Rebuild Alabama; Elaine Barnes and Mary McCarron, Ohio Energy Project; John Manning and Mike Sherman, Rebuild Boston; Kate Bennett, Boston Housing Authority; and Mark Mitskovski, Rebuild Niagara Frontier.

Snapshots: 2001 Forum



Jim Borland, U.S. Energy Capital, (left) and Vickie Spalding from Main Street Program, Perry, OK, celebrate having the most beads at a Mardi Gras event presented by Forum sponsors.



Aspen System Corp.'s Dennis Clough and Rebuild America's Mark Bailey.



Ford Motor Co.'s and Toyota's gas and electric hybrid vehicles created quite a stir among Forum/Greenprints attendees who checked under the hood and test drove the vehicles at Atlanta's Centennial Park.



Students from the Nur Academy with Randy Morse, back row, publisher of dcPlanet.org, a sponsor of the National Forum.



Verlinda Underwood of Rebuild Mississippi stumps magician Mark Irish.



Nick Keller, Customer Service; Ron Shelton, Oak Ridge National Laboratory; and Rich Zelinski, Rebuild America Products & Services.

2001 Energy Champion Award Winners

2001 Energy Champion Awards Roundup

The 2001 National Forum celebrated Rebuild America's National Energy Champion Award winners, recognizing partnerships and partners for their valuable contributions to improving quality of life in their communities through energy efficiency. U.S. Department of Energy (DOE) Deputy Assistant Secretary **Mark Ginsberg** presented 10 awards at the National Forum in Atlanta on March 14. Nine awards went to Rebuild America partnerships and partners, while a 10th award, the "Rebuild America Man of the Year Award," went to K-12/EnergySmart Schools Technical Advisor **Larry Schoff** for his tireless efforts and dedication to the program.

Schoff, a former director of facilities maintenance and transportation for Montgomery County in southwestern Virginia, travels extensively to build awareness of how Rebuild America can help communities address the deteriorating condition of their schools. He supports Rebuild America state representatives in their meetings with school districts and has been a featured presenter at national and regional conferences for both educational and facility



Larry Schoff and Mark Ginsberg

management associations. Schoff began his energy career with the U.S. Air Force in 1964. During his 13 years with Montgomery County public schools, he managed a \$100 million capital improvement program for renovation and new construction, including a comprehensive energy management and recycling program. His experience as a facilities manager has been invaluable in his work with Rebuild America.

Double Honors Go To Boston

Rebuild America honored both the **Rebuild Boston Energy Initiative** and the **Boston Housing Authority (BHA)** with National Energy Champion Awards. **Mark Ginsberg** presented **John Manning** and **Mike Sherman** of the Rebuild Boston Energy Initiative with the Rebuild America Partnership of the Year Award for its outstanding work in performing energy-efficiency retrofits on some of Boston's most distressed properties. **Kate Bennett** represented the Boston Housing Authority, a partner of the Rebuild Boston Energy Initiative, in accepting the Award for Energy Excellence in Public and Affordable Housing.

"Rebuild Boston has made remarkable strides in using energy efficiency as an economic development tool in hard to reach communities by improving multifamily, small



From left: Mark Ginsberg, DOE; Kate Bennet, BHA; Mike Sherman and John Manning, Rebuild Boston; Greg Davoren, DOE Boston Regional Office; and Dan Sze, Rebuild America.

commercial and institutional buildings," says Rebuild America National Program Manager, **Daniel Sze**.

During 2000, Rebuild Boston successfully completed or committed to investing more than \$33 million in improving the energy and water efficiency of 19.5 million square feet of space. The improvements affect 4,800 housing units and over 200 commercial and institutional buildings and are expected to generate \$44 million in savings for utility customers over the next 10 years, according to Rebuild Boston's Sherman.

As a promoter of energy-efficient solutions, Rebuild Boston is a key participant in research documenting and improving the relationship between energy systems and health, particularly to decrease the high rate of asthma among inner city children. In addition, the partnership has extended its scope to develop a statewide **Rebuild Massachusetts** partnership to similarly target public and subsidized housing, public schools and redevelopment districts in distressed communities.

BHA Recognized

Rebuild America honored the BHA for reaching these and other milestones in 2000:

- completing energy- and water-efficiency improvements in 2,500 apartments funded by a \$17 million performance contract that uses future energy savings to pay for energy-efficiency improvements.
- completing \$1.2 million in energy-efficiency improvements in 800 apartments.
- undertaking improvements that will result in projected energy savings of \$22 million over the next 10 years.
- substantially completing an energy- and water-efficiency master plan for BHA's 68 developments and 15,000 apartments.

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2001 Energy Champion Awards Roundup

Rebuild Niagara Frontier – Energy Excellence in Local Government Award



Mark Mitskovski

Also in the Boston Region, **Rebuild Niagara Frontier** won the Energy Champion Award for Local Governments.

Mark Mitskovski,

state representative for Rebuild Niagara Frontier and Rebuild New York's Communities, accepted the award.

Rebuild Niagara Frontier assists local organizations in applying for and receiving funding through one of its partners, the New York State Energy Research and Development Authority (NYSERDA), and aids local companies in securing research and development funding to further energy-efficiency programs and technology.

Under Erie County's leadership, the partnership has a number of projects underway. These include energy feasibility studies and the renovation of the new County Courthouse, the Buffalo/Erie County Public Library, Division of Sewage Management facilities and the Rath Building, which houses county offices. In addition, the county has worked with National Fuel Gas to develop one of the state's most successful aggregation projects to reduce energy costs through the bulk purchase of electricity and natural gas.

The partnership has also assisted two nonprofit organizations. The Upper West Art Center accessed NYSERDA's services to perform an energy feasibility study on a historic church building that is being

converted into a performing arts center. Grass Roots Middleport benefited from NYSERDA's New Construction Program in renovating a number of historic buildings that were ravaged by fire.

"We are so proud of the outstanding contributions of the Rebuild Boston Energy Initiative, the Boston Housing Authority, and Rebuild Niagara Frontier, in promoting energy efficiency and saving money by reducing building energy consumption," says DOE Boston Regional Office Director **Hugh Saussy**. "These Rebuild America National Energy Champions have successfully used energy efficiency as a tool for economic development, saving substantial energy dollars that can be reinvested in our communities."

John Root – Partnership Leader of the Year



John Root

John Root, energy services advisor at Muscatine Power and Water (MP&W) and local coordinator for the Iowa community's

Rebuild Muscatine partnership, was honored as the Rebuild America Partnership Leader of the Year for his work to improve the Iowa community through an energy-efficiency initiative known as Energize Muscatine.

Root launched Energize Muscatine in the fall of 1999 under the auspices of Rebuild Muscatine to raise community awareness about the benefits of adopting energy-efficiency measures. As part of this effort, he met with 78 business owners to explore energy-efficiency solutions for their facilities, providing data about projected energy and dollar savings

from energy-efficiency improvements. As a result, building owners implemented energy-saving measures in 25 facilities, representing nearly 750,000 square feet during the program's first year. These improvements cost \$475,000 and will result in savings of \$32,000 annually and in the avoided emissions of 12 tons of sulfur oxides and 456 tons of carbon dioxide, according to Root.

Stimulating interest in energy efficiency, both at school and home, has been another priority for Root, who reached over 1,000 students during Energize Muscatine's first year. With Root's guidance, students gained a hands-on understanding of energy efficiency and renewable energy practices and learned how to conduct simple assessments of the energy efficiency potential of their own homes. Root compiled data returned by the students and suggested improvements for each home. Students benefited by bringing home the lessons of energy efficiency, and had a chance to participate in a drawing for a baseball cap equipped with a solar-powered fan.

Prior to joining MP&W, Root was community coordinator of **Rebuild Cedar Falls (IA)** where he established the groundwork for a successful program that has implemented more than \$900,000 in energy efficiency improvements.

Ohio Energy Project – Energy Excellence in K-12 Schools Award

The **Ohio Energy Project (OEP)**, a partner of **Rebuild Ohio**, was honored with a National Energy Champion Award for its energy-saving work with K-12 schools in Ohio.

Elaine Barnes, representing Ohio's EnergySmart Schools program, accepted the award.

OEP was lauded for its Ohio EnergySmart Schools Program, which works with individual schools and school districts to develop teacher-driven, student-managed programs

Rebuild Alabama – Energy Excellence in State Partnerships Award

Rebuild Alabama has been recognized for launching the Rebuild Alabama Pilot Program (RAPP) to boost energy-efficiency efforts in Alabama communities statewide. **Linda Cooper**, state representative of the Alabama Department of Economic and Community Affairs, accepted the award for Rebuild Alabama.

In 1999, Rebuild Alabama launched a statewide program, endorsed by Gov. **Don Siegelman** to create community partnerships to implement energy-saving measures in buildings. Today Rebuild Alabama serves as the umbrella partnership for 21 local partnerships dedicated to energy efficiency.

The Rebuild Alabama Pilot Program focuses on implementing energy-saving measures within schools, hospitals and local government buildings. To date, Rebuild Alabama has helped facilitate energy-efficiency improvements in 1.5 million square feet, resulting in annual savings of \$300,000. The partnership has awarded four grants totaling \$450,000 to help its community partnerships implement energy-saving measures. (See front page story about geothermal system in Alabama school in this issue.)

Key partnership participants in Rebuild Alabama are the Tennessee Valley Authority, Alabama Gas, the National Energy Foundation, Alabama Electric Cooperative (PowerSouth), USDA, Alabama Power Company and FMS Lighting of the Southern Company.

Sempra Energy Services – Business Partner of the Year Award

Sempra Energy Services, based in San Diego, CA, was awarded the 2001 Rebuild America Business Partner of the

Year Award for its “above-and-beyond call” contributions to help local governments save money by saving energy.

Sempra Energy Services Vice President **Dave Rylaarsdam** accepted the award. Sempra

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From left: **Manny Anunike**, Rebuild Ohio/ODOD; **Mary McCarron** and **Elaine Barnes**, OEP; and **Dan Sze**.

that increase energy awareness and lead to improved energy efficiency and increased savings. Through its Rebuild America partners, OEP also assists school districts in reviewing the structural condition and energy efficiency of their school buildings. A 1995 General Accounting Office Report to Congress that ranked Ohio last among the states in terms of the structural condition of its schools has helped focus the state’s attention on the condition of its schools, according to Barnes.

OEP’s work with the Columbus and Worthington school districts helped facilitate the energy-efficiency retrofit of 11.8 million square feet of school buildings, resulting in annual energy savings of nearly \$1.5 million. With Rebuild America, the Ohio Department of Development (ODOD) and the National Energy Education Development Project, OEP launched the state’s EnergySmart Schools Program in 1999 in an effort to:

- empower students and teachers to help design their learning environment
- save dollars by saving energy through behavior modification
- improve student performance in state science learning competencies
- encourage school districts to improve building energy efficiency through teacher and student leadership and research

OEP is engaged in a number of activities aimed at increasing teacher and student awareness of the importance of energy efficiency to their school and to their community. The energy workshops it presents to teachers and students are designed to equip students with the skills and knowledge they need to pass the science portion of the required Ohio proficiency tests. Using OEP activities, teachers can meet over 50 percent of the 4th, 6th, and 9th grade Science Proficiency Learning Outcomes, according to Barnes.

“Energy and related topics cover a large portion of the science learning outcomes and our materials have become valued tools to teachers,” she notes.

Ohio EnergySmart Schools has grown from a pilot project designed to complement building energy retrofits to a strategic program that is replicable and sustainable statewide, Barnes says.



Linda Cooper and **Dan Sze**



From left: **Dave Rylaarsdam**, **Dan Sze** and **Mark Ginsberg**

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2001 Energy Champion Awards Roundup



Jan Malone, Dan Sze and Mark Ginsberg

Sempre audited city buildings, identified and implemented effective energy-saving measures, and verified the energy savings. Improvements included the installation of energy-efficient lighting to police stations, fire stations, park buildings, community centers, shelters and other facilities. The historic California Building was fitted with an energy management control system, allowing the city to centrally monitor and control the building's temperature. Mechanical systems and controls were also part of the retrofit project.

"Sempra believes in raising the bar on technologies that dramatically improve energy efficiency and the bottom line," said Rylaarsdam. "This meant using advanced controls and other cutting edge technologies not typically found in projects of this sort."

Hotel Alice – Energy Excellence in Commercial Buildings Award

Hotel Alice in Ellisville, MS, a partner of **Rebuild Mississippi**, was honored with a Rebuild America Award for Energy Excellence in Commercial Buildings. Hotel owner **Jan Malone** accepted award. Malone and her husband Eddie, with assistance from Rebuild Mississippi, successfully met the challenge of incorporating energy-efficiency best practices into the renovation of a historic building.

Built in 1902, Hotel Alice stood abandoned before the Malones recognized its potential and began to transform the aging structure into a three-story, bed-and-breakfast inn with a restaurant and coffee shop. The hotel renovation brings new life to a depressed area of town, notes **Mel Powers**, Rebuild America advisor to Hotel Alice and Rebuild Mississippi.

"The building maintains its charm and historical features, making it a landmark in the community," Powers says. "It also serves as a catalyst for further community economic development in the community and Jones County."

When Hotel Alice became a Rebuild Mississippi partner in March 2000, the Rebuild Mississippi team sprang into action, performing technical analyses on the exterior, lighting, windows, plumbing, gas and electric systems, heating and cooling systems, roofing and insulation, and made numerous

was lauded for its role in retrofitting 759,000 square feet of city government office space for the **City of Reno, NV** partnership.

recommendations for improvement.

Approximately \$350,000 in private investments needed to complete the retrofits has already yielded significant savings for the hotel, which also serves as a meeting place for conferences, receptions and a variety of community activities. Utility bills for the business are proving to be 50 percent less than that of comparable enterprises in the area, notes Powers.

Rebuild Mississippi is led by the Mississippi Department of Economic & Community Development, which is committed to using energy-efficiency improvements to buildings as a tool for economic revitalization in Mississippi communities.

University of Utah – Energy Excellence in College and Universities Award

The **University of Utah**, a partner of **Rebuild Utah**, was honored for making sweeping improvements to buildings campus-wide in an effort to save energy and dollars.

Bernell Loveridge, energy efficiency program manager of the Utah Office of Energy Services, accepted the award on behalf of the University.

The University of Utah, which has a student population of about 26,000, has committed to implementing \$44 million in energy-efficiency improvements throughout its 294-building campus. The campus has a number of 30- to 40- year-old buildings that were saddled with inefficient equipment for heating, cooling, lighting and water use. The University is already saving \$3.2 million in annual energy costs with four of five phases completed.

The University is using energy savings from this campus-wide retrofit to build a new high-temperature hot water and chilled water plant to service the upper campus – something that was impossible without the partnership, notes **Mike Glenn**, director of the Utah Office of Energy Services and Rebuild America adviser to the University of Utah.

To fund the energy-efficiency improvements, the University embarked on an innovative financing solution by partnering with Viron Energy Services, an energy services company. As a project partner, Viron financed the project and managed the construction and retrofit of the campus, and provided a savings guarantee to the University.

Glenn points out one of the greatest benefits of this project is the timing, noting that the retrofits were almost completed as the California energy crisis began to cross into Utah. With the improvements, the University is seeing substantial savings in avoided costs, thus enhancing the payback on the entire project while contributing to lower electrical demand.



Bernell Loveridge

A Salute To Our Energy Champion Nominees

Rebuild America's Energy Champion Award nominees are at the forefront of community efforts to improve quality of life through energy efficiency. Look for more information about some of them on the Rebuild America web site: www.rebuild.org. The following provides an at-a-glance view of our nominees' activities:

Choanoke Area Development Association, Inc. (CADA) and the City of Woodland, NC, retrofitted the 12,500 square-foot Woodland-Olney School (a national historic landmark) and adapted it for use as low-income senior citizen housing. The renovation resulted in 30 energy-efficient apartments all utilizing ENERGY STAR® appliances. Many seniors benefiting from this project are also former students of the school.

Chuck Crabtree has been leading **Rebuild Grundy (VA)** in many important projects as the town relocates its downtown out of a flood-prone area to safer ground. Currently, 133,000 square feet are under redevelopment including the retrofit of some downtown buildings. The total investment for the project is \$160 million, and the ultimate savings are projected to be over \$177 million.

The City of Kettering (OH) used technology to provide a working role model for energy efficiency and reduced energy costs. Technologies included monitoring electrical usage on-line to managing "real-life" usage patterns, retrofitting 250,000 square feet with energy-efficient lighting and installing variable frequency drives for air handling equipment.

College Station Independent School District (TX), with assistance from Rebuild America partner Texas A&M University and Texas Energy Engineering Services Inc., has financed \$1.5 million of its capital improvement work through Rebuild America. Its schools have new HVAC equipment and controls, better lighting, and more comfortable temperatures and are saving \$183,000 in energy costs annually.

Hawaiian Electric Company, Inc. has trained 50 high school students in basic energy concepts, energy auditing, public relations and business aspects of energy conservation. The partnership also assisted students in determining low cost/no cost energy measures in their homes. Current retrofits being pursued throughout the school district are expected to conserve 103,000 kWh per year.

Housing and Community Development Corporation of Hawaii (HCDCH) Annual savings for the HCDCH retrofits and conservation measures applied to new construction are estimated to be more than 100,000 kWh. Each unit uses about 4,000 kWh, or 42 percent less than the average Oahu household, depending on household energy usage patterns.

Jason Davis successfully leads the **Alabama Power Company** partnership, which has retrofitted over 1 million square feet for Boards of Education in Marengo, Greene, Midfield and Chilton counties. Total annual energy savings from these projects is \$631,000.

Kingston School District in Kingston, NY has upgraded its 1.2 million square feet of school space with T-8 lighting and digital energy management. Efficient pulse boilers heat 400,000 square feet while new energy efficient windows have been installed in 250,000 square feet. The avoided emissions resulted in significant reductions of carbon dioxide, sulfur-dioxide and nitrogen oxides.

The Murfreesboro Library in North Carolina, is now equipped with the latest technology in lighting, heating and air conditioning. It was re-bricked and insulated to increase energy efficiency, reduce operating costs and improve the environment for both customers and employees.

Peter Alexander's successful leadership of **Rebuild New Mexico** has led to additional partners representing 30 million square feet of building space. Through his energy assessments of both public and private buildings and education of building owners and managers about best energy-efficiency practices, he continues to develop a solid energy-efficiency program.

Poudre School District of Fort Collins, CO, encompasses 42 schools and is among the first in the nation to establish comprehensive design guidelines for the construction of new energy-efficient schools. Benchmarking and retrofit projects earned four schools the DOE/EPA ENERGY STAR® label.

Rebuild Duke University Facilities introduced recirculation technologies to already compliant fossil-fueled power generating facilities and reduced NOx emissions by more than 42 percent – equivalent to reducing the emissions from 80 million passenger vehicle miles per year and offsetting the heavy volume of commuter traffic in the area. Carbon monoxide emissions were reduced by nearly 13 percent and particulates by nearly 56 percent.

Rebuild Mississippi actively recruited community partnerships and provided technical assistance and training through the Mississippi Development Authority. They are working with groups such as the Choctaw Indian Nations to conduct initial audits, and reaching out to communities in the Mississippi Delta through the National Black Mayors Conference.

The Rebuild New York's Communities/NYSERDA program has formally established three regional partnerships in addition to servicing existing New York partnerships. Rebuild New York's Communities is serving as a gateway to access a wide variety of energy-efficiency programs available.

The South Carolina Energy Office has developed **Rebuild South Carolina** partnerships to bring the benefits of energy efficiency to public agencies and school districts. Energy audits have been completed for the Charleston County School District, Lexington School District 4, the town of Ware Shoals and the University of South Carolina, Spartanburg.

The Roanoke Chowan (NC) partnership is involved in seven projects representing over 500,000 square feet in energy retrofits with over \$200,000 of public and private funds invested. More than 120 buildings have been targeted for potential retrofits.

Texas A&M University's Energy Systems Laboratory, in partnership with the Brazos Valley Energy Conservation Coalition, launched a Continuous CommissioningSM program to help control campus utility costs. To date, \$3.1 million has been invested in the energy retrofit of 5.2 million square feet. Measured chilled water, hot water, and electricity savings currently exceed \$12 million cumulatively.

Ted Alexander is leading **Rebuild Shelby, NC** in the process of retrofitting 21 public and commercial buildings which represent over 233,200 square feet. The project is in its beginning phases.

Sarnafil Roofing of Canton, MA, a Rebuild America Business Partner, is working with several partnerships to formalize contracts and upcoming projects. These projects will help Rebuild America and its Business Partners improve the level of support available to community partnerships.

Warwick Public Schools and the City of Warwick (RI), this partnership streamlined energy conservation throughout the community. Annual savings from the retrofits has exceeded \$260,000 – a difference of almost 16 percent. The energy savings of over 489,534 kWh in 12 months equals the reduced emissions of 103 automobiles removed from the highways annually.

Washington State Department of General Administration (GA) was able to incorporate over \$40 million worth of retrofits for clients with little or no capital through performance contracting, allowing Washington to adopt energy-efficiency measures with minimal expenditure of capital. Their broad scale energy audits in state buildings identified potential cost-savings measures resulting in annual savings of \$5 million.

Wausau School District (WI) surveyed the physical plant for the district and implemented retrofits which have produced substantial savings. Annually, the district is conserving 418,907 kWh of electricity and 66,300 therms of natural gas.

Wichita Falls Independent School District in Texas has retrofitted over 1.4 million square feet, providing annual savings of approximately \$295,000. (See story on back page of this issue.)

Wisconsin K-12 Energy Education Program (KEEP) program provides teachers with training and materials to integrate energy education in their classrooms, improving energy literacy. They have reached over 1,300 teachers throughout the state – 96 percent of whom would recommend the program to colleagues. Over 40,000 students have benefited from the curriculum.

Upcoming Events

MAY

7-9

Denver Peer Exchange, Hyatt Regency Austin at Spring Lake, Austin TX. For more information, visit the Rebuild America website or contact Sherry Sykes at ssykes@aspensys.com

9-11

Ninth National Conference on Building Commissioning (the Cherry Hill Hilton) Cherry Hill, NJ. Learn more about the conference at www.peci.org/ncbc

8

Improved Plant Performance with Steam Best Practices, San Diego, CA, in conjunction with the West Coast EMC 2001 Symposium and exhibition on May 9 & 10, 2001. For more information, call Aleceia Cox at 310-549-9962

22-24

Redefining Deregulation, 2001 Mid-Year Conference (the Hyatt Regency Crown Center) Kansas City, MO. Learn more at www.naesco.org

JUNE

3-6

New Horizons – Solutions for the 21st Century, Kansas City, MO
Visit the department of Energy's website at www.energy2001.ee.doe.gov

To submit news or story ideas, contact:

Elise G. Rand, 202-466-7391, or email erand@pcgpr.com

Wichita Falls School District Commended



Rebuild America Program Representative Mike Myers presents Dan Shelton, Wichita Falls (TX) Independent School District facilities director, center, and Skip Alderman, energy manager, with a recognition certificate for their energy-saving efforts in schools.

The **Wichita Falls (TX) Independent School District (ISD)** was honored February 19 by Rebuild America for making energy improvements to 1.4 million square feet in the school district and realizing annual savings of \$293,000.

Rebuild America Program Representative **Mike Myers** presented Wichita Falls ISD School Superintendent **Connie Welsch**, Facilities Director **Dan Shelton** and Energy Manager **Skip Alderman** with recognition certificates for completing a district-wide energy improvement program.

"The success in Wichita Falls is a prime example of how a mid-sized school district can save energy and improve building performance," says Myers.

In 1997, the school district, which represents 29 public schools – mainly pre-schools and kindergartens – began to identify energy equipment upgrades and improvements needed to increase efficiency and reduce costs. The school district worked with **Rebuild Texas** and **Texas A&M** University's Energy Systems Laboratory, led by **Bahman Yazdani**, to upgrade lighting and HVAC systems and install energy management systems.

The schools have also qualified for the ENERGY STAR® Label for Buildings. Texas A&M is continuing to monitor the school district's energy performance.

For more information, contact Mike Myers at mt4myers@aol.com.

Check Us Out: www.rebuild.org 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 where they live, work and play 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, expanding on community-focused activities of the Office of Building Technology, State and Community Programs.



High Performance BUILDINGS

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