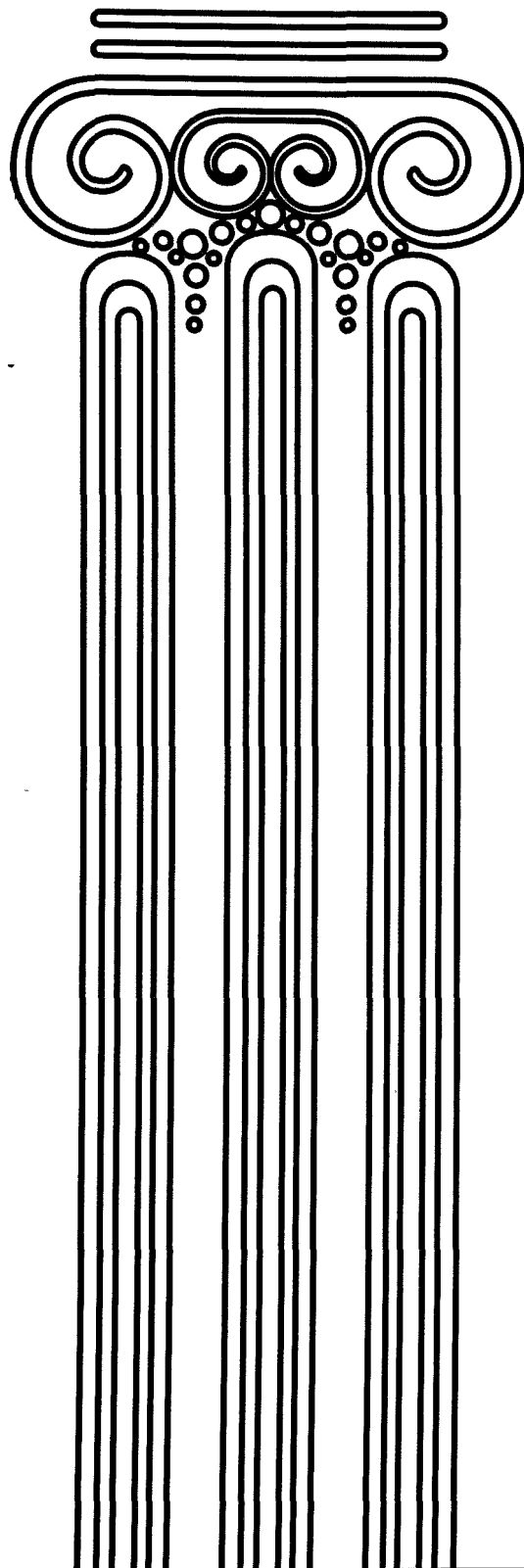




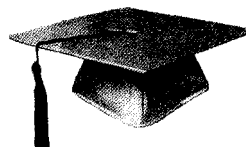
ENERGY STAR® Buildings & Green Lights® Update



OUR SCHOOLS AND UNIVERSITIES HAVE MADE THE GRADE



1997 Honor Society



School Success Stories



Financing Tips for
Schools and Universities

U.S. Environmental Protection Agency
Region VII
Information Resource Center
901 N. 5th Street
Kansas City, KS 66101

1997 HONOR SOCIETY

Making the Grade

ENERGY STAR® Buildings and Green Lights® recognize outstanding schools and universities through the 1997 Honor Society

These days, students aren't the only ones graduating with honors. Schools and universities are making the grade as well by increasing the efficiency of their buildings. The following schools are doing just that, and we are proud to welcome them to the 1997 ENERGY STAR Buildings and Green Lights Honor Society.

Schools and universities represent 24 percent of EPA's ENERGY STAR Buildings and Green Lights participants. The Honor Society was established to recognize school and university Partners who have gone the extra mile to succeed in their energy-efficiency strategy.

In today's environment of reduced budgets and deferred maintenance, these schools realize the benefits of energy efficiency.

These 55 K-12 schools and 87 universities have been especially proactive when it comes to completing and reporting energy-efficiency upgrades. As a group, these schools reported upgrades on more than 55 million square feet of space to qualify for the 1997 Honor Society. EPA is particularly proud of the 57 who have completed their Green Lights upgrades. Many of these schools have gone on to join ENERGY STAR

Buildings and are beginning to implement building-wide upgrades. Overall, Honor Society schools are saving over \$37 million annually and preventing more than 606 million pounds of carbon dioxide emissions, all while maintaining or improving the comfort of their facilities.

Energy efficiency is a perfect solution for schools that are looking for ways to save money and improve the campuses for their students.

The 1997 Honor Society consists of a diverse group of schools. Some have been with the ENERGY STAR Buildings and Green Lights Program for years, others have recently joined. Many are large schools with multiple campuses, others are smaller, single-building facilities. Despite these differences, all of these schools face the same challenges: competing resource demands, tight budgets, deferred maintenance and growing student populations. At the same time, Honor Society schools also share a desire to cut costs, improve their facilities, and reduce air pollution. Improving energy efficiency allowed these schools to meet these challenges while successfully reducing energy use, saving money, and improving the comfort of their facilities.

The common link among all these schools is their proactive approach toward energy efficiency.

It's not always easy to recognize the opportunities available from energy efficiency. Honor Society schools have found a way to work around the obstacles unique to schools and universities. They have utilized ENERGY STAR Buildings and Green Lights to their benefit—by getting information about financing options, service providers, latest proven technologies, planning guidelines, and software tools.

The key to being an Honor Society member is excellence.

The University of Missouri at Columbia, University of Cincinnati, and University of Rochester have all won the ENERGY STAR Buildings and Green Lights Partner of the Year Award. And for good reason: Missouri's pilot building upgrade showed a reduction in energy costs of more than 60 percent. The University of Cincinnati has saved more than \$1 million as a result of its energy upgrades. And the University of Rochester used students to perform many lighting upgrades in school facilities and encouraged them to suggest other ideas for energy savings.

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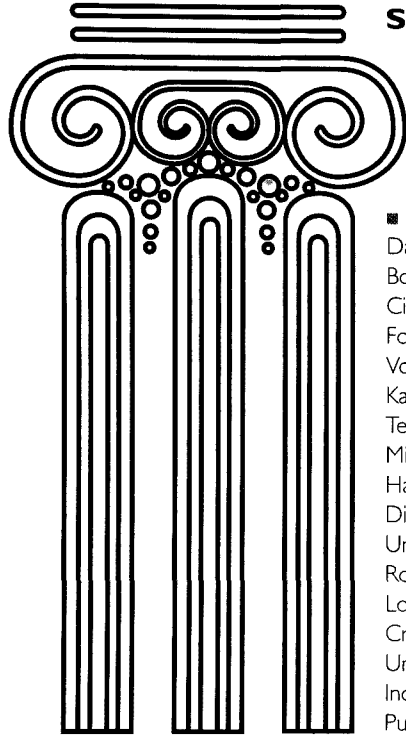
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The ENERGY STAR Buildings & Green Lights Update is a free quarterly publication with a circulation of more than 50,000. Recipients of the Update include: ENERGY STAR Buildings and Green Lights participants, program prospects, members of Congress, and interested members of the general public. **Receipt of this publication is not an indication that your organization is a participant.** To add your name to the subscription list, or to find out how to join the ENERGY STAR Buildings or Green Lights Programs, call the toll-free ENERGY STAR/Green Lights Hotline at 1-888-STAR-YES (1-888-782-7937).

Although publication of all submissions is not guaranteed, the Update encourages Partners, Allies, and Endorsers to submit articles of interest and to provide input for future issues. Please keep in mind that EPA seeks only to promote energy efficiency and does not endorse any particular product or service. If your organization would like to submit material for publication in the ENERGY STAR Buildings & Green Lights Update, please send materials to: Update Editor, 401 M Street, SW, (6202), Washington, DC 20460; or fax to 202-233-9578.

1997 ENERGY STAR Buildings and Green Lights Honor Society

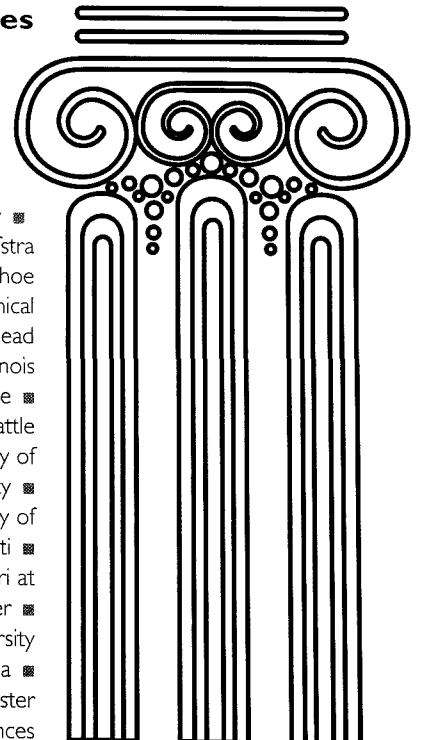


Schools

Academy School District-20 ■ Alamance-Burlington School System ■ Alexandria City Public Schools ■ Ann Arbor Public Schools ■ Anne Arundel County Public Schools ■ Arlington Public Schools ■ Baltimore County Public Schools ■ Boulder Valley Public School District ■ Brevard County Schools ■ Burk Burnett Independent School District ■ Central Consolidated School District-22 ■ Cibola County Schools ■ Clark County School District ■ Corpus Christi ISD ■ Cumberland County Schools ■ Dallas Independent School District ■ Davenport Community School District ■ Dayton Board of Education ■ Defiance City Schools ■ East Maine School District-63 ■ Fairfield City School District ■ Fairmont School District ■ Fayette County School District ■ Fontana Unified School District ■ Fremont Unified School District ■ Haywood Vocational Opportunities ■ Huntsville City Schools ■ Independence School District ■ Kansas City Public Schools ■ Lodi Unified School District ■ Marion County Schools of Tennessee ■ Mecklenburg County Public Schools ■ Milpitas Unified School District ■ Minneapolis Public Schools-Special District-1 ■ Murray City Schools District ■ New Hampshire School Admin Unit 51 ■ New Riegel Schools ■ Norristown Area School District ■ Oak Grove School District ■ Osceola County School District ■ Pajaro Valley Unified School District ■ Palm Beach County School Board ■ Portland Public Schools ■ Rochester Community School Corp, Indiana ■ Roseville City School District ■ Saint Louis Public Schools Board of Education ■ San Diego Unified School District ■ Santa Cruz Valley Union High School District ■ Sarasota County School Board ■ Saugus Union School District ■ Sevier County School District ■ St. Mark's School ■ St. Paul Independent School District-625 ■ Waseca Independent School District-829 ■ Wichita Public Schools Unified District-259

Universities

Adelphi University ■ Babson College ■ Barry University ■ Beaver College ■ Belmont University ■ Bentley College ■ Bluffton College ■ Buffalo State College ■ California State University System ■ Central Florida Community College ■ Chabot Community College ■ City University of New York ■ College of DuPage ■ College of the Mainland ■ College of the Redwoods ■ Colorado State University System ■ Connecticut College ■ Contra Costa Community College District ■ Corcoran Gallery & School of Art ■ Delaware State University ■ Duke University ■ Earlham College ■ Elizabethtown College ■ Fisk University ■ Florida International University ■ Gwynedd-Mercy College ■ Harrisburg Area Community College ■ Hofstra University ■ Indiana State University ■ Kennesaw State University ■ Kent State University ■ Lake Tahoe Community College ■ Las Positas College ■ Los Angeles Valley College ■ LSU Agricultural & Mechanical College ■ Maryville College ■ Massachusetts Institute of Technology ■ Medical College of Ohio ■ Morehead State University ■ North Carolina State University ■ Northeastern Illinois University ■ Northern Illinois University ■ Norwich University ■ Ocean County College ■ Ohio State University ■ Pasadena City College ■ Radford University ■ Rice University ■ Rochester Institute of Technology ■ Rutgers University ■ Seattle University ■ Southern Oregon University ■ Southwestern College ■ Stanford University ■ State University of New York at Stony Brook ■ Toccoa Falls College ■ Tufts University ■ U.S. Uniformed Services University ■ Union College ■ Unity College ■ University of Alaska-Anchorage ■ University of Arizona ■ University of California-Berkeley ■ University of California-Davis ■ University of Chicago ■ University of Cincinnati ■ University of Georgia ■ University of Miami ■ University of Minnesota-Twin Cities ■ University of Missouri at Columbia ■ University of North Carolina-Charlotte ■ University of Redlands ■ University of Rochester ■ University of San Diego ■ University of South Carolina-Spartanburg ■ University of South Florida ■ University of Southern Maine ■ University of Texas Health Science Center ■ University of the Arts at Philadelphia ■ University of Virginia ■ Vermont Law School ■ Wake Forest University ■ Warren Wilson College ■ Webster University ■ West Chester University ■ Westminster College ■ Yale University-Arts and Sciences



SUCCESS STORIES

Smart Schools

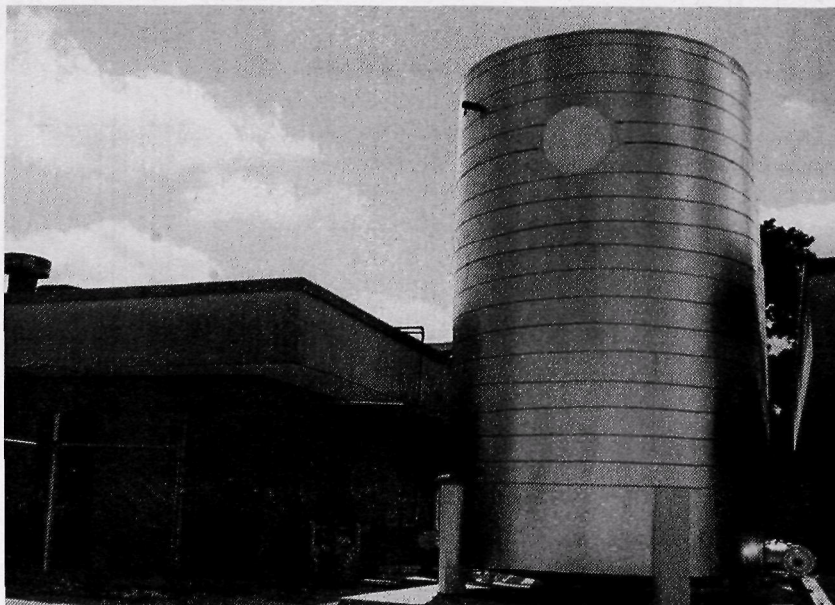
School and University Partners learn that energy efficiency makes smart business sense

Florida International University

As the first Florida public university to join the ENERGY STAR® Buildings Program, Florida International University (FIU) saw the potential of total building energy efficiency early on. FIU's Green Lights® Implementation Director Juan Carlos Abril hails the program as a way to look at "all of the pieces of the puzzle of a building's energy use." He figures that the University saved over \$60,000 in its first year of its energy performance contract, despite increases in student enrollment, energy demand, and energy rates.

Besides pollution prevention from its energy-efficiency improvements, Florida International University helps its community by sharing its energy-efficiency knowledge. Through the Energy Conservation Assistance Program (ECAP), FIU offers local small businesses free energy surveys and sets up energy audits and loans. Abril, who is a former director of the program, emphasizes that "[ECAP] really helps the community" by saving money and reducing pollution through greater energy efficiency. Businesses only have to look next door to see FIU's success with energy efficiency.

A new chiller was installed at Hogg Middle School in the Houston Independent School District.



Florida International University in Miami, Florida.

Houston Independent School District (Texas)

Houston Independent School District (HISD) recently completed energy upgrades in 39 school facilities. This project, led by Rene Truan of HISD, had a goal to reduce utility costs, maintain or improve comfort, and replace very old and inefficient cooling equipment with high-efficiency equipment at no net cost to HISD. The District upgraded its facilities through stages: lighting systems, energy management systems, variable speed drives (VSDs), and new pumps. New chillers and thermal storage systems were also installed. The combination of load reductions, savings from other energy-efficiency measures, off-peak rates for nighttime consumption, and rebates from Houston Lighting and Power created enough energy savings to pay for these improvements. Two local energy service companies (ESCOs) were hired to install the projects and to guarantee the savings—23.5 million dollars over a 10-year period. Other benefits to HISD include the elimination of 32 aged cooling towers, four gas absorption systems, and 20,000 PCB-laden ballasts.

Lodi Unified School District (California)

Lodi Unified School District in central California used the ENERGY STAR Buildings Program's five-stage strategy to reduce heating and cooling loads prior to major mechanical upgrades. This approach provided immediate savings and has helped fund the upgrades. To date, the district has upgraded 80 percent of its 41 facilities, resulting in an annual energy bill savings of nearly \$192,000 and electricity savings of 1.9 million kilowatt hours. Annually, these energy savings are equivalent to the pollution prevented by planting 263 acres of trees per year.



Lodi Unified School District in Lodi, California.

Tulsa Public Schools (Oklahoma)



Tulsa Public Schools (TPS) joined the ENERGY STAR Buildings Program in April

1997 looking to become more energy efficient, reduce operating costs, and provide a better learning and teaching environment. Les Pace, of CEMC Inc., oversaw a pilot lighting upgrade project in one school building to determine if ENERGY STAR Buildings would achieve these goals for the school system. In the pilot school, all 2x4 light fixtures containing four incandescent lamps and two ballasts were upgraded to contain two compact fluorescent lamps and one electronic ballast. The high output fluorescent strip fixtures in the gymnasium were replaced with Biax High-bay fixtures. The upgrades improved lighting quality markedly, and both the teachers and students appreciated the greater vibrancy of floor, wall, and banner colors. Maintenance staff were equally elated—in more than a year, only three lamps and one ballast needed replacement. The lighting upgrade project's energy savings of 57 percent will have paid for itself by October 1999. Based upon this success, Tulsa Public Schools has committed 94 facilities to ENERGY STAR Buildings, of which 6.5 million square feet will undergo total evaluation and upgrade of controls, heating, cooling and ventilating equipment (HVAC), lighting, and building envelopes.

Cumberland County Schools (North Carolina)



Energy efficiency is an important subject in the Cumberland County Schools. In addition to the energy-efficiency measures that the school district applies to its buildings resulting from Green

Lights, energy education is stressed among students, teachers, and staff.

A prime example of how Cumberland County Schools includes everyone in its effort to get out the message about energy efficiency is its ongoing Energy Awareness Campaign. This effort includes displays, flyers, posters with energy-savings tips, and even an incentive plan to further encourage facilities managers to upgrade their buildings. This Energy Incentive Plan helped Cumberland County Schools save \$608,000 in energy costs last year.

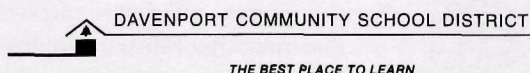
Energy Coordinator Kathy Miller said that the resulting enthusiasm toward energy efficiency is remarkable. "Our electrical staff is eager to change every inefficient light in the school system, our custodial personnel are assisting us with building surveys, and many of our educators are whole-heartedly supporting energy conservation by implementing a school plan."

Delaware State University

Delaware State University has discovered the green in Green Lights® and in energy efficiency. The University recently completed several phases of upgrades improving its lighting and installing an energy management system. As Assistant Vice President for Facilities Ronald Phillips asserts, "These measures together showed us \$420,000 of savings in the first six months."

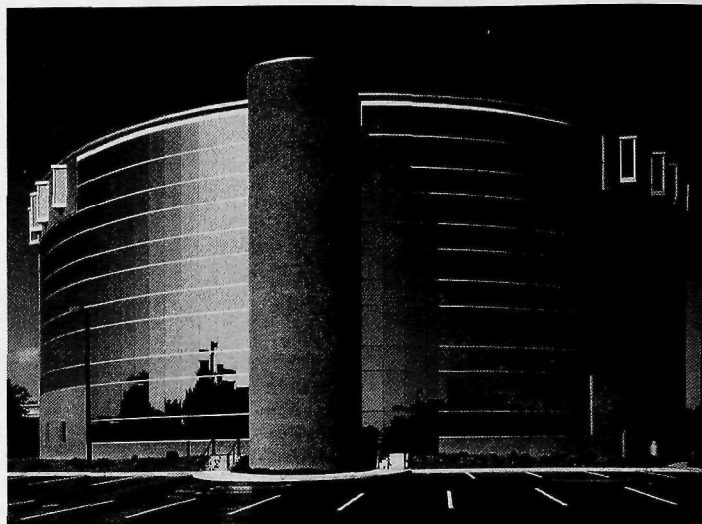
Despite these impressive savings, the University is not finished with its energy-efficiency improvements. Delaware State is now working with Honeywell to upgrade and replace the boiler and chiller systems in four of its buildings. Phillips estimates that the upgrades, some of which will replace boilers more than 30 years past their life expectancy, will save \$500,000 a year. Because the University is state supported, the new upgrades will focus on "revenue-raising" buildings or dormitories. This emphasis, and the assistance from Honeywell, will ensure that Delaware State can fund its energy-efficiency investments.

Davenport Community Schools (Iowa)



Students, teachers, and staff all see the light of energy efficiency in Davenport Community Schools. Davenport was the first school district to join and complete the Green Lights Program, and ranks 11th of all nationwide school districts for the prevention of air pollution. Director of Support Services Bill Good predicts that the upgrades made so far will result in a district-wide savings of \$250,000 to \$300,000 annually.

Upgrading the lighting in 40 facilities was a huge task for the school district, which Good estimates cost \$1.8 million. Davenport Community Schools was assisted by its local utility, Mid-American Energy, with \$280,000 in rebates for the new light fixtures, ballasts, and LED exit signs. There was an unexpected benefit of the lighting upgrades: stocking the improved fixtures has become much easier. Only eight types are needed for the whole district, while 65 were needed previously. The maintenance staff also enjoys the longer life of the fixtures, which require fewer replacements.



Delaware State University in Dover, Delaware.

Maricopa County Community College District (Arizona)

Maricopa County Community College District Green Lights upgrades will save money for itself and for the local taxpayers. With the assistance of Green Lights Ally Parke Industries, Maricopa just completed lighting upgrades for 12 campuses, more than 3.1 million square feet of facility space. Manager of Facilities Planning and Development Arlen Solocheck estimates that the District is saving 4.5 million kilowatt-hours (kWh) a year from its lighting upgrades. This translates into a reduction of about \$450,000 a year in energy costs.

"We converted to lighting which provided a more natural lighting spectrum and, at times, experienced the old

Mesa Community College in Mesa, Arizona is part of the Maricopa County Community College District.



alongside the new," said Solocheck. "Employees and students could actually see the difference in color. We received a very favorable reaction from that, along with the added benefit of the energy-saving occupancy sensors Parke Industries installed."

Yale University (Connecticut)



As an Ivy League school, Yale University is accustomed to overcoming challenges. It is no surprise then, that nothing has been able to slow this Green Lights Partner's efforts to improve its energy efficiency.

The highly-admired Gothic-style architecture of Yale's dormitories and classroom buildings proved a technological challenge to lighting upgrades. While most facilities can replace conventional incandescent bulbs and ballasts with more efficient compact fluorescents and ballasts rather easily, Yale had to send some of its original fixtures to lighting manufacturers to custom design energy-efficient replacements.

By overcoming these challenges, Senior Energy Conservation Engineer Paul Francis estimates that Yale has reduced its energy demand by about 11 million kWh through the 5.8 million square feet it has upgraded so far.

University of Virginia

The University of Virginia (UVA) is a winner in the race for energy efficiency. Last year, the University won the bronze medal at the Green Lights Summer Games. Although the Summer Games are over, UVA's commitment to energy efficiency is not slowing down. Energy Program Manager Anthony Motto attests that the goal is to upgrade 300,000 to 400,000 square feet each year. UVA's progress is impressive—it is nearing the 30 percent mark for upgrades made so far.

UVA is also active in promoting energy efficiency around campus. The energy-efficiency newsletter, "Watts Happening," is published monthly to raise awareness, and the University is gearing up for its third annual Energy Awareness Days—a two-day energy-efficiency fair complete with electric cars, recycling tips, and energy vendors. At UVA, the message is clear: everyone is a winner with energy efficiency.

Vermont Law School

VERMONT LAW SCHOOL



Even those organizations who have already begun upgrading their lighting can benefit by joining the Green Lights Program. That's what Physical Plant Director John Delemarre of Vermont Law School discovered. "We began about four years ago through incentives from our local utility," said Delemarre. "When I heard about the Green Lights Program, I thought, why not?" Delemarre said that he has learned a lot from the program and has also taken advantage of the technical assistance and publicity the program provides.

Although the School has only been in the program for about a year and a half, Vermont Law has already received its recognition certificate for completion. And the upgrades are not stopping. Environmental impacts are a major consideration as construction of a new classroom building begins. The new building will incorporate motion sensors not just for lighting, but also to control the heating and cooling of the building. Daylighting will also be included wherever it is feasible. After the new classroom building is completed, Vermont Law will continue its commitment and will upgrade the Chase Community Center. ■

The University of Virginia in Charlottesville was recognized for its participation in the 1996 Green Lights Summer Games.



TIP OF THE MONTH

Deferred Maintenance Solutions

How schools and universities can creatively fund building upgrades

School districts and universities face the same concern as administrators and facility managers who grapple with the overwhelming issue of what to do with aging physical plants and the increasing debt burden that many institutions face. During the past 15-20 years, routine expenditures to repair and renew an institution's physical plant were deferred with the thought in mind that they could "catch up" once better financial times returned. Only now are these administrators starting to address these issues as they attempt to rebuild, remodel, and restore their facilities. The dramatically changing fiscal and technological landscape is compounding the deferred maintenance issue and bringing to light an urgency for strategic planning. The ENERGY STAR® Buildings Program offers a proven strategy that not only addresses this issue but can help institutions create additional energy and dollar savings.

Our nation's school and university systems have monumental internal utility infrastructure needs. Most school systems installed air-conditioning in the 1960s and 1970s. Central plant equipment in many school systems is 20-30 years old and has outlived its useful life. Lacking the necessary funds to replace this aged equipment has constituted a crisis for many of our nation's schools. Estimates place the national cost of the deferred maintenance problem at \$112 billion.¹

The central plant equipment deficiencies relate to both continuing growth and deferred maintenance concerns. A major component of the utility services budget is devoted to energy procurement and utility systems operations and maintenance. In only a few private, and even fewer public, institutions are capital replacement and depreciation funds treated as explicit budget line items. The consequence of this failure to acknowledge the capital renewal and depreciation requirements is a systematic failure to account for the real

economic costs of the utility service and energy delivery system.

The ENERGY STAR Buildings Program can create sufficient energy savings to pay for the upgrades without additional out-of-pocket budget dollars. In addition, by following this profit-driven strategy, institutions can significantly reduce the first costs of replacement equipment and enhance the learning environment. For many school districts the question becomes "that sounds great, but where do I get the budget dollars?"

Creative Funding

Beyond traditional funding approaches to energy efficiency there are some creative opportunities for school administrators to consider. The most common are lease-purchase performance contracting and revolving funds. Newer approaches are being offered by quasi-utilities or companies that provide more than traditional energy service company (ESCO) or utility services.

Performance Contracting. This type of approach can be performed on a lease purchase or shared savings basis. In either case, the savings from the energy efficiency measures should save more than the cost of the new systems. This includes the cost of audits, capital, financing, monitoring, and any maintenance contracts. The savings are guaranteed by the ESCO.

There are a few important points to remember before entering into a contract with an ESCO:

- All savings should be calculated and tracked based on the actual rate structures in which the school district is billed. Using an average cost per kWh method to report savings in this manner may cause an incorrect use of demand (kW) and consumption savings (kWh) and lead to a possible shortfall in real savings dollars. Jack Shanks, Superintendent of Dayton Independent School District, Dayton, Texas, has been involved in three different performance contracts during his career. He coined the phrase that has become the mantra of many school boards across the country, "I pay my utility bill in *real* dollars and I want energy savings in *real* dollars."

- A proactive approach to monitoring and verification is necessary. Establishing an information feedback loop regarding environmental conditions allows the energy manager to further tighten the operating system and gain additional savings.

Shared Savings. This method can reduce the risk of large-scale energy-

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¹ Rebuilding America's Schools, School Planning and Management, January 1997.

TECH TALK

School Bonding and ENERGY STAR® Buildings

A solution to the deferred maintenance problem

As the deferred maintenance problem grows in the United States, school administrators are looking for funding mechanisms to solve this staggering problem. Frequently, school districts use school bonds to pay for major upgrades within a school or to build new schools. Many administrators consider bonds a risky proposition due to the voter action required. Other administrators worry that the public may interpret the need for a bond to be a failure on the part of the administration to properly manage the district's financial resources. To avoid the risk of having a bond vote defeated at the polls, many school districts bundle deferred maintenance items into a bond election that includes new school construction projects. This can be an unpopular method with the voters.

The voters may want to support new school construction, but may feel justified in voting the measure

down because it includes deferred maintenance items that they don't support. To gain voter support for your bond, there are several factors that need to be addressed:

- Real need has to be demonstrated to the public. Examples may include out-of-date technology or lack of essential heating or cooling.
- Public opinion must be formulated in a positive way.
- The community must see the problems and corresponding solutions as part of their vision.
- The bond strategy must address the impact on existing budgets.

ENERGY STAR® Buildings Can Help

As buildings age, the mechanical systems necessary to provide an adequate learning environment deteriorate

as well. This is especially important because these systems are the largest energy users in the school district. Many school budgets cannot afford the up-front cost of replacing these older, failing systems. The cost of replacement is deferred to future years. Due to the tremendous amount of capital required to solve the deferred maintenance items, school districts are not able to address all of these items in their annual budgets. Instead, that cost is borne annually in higher costs for maintaining and operating these systems.

ENERGY STAR Buildings has a solution to improve your success rate with bond elections. Through the five-stage approach of the ENERGY STAR Buildings Program, you will be able to properly document the state of your equipment. You will also see how your equipment compares to current energy-efficient technology of other school districts in terms of performance and energy use. The ENERGY STAR Buildings approach can help you identify cost-effective, low-risk solutions. This means lower energy consumption and more energy dollars saved, which represents budgetary savings for administrators.

Through public recognition, the Buildings Program helps to shape positive public attitudes about your cost-reduction strategies and your environmental responsibility. Community leaders recognize the leadership position that a school takes when it partners with EPA to improve energy efficiency and promote pollution prevention. This is a vision that everyone can support.

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efficiency upgrades, particularly building-wide upgrades of HVAC, hot water, and light systems and yields. The key components are: no-down payment, third-party ownership of capital and improvements during the term of the agreement, a positive cash flow, and no performance-based payments.

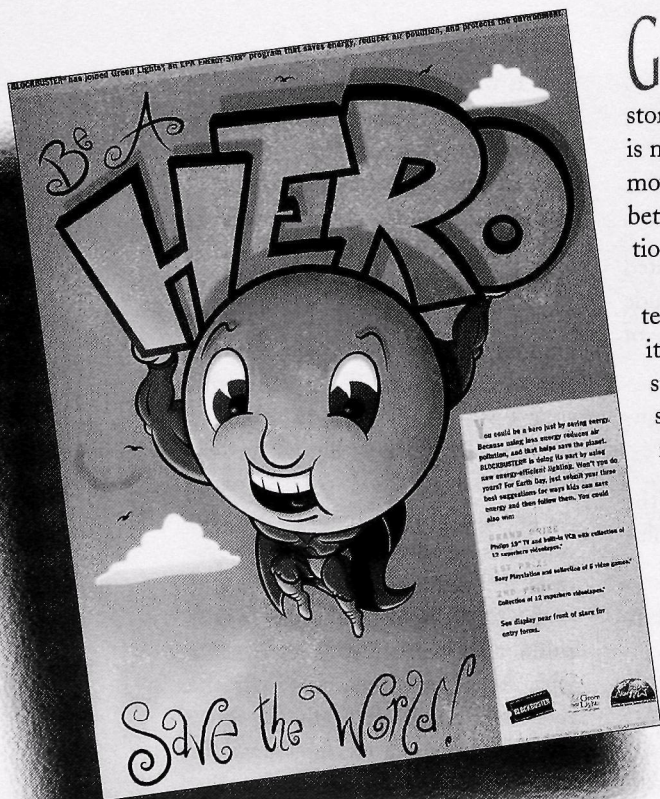
Revolving Funds. This is another new approach in which loans are set up to fund upgrades and then the loans are repaid from the savings generated in the utility budget. Some states have legislation that prohibit revolving funds, so be sure to check with the appropriate authorities before beginning a revolving fund.

Other Approaches. Strategies to link energy supply-side needs with demand-side alternatives are being employed by several companies. These strategies are centered around cost minimization, cost stabilization and budget predictability, procurement simplification, and risk management. In some cases, these companies are able to fund present-day improvements to facilities using future savings. This can mean new equipment or new computers for schools.

IN THE SPOTLIGHT

A "Blockbuster" Education Opportunity

Retailer promotes energy efficiency in stores nationwide



Green Lights® Partner Blockbuster has not only agreed to upgrade its stores to energy-efficient lighting, it is now helping to educate millions of movie and music fans about the link between energy use and air pollution.

Blockbuster introduced a contest for children, "Be A Hero," into its 3,900 company-owned video stores. The contest was designed to start children thinking about reducing energy use, and thereby preventing air pollution in their neighborhoods.

"We feel that air pollution is one of the most prevalent environmental problems facing us today," said Jonathan S. Baskin, Senior Vice President,

Corporate Relations for Blockbuster. "Our in-store activities will allow us to present ENERGY STAR® information to our members from neighborhoods all over the country and get them thinking about what they can do to prevent air pollution."

Consumers also learned more about energy efficiency through a 30-second public service announcement that ran on monitors in all Blockbuster stores.

As a result of its lighting upgrades, Blockbuster is estimated to be saving \$4.5 million annually and approximately 19 million kilowatt-hours of electricity. Additional savings are expected as more stores are upgraded. ■

PARTNER OF THE YEAR

Will You Be the Next Partner or Ally of the Year?

Enter the contest and receive recognition for your efforts

As summer draws to a close, the unmistakable signs of fall are beginning to appear: a crisp breeze, leaves changing colors, Saturday afternoon football, and receiving the ENERGY STAR® Buildings and Green Lights® Partner and Ally of the Year application in the mail.

Now in its fifth year, the Partner and Ally of the Year contest is designed to recognize outstanding participants like you. Each year, EPA

selects several ENERGY STAR Buildings and Green Lights participants whose upgrade and communications efforts exemplify true environmental leadership. Partner and Ally of the Year has become one of the most prestigious environmental awards; past winners have been featured in *USA Today*, *Fortune*, and *BusinessWeek*.

Applying for the award is simple and straightforward. All active ENERGY STAR Buildings and Green Lights participants will receive the 1998 Partner and Ally of the Year

application packet in early September. The application packet includes all of the instructions necessary to assemble a competitive application. **The deadline for the 1998 Partner and Ally of the Year contest is December 2, 1997.**

You've performed the upgrades and prevented pollution—now you have the opportunity to receive the recognition. Enter the 1998 ENERGY STAR Buildings and Green Lights Partner and Ally of the Year contest! ■



SOFTWARE CORNER

Online Access to Upgrade Assistance

*Announcing the Ally Services
and Products (ASAP) Directory*

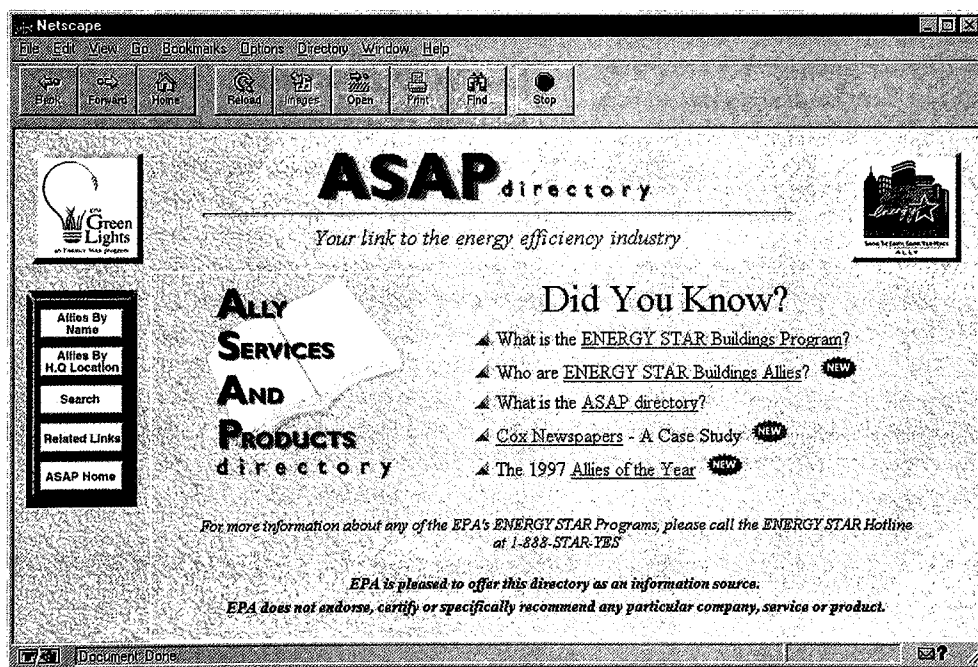
To facilitate easier identification of companies providing products and services related to energy efficiency in buildings, EPA has developed the *Ally Services and Products (ASAP) Directory*. This directory is an Internet-based listing of ENERGY STAR Buildings Allies and the products or services they can provide to organizations seeking to maximize energy performance of their facilities through ENERGY STAR Buildings.

The directory allows users to search for Allies based on products offered, services provided, and/or the locations in which the Ally is headquartered. The directory will also allow viewers to link directly from ASAP to the World Wide Web sites of profiled Allies, or send an e-mail to an Ally representative.

EPA is already working on adding additional features to

ASAP which will provide more detailed information and enhanced sorting features. The ASAP Directory is a great tool available to support the needs of ENERGY STAR Buildings and Green Lights participants. ASAP is designed to make it easy for Partners to get information about "qualified" product and services.

ASAP can be accessed at <http://www.epa.gov/asap> through EPA's web site. If you have any suggestions for enhancing this tool or comments on the information, please call the toll-free ENERGY STAR/Green Lights Hotline at 1-888-STAR-YES (1-888-782-7937).



ENERGY STAR® Buildings and Green Lights® Software Tools Update

QuickPlan, an ENERGY STAR Buildings software tool, is currently being expanded to include more planning features. These new features will help users prioritize their facilities, compare performance to typical buildings of the same type and climate zone, and assess upgrade success based on a variety of criteria.

Please call the toll-free Hotline at 1-888-STAR-YES (1-888-782-7937) if you are interested in beta testing the new version.

ProjectCalc has been upgraded to Version 3.02. The new version for this upgrade is available on our web site at <http://www.epa.gov/appdstar> or call the Hotline to order your copy.

OTHER PROGRAMS

A New Way to Promote Energy Efficiency

*Announcing the ENERGY STAR®
Buildings Endorser Program*

The ENERGY STAR® Buildings Program continues to grow with the introduction of the ENERGY STAR Buildings Endorser Program. Who are ENERGY STAR Buildings Endorsers? Professional trade associations, non-profit organizations, and public interest groups that agree to promote ENERGY STAR Buildings and the benefits of energy-efficient technologies and services to their members.

If you are an association or belong to one, here are few reasons to consider ENERGY STAR Buildings:

Why Should Your Organization Become an Endorser?

Your members can benefit from energy efficiency. Our Partners are your members and if they adopt the ENERGY STAR Buildings strategy, they can reduce their energy consumption by as much as 50 percent. By endorsing the program, you can show them how.

You'll be providing a value-added service to your members. You can help your members achieve their potential energy savings by uncovering opportunities through ENERGY STAR Buildings.

You'll be doing something good for the environment. By promoting the ENERGY STAR Buildings goals, you and your members will be helping prevent air pollution.

How Can ENERGY STAR Buildings Help Your Organization?

By helping you communicate the benefits of energy efficiency to your members. We can help you get the message to your members by helping to prepare a mailing to your members, writing an article for your newsletter, or participating in your annual conference or meetings. Or tell us—we'll be happy to work with your organization to provide you the support your members need.

How Can ENERGY STAR Buildings Help Your Members?

By showing your members how they can benefit from energy-efficient upgrades. If your members choose to adopt the ENERGY STAR Buildings strategy, we can offer additional benefits, such as: unbiased technical information, communication support, no-cost software tools, and a customer support team to answer questions.

How Your Organization Can Become an Endorser

All you need to do is sign a one-page Memorandum of Understanding (MOU). For more information or a sample MOU, call the toll-free ENERGY STAR Hotline at 1-888-STAR-YES (1-888-782-7937).

For a list of charter Endorsers, see page 13.

Jeanette Marrero of the Chicago office of the EPA presents an award to board chair Chuck Thoele (l) and CEO Jack Curley (r) in recognition of the Catholic Health Association's (CHA) participation in the ENERGY STAR Buildings and Green Lights Programs. CHA recently became the first healthcare association to endorse the ENERGY STAR Buildings Program.



LIGHTING UPGRADE WORKSHOPS

We're Improving the Lighting Upgrade Workshop...

Since 1991, EPA's Green Lights® Program has been sponsoring Lighting Upgrade Workshops designed to show how energy-efficient lighting can save money while improving lighting quality. Today, Green Lights is the first stage of the building-wide program—ENERGY STAR® Buildings. As a result, EPA has refined the workshops to address not only lighting but more importantly the role of lighting in whole-building upgrades.

Starting in November 1997, EPA is launching a new series of technology-specific, interactive, technical sessions entitled "**Building Know-How.**" These one-day sessions will bring together small groups of facilities managers to address specific technical issues in one of the five stages of the ENERGY STAR Buildings Program. These stages include lighting, building tune-ups, other load reductions, fan systems, and heating and cooling plant improvements.

Building Know-How sessions focusing on lighting will be open to all ENERGY STAR Buildings and Green Lights participants. The

morning session will cover such topics as target light levels, light and ballast technology, lighting controls, and lamp and ballast disposal. The afternoon session will be customized to the specific interests and needs of program participants. Subjects on lighting equipment, operations and maintenance, and lighting design will be addressed by local guest speakers, including Green Lights and ENERGY STAR Building Allies.

Surveyor Ally Program Closes

As we are changing the focus of the program, the Green Lights Surveyor Ally Program will be closed to new members on November 1, 1997.

The last Surveyor Ally exams will be administered at the Lighting Upgrade Workshops scheduled in:

Houston, TX	Oct. 1-3
White Plains, NY	Oct. 15-17
San Francisco, CA	TBA

Call the toll-free Hotline at 1-888-STAR-YES (1-888-782-7937)

or visit our web page at www.epa.gov/greenlights to reserve your space.

After October, EPA recommends that lighting professionals pursue a certification program such as that offered by the National Council on Qualifications for the Lighting Professions (NCQLP). Those who pass the NCQLP Lighting Certification Examination will have demonstrated an understanding of basic lighting principles and their application. They will be entitled to use the appellation LC (Lighting Certified) after their name. We will be encouraging ENERGY STAR Buildings and Green Lights Partners to look for the NCQLP or Surveyor Ally certification when selecting a lighting professional.

The first NCQLP examination will be held on November 1, 1997 in 20 cities across the country. Preparation review courses begin in early Fall. For more information, contact NCQLP at 301-654-2121 or through their web page at www.lrc.rpi.edu/NCQLP/.

We are happy to recognize the following organizations as our charter Endorsers:

- Alpharetta Clean & Beautiful Commission
- American Council for an Energy-Efficient Economy
- Arizona Hospital and Healthcare Association
- Arkansas Hospital Association
- Association of Energy Service Professionals
- Association of Professional Energy Consultants
- California State Association of Counties
- Catholic Health Association
- Clean Water Action
- Colorado Hospital Association
- Environmental Awareness Foundation
- Evangelical Environmental Network
- Georgia Hospital Association

- Greater Philadelphia Hotel Engineers Association
- Hawaii Hotel Association
- International Institute for Energy Conservation
- Kentucky Pollution Prevention Center
- Long Island Associations, Inc.
- National Association of Physicians for the Environment
- National Association of Power Engineers
- National Electrical Contractors Association
- New Hampshire Business and Industry Association
- New Jersey Business and Industry Association
- Puerto Rico Hospital Association
- Vermont Businesses for Social Responsibility
- Virginia Association of Counties

GREEN LIGHTS IMPLEMENTATION REPORT CODES

Facility Type

- 1000 Office
- 1001 Warehouse
- 1002 Industrial/Manufacturing
- 1003 Retail sales
- 1004 Health Care
- 1005 Lodging (hotels, dormitories etc.)
- 1006 Assembly (churches, auditoriums, etc.)
- 1007 Education (classrooms)
- 1008 Food sales and service
- 1009 Parking Garage
- 1010 Laboratory
- 1011 Outdoor

Fixture Type

- 13 Fluorescent- commercial- no lens
- 14 Fluorescent- commercial-clear lens
- 15 Fluorescent- commercial-translucent lens
- 16 Fluorescent - deep cell louver
- 17 Fluorescent - small cell louver
- 18 Fluorescent- industrial-open fixture
- 19 Fluorescent- industrial-enclosed fixture
- 36 Exit sign-incandescent
- 37 Exit sign-fluorescent
- 38 Exit sign-LED
- 39 Exit sign-electroluminescent
- 40 Exit sign- tritium
- 41 Exit sign- luminescent
- 43 Incandescent - any
- 44 Compact Fluorescent
- 45 HID-indoor - any
- 46 HID-outdoor - any

Upgrade Type

- 110 Relamp only
- 111 Delamp only
- 112 Relamp and reballast
- 113 Specular reflector/delamp
- 114 Reflector/Reballast
- 115 New Lens/Reflector/Reballast
- 116 New lens/louwer
- 117 New fixture
- 118 Convert Incand. to Fluorescent or HID
- 119 Task Lighting

Lamp Type

- 54 T-8
- 55 T-10
- 56 T-12 Energy Saving
- 57 T-12 Cathode cut-out
- 58 T-12 High Lumen
- 59 T-12 Standard

- 60 T-12 High Output (800ma)
- 61 T-12 VHO (1500ma)
- 62 T-17 VHO (1500ma)
- 63 T-5 single ended
- 64 Compact twin-tube
- 65 Compact quad-tube
- 66 Compact-integrated ballast
- 67 Compact-circular
- 68 Incandescent-general service (A, PS,T)
- 69 Incandescent-Reflector (R, PAR, ER)
- 70 Incandescent-decorative
- 71 Halogen-general service
- 72 Halogen-reflector (R,PAR, MR)
- 73 Halogen-tubular
- 74 HID-mercury vapor
- 75 HID-metal halide
- 76 HID-high pressure sodium
- 77 HID-white-HPS
- 78 Low pressure sodium
- 79 T-12 Slimline

Ballast Type

- 80 Fluorescent-old standard magnetic
- 81 Fluorescent-efficient magnetic
- 82 Fluorescent-hybrid/cathode cutout
- 83 Fluorescent-standard electronic
- 84 Fluorescent-integrated electronic
- 85 Fluorescent-extended output electronic
- 86 Fluorescent-partial output electronic
- 87 Fluorescent-dimming electronic
- 88 Fluorescent-step dimming electronic
- 89 Fluorescent-HO standard magnetic
- 90 Fluorescent-HO (800ma) electronic
- 91 Fluorescent-VHO standard magnetic
- 92 Fluorescent-compact magnetic
- 93 Fluorescent-compact electronic
- 94 HID-magnetic
- 95 HID-electronic
- 96 Fluorescent-HO efficient magnetic
- 97 Fluorescent-VHO efficient magnetic

Control Type

- 100 Manual switching
- 101 Manual dimming
- 102 Occupancy sensor
- 103 Timed switching
- 104 Timed dimming
- 105 Daylight switching
- 106 Daylight dimming
- 107 Panel level dimming
- 108 Panel level EMS
- 109 Power reducer

Survey/Analysis by

- 2005 **Green Lights Surveyor Ally
- 2006 **Green Lights Distributor Ally
- 2007 **Green Lights Manufacturer Ally
- 2008 **Green Lights Utility Ally
- 2009 **Green Lights Lighting Management Company Ally
- 2010 in-house personnel
- 2012 electrical contractor
- 2013 utility representative
- 2015 lighting management company
- 2024 Electrical Distributor
- 2025 other

Equipment Provided by

- 2105 **Green Lights Surveyor Ally
- 2106 **Green Lights Distributor Ally
- 2107 **Green Lights Manufacturer Ally
- 2108 **Green Lights Utility Ally
- 2109 **Green Lights Lighting Management Company Ally
- 2020 lighting equipment supplier
- 2023 contractor
- 2027 other

Installation by

- 2205 **Green Lights Surveyor Ally
- 2206 **Green Lights Distributor Ally
- 2207 **Green Lights Manufacturer Ally
- 2208 **Green Lights Utility Ally
- 2209 **Green Lights Lighting Management Company Ally
- 2030 in-house staff
- 2031 contractor
- 2032 utility
- 2034 other

Financing by

- 2037 **Green Lights Distributor Ally
- 2038 **Green Lights Utility Ally
- 2039 **Green Lights Lighting Management Company Ally
- 2040 internal funds
- 2041 conventional loan
- 2042 utility
- 2043 lease/lease-purchase
- 2044 shared savings
- 2045 other

**** A Green Lights Ally is a lighting industry participant in the Green Lights program.**

POLLUTION PREVENTION

You may want to estimate the pollution prevention of this project for your own use. Use the following formulas and factors:

CO2:	kWh/yr saved	x	emission factor	=	lbs/yr
SO2:	kWh/yr saved	x	emission factor	=	g/yr
NOx:	kWh/yr saved	x	emission factor	=	g/yr

EPA Regional Emission Factors (see note below)

REGION 1: CT, MA, ME, NH, RI, VT					
Emission per	CO2	SO2	NOx		
kWh saved:	1.1	4.0	1.4		
REGION 2: NJ, NY, PR, VI					
Emission per	CO2	SO2	NOx		
kWh saved:	1.1	3.4	1.3		
REGION 3: DC, DE, MD, PA, VA, WV					
Emission per	CO2	SO2	NOx		
kWh saved:	1.6	8.2	2.6		
REGION 4: AL, FL, GA, KY, MS, NC, SC, TN					
Emission per	CO2	SO2	NOx		
kWh saved:	1.5	6.9	2.5		
REGION 5: IL, IN, MI, MN, OH, WI					
Emission per	CO2	SO2	NOx		
kWh saved:	1.8	10.4	3.5		
REGION 6: AR, LA, NM, OK, TX					
Emission per	CO2	SO2	NOx		
kWh saved:	1.7	2.2	2.5		
REGION 7: IA, KS, MO, NE					
Emission per	CO2	SO2	NOx		
kWh saved:	2.0	8.5	3.9		
REGION 8: CO, MT, ND, SD, UT, WY					
Emission per	CO2	SO2	NOx		
kWh saved:	2.2	3.3	3.2		
REGION 9: AZ, CA, HI, NV, Guam, Am Samoa					
Emission per	CO2	SO2	NOx		
kWh saved:	1.0	1.1	1.5		
REGION 10: AK, ID, OR, WA					
Emission per	CO2	SO2	NOx		
kWh saved:	0.1	0.5	0.3		

Note: State pollution emission factors are aggregated by EPA region. Factors for U.S. territories are national average emission factors. See the Green Lights Lighting Upgrade Manual.

ENERGY STAR® Buildings (ESB) Annual Facility Report *Version 1.3, July 3, 1997* OMB #2060-0347 Exp. 4/30/99

1. General Information

Partner Name: _____

Facility Name: _____

Facility Street Address: _____

City, State, Zip: _____

Facility Square Footage: _____

Have you previously submitted a Green Lights Report Form for this facility? Yes ____ No ____ Don't Know ____

Is this facility your Pilot Building? Yes ____ No ____

For the Energy Star Buildings Program, will you upgrade ONLY the lighting in this facility? Yes ____ No ____

Is this facility new construction? Yes ____ No ____

4. Annual Energy Use and Costs -enter current year utility data

Year	19__
Electricity (kWh)	
Electricity Costs (\$)	
Natural Gas (circle one): ccf, mcf, therms	
Natural Gas Costs (\$)	
Fuel Oil (gallons)	
Fuel Oil Costs (\$)	
Purchased steam/hot water (mmBtu)	
Purchased steam/hot water costs (\$)	

Baseline (first report only) -enter 3 years of pre-upgrade data

19__	19__	19__

2. Facility Type (check one principal use)

<input type="checkbox"/> Office	<input type="checkbox"/> Parking Garage
<input type="checkbox"/> Warehouse & Storage	<input type="checkbox"/> Food Sales
<input type="checkbox"/> Mercantile & Service	<input type="checkbox"/> Health Care (in patient)
<input type="checkbox"/> Lodging	<input type="checkbox"/> Health Care (out patient)
<input type="checkbox"/> Education	<input type="checkbox"/> Food Service
<input type="checkbox"/> Public Order & Safety	<input type="checkbox"/> Public Assembly
<input type="checkbox"/> Manufacturing	<input type="checkbox"/> Religious Worship
<input type="checkbox"/> Other (describe): _____	

5. Stages Complete

Done?
Y/N

Stage 1) Green Lights	_____ %	_____
Stage 2) Tune-Up	_____ %	_____
Stage 3) Load Reduction	_____ %	_____
Stage 4) Fan System	_____ %	_____
Stage 5) Heating/cooling	_____ %	_____
Write "NP" for not profitable if IRR < 20%		

6. Changes Relative to Baseline Years

(Positive values indicate increase)

Operating Hours	_____ %
Floor Area	_____ %
# of Occupants	_____ %
Plug Loads	_____ %
Outside Air	_____ %

3. Upgrade Cost Information

Costs Before Rebates Since Last Report(\$): _____

Rebates/Grants Since Last Report(\$): _____

Was a performance contract used? Yes ____ No ____ Unsure ____

7. Additional Information

Your Name: _____

Phone Number: _____

Signature: _____

Start date for ESB work in this facility _____

Are ESB upgrades complete? Yes ____ No ____

Date ESB work ended in this facility _____

Today's Date: _____

Instructions for Completing the ENERGY STAR® Buildings Annual Facility Report

6/27/97

Please submit baseline data for each facility as soon as possible after joining. In addition, submit one report with "current year" data for each participating facility each year. You should submit this report even if you have not done any projects.

1. **General Information**

Previously Submitted Green Lights® Reports. To assist EPA in accurately tracking your information, indicate whether you have submitted a Green Lights Report Form for this facility at any time in the past.

Pilot Building. Each Partner and Ally is required to perform a pilot upgrade within the first two years of program tenure.

Type of Upgrade. Indicate whether this facility will undergo a lighting upgrade ONLY. Partners are required to perform whole-building upgrades on 50% of their eligible square footage, and just Green Lights upgrades on an additional 40% of their eligible square footage.

New Construction. Are you reporting on a building that is newly constructed? If so, enter a "Y" in the New Construction box.

2. **Facility Type**

Please check only one facility type. If this facility has multiple uses, check the principal use. (Use a separate page for comments if necessary.)

3. **Upgrade Cost Information**

Line 1: Enter the amount spent on ENERGY STAR Buildings (ESB) upgrades in this facility since the last report for this facility was submitted.

Line 2: Enter the value of all rebates received for work in this facility since the last report for this facility was submitted.

4. **Annual Energy Use and Costs, and Baseline Data**

In the current year area, simply enter the information found on your utility bill for the most recent completed year. By year, we mean your organization's fiscal year. It is important that you use the same definition of a year each time you report and that each year covers 12 contiguous months. In the baseline section, enter data covering the three years prior to your joining the ESB program. We encourage you to submit baseline data for each facility as soon as possible after joining. Once you have submitted the baseline for a building, you do not need to include it in future reports for that facility. For example, if you joined the program in 1996, you should submit baseline data for 1993-95 as soon as you can. Then, when 1996 ends you should submit "current year" data for 1996. You should continue to submit "current year" data (once per year) for each facility until your seven years in the program have elapsed.

5. **Stages Complete**

Enter a percentage complete for each stage, and indicate whether you have finished each stage. For example, suppose you upgraded 50% of this facility's fan system and no additional profitable upgrades of the system were possible. Under stage 4 you would write "50%" complete and "Y" to show this stage is done because no more profitable upgrades are possible. If an entire stage is not profitable, write "NP" on the line with the % after it to indicate "not profitable." Profitable upgrades are defined as having an Internal Rate of Return (IRR) of 20% or greater.

6. **Changes Relative to Baseline Years**

Enter your best estimate of changes you have experienced in each category since implementing your upgrades. A significant increase in any of these categories can help explain an energy use pattern that is rising despite efficiency upgrades.

7. **Additional Information**

Please print your name and enter a phone number where EPA may contact you if there are questions regarding your report.

Start date for ESB work in this facility. Please enter the date ANY ENERGY STAR Buildings upgrades began in the facility. Even if the work began several years ago, please enter that date, including the year. (An estimate is fine.)

Are ESB upgrades complete? Please enter a "Y" if you believe that no more ENERGY STAR Buildings work will be done in this facility.

Date ESB work ended in this facility. If you have completed all the work that will be done in this building (that is associated with the program), please enter the date the work ended. (An estimate is fine.)

Comments

If necessary, please attach an additional page with any explanatory comments about the report.

OMB # 2060-0255 Exp. 4/30/99

<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div> <p>SURVEY REPORT (fill in sections 1, 2, 4, and 10 below)</p>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div> <p>COMPLETED PROJECT REPORT (fill in sections 1-10 below)</p>	<p>Date: _____</p> <p>Page _____ of _____</p> <p>(attach additional pages as needed)</p>
--	--	--

1. FACILITY INFORMATION

Company Name:				Facility Manager:			
Facility Name:				Telephone No./FAX No.			
Facility address:				Total Floorspace for this Facility:	sq.ft.		
City/St./ZipCode				Floorspace included in this report:	sq.ft.		
Facility type*		New Construction?	Yes No	Is this the FIRST report sent to EPA for this floorspace?	Yes	No	

2. LIGHTING FIXTURES BEFORE UPGRADE (*use codes on back)

[illegible]

4. LIGHTING CONTROLS BEFORE UPGRADE *(*use codes on back)*

Type*	Quantity	Type*	Quantity	Type*	Quantity

6. COMMENTS

--

7. PROJECT COSTS

Total Project Cost	\$
Rebates/Grants	\$
Net Project Cost	\$
Life Cycle Cost	\$

8. LIGHTING SAVINGS

Lighting Load Reduced	kW
Electricity Reduction	kWh/yr
% Lighting Savings	%
Energy Cost Savings	\$/yr
Internal Rate of Return	%

9. IMPLEMENTATION METHODS:

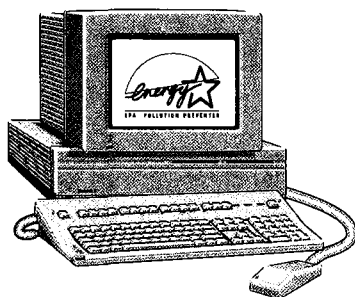
7	Survey/Analysis*	
	Equipment Provider*	
6	Installation Method*	
	Financing Method*	
6		

10. SIGNATURE

Your role: <input type="checkbox"/> GL Implementation Director <input type="checkbox"/> Facility Manager <input type="checkbox"/> Other			Name _____
			Company _____



Online



Information about the ENERGY STAR[®]
Buildings and Green Lights[®] Program is
available online. Our addresses are:

ENERGY STAR Buildings: <http://www.epa.gov/buildings>

Green Lights: <http://www.epa.gov/greenlights>

ENERGY STAR Program: <http://www.epa.gov/energystar>

Update home page: <http://www.epa.gov/appdstar/news>



United States
Environmental Protection Agency
(6202J)
Washington, DC 20460

Official Business
Penalty for Private Use
\$300

BULK RATE

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EPA

G-35



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contains at least 50% recycled fiber