

# ENERGY matters

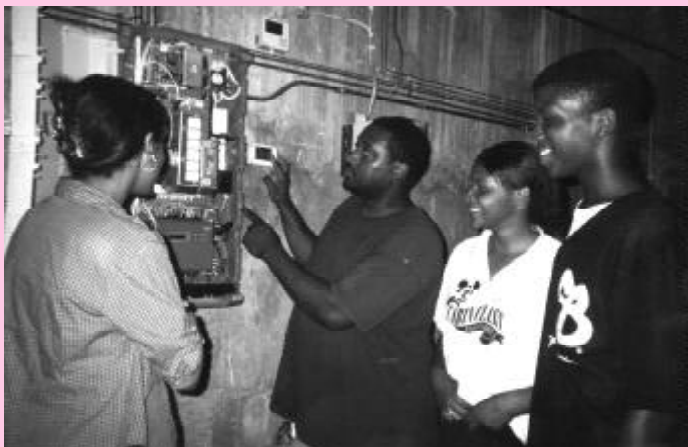


## School Energy Efficiency Development<sup>®</sup> Long Term Benefits From Energy Efficiency

St. Louis Public Schools District is completing Phase II of a comprehensive energy savings program. Working with CMS Viron Energy Services, the district installed many measures, including energy-efficient lighting, a computerized system that controls and monitors the school's heating systems as well as updated flush valves that save on water usage. The immediate effect of these energy conservation measures is a dramatic savings on the costs to keep buildings supplied with heat, electricity and water. In the 42 buildings of Phase I and II, SLPS is expected to save over \$9 million in the next ten years. Monitoring of Phase I, the first set of 22 buildings in this program, has shown an estimated one year energy savings of 3,415,861 kWh of electricity and 103,382 therms of natural gas. These savings translate into approximately 6,277,675 fewer pounds of carbon dioxide released into the atmosphere, since less fuel is burned to produce energy. It would take 856 acres of trees one year to absorb this same amount of carbon dioxide. This area is more than

nine times the size of the St. Louis Arch grounds! Expected savings from Phase II will more than double the amount of saved resources and prevented pollution. SEED (School Energy Efficiency Development), the education program delivered to the schools by MERP (MidAmerica Energy & Resource Partners), is paid for by district energy savings. Students participating in the year-long program conduct research and develop building-wide projects that help save energy, therefore saving money and resources, while preventing pollution.

*"What I liked best about my two years in SEED is that I'm doing something important for all of the earth. Recently, I watched a story on the news about there being too much CO<sub>2</sub> in the air because people weren't saving enough energy. So I think that saving energy would help everyone, no matter what."*  
--Lara Genevive Monte, fifth grader  
Kennard School



In Langston's Boiler Room, Head Custodian Ron Jones explains how the temperature control panel monitors the building's heat and saves the district money.

### Seeing is Believing

Ron Jones, head custodian at **Langston Middle School**, introduced members of Beverly LaBriado's seventh grade class to the physical plant at their school. Being able to see the boiler control panels and pipe system that circulates heat throughout their building gave students a better understanding of how building systems really work.

1999-2000



Accepting the Golden Caulk Gun Award are Daniel Dalton and Bill Young of Buildings and Grounds.

### SEED Summit Success Stories

The end of year Summit, held at AmerenUE headquarters, was kicked-off by a musical performance of energy tips by the SEED students at Kennard. Over 130 students and teachers enthusiastically presented the results of their year-long programs and projects. Awards were presented to acknowledge the significant contribution these projects have made to student learning and energy savings in the district. Dr. Cleveland Hammonds, Jr., District Superintendent, congratulated students on another successful Year in SEED. Way to go, SLPS Phase II schools!

Energy Matters is published by MERP as an informational educational service.



# SEED Students Promote Awa

## Elementary Schools

### Energy patrols

These projects are easy, effective and popular ways to reduce wasted energy use. Students regularly patrol unused rooms to see if lights or faucets were left on or if doors were left open. They leave energy reminders and chart all results.

Debra Bahr's fourth grade class at **Mark Twain Elementary** had a traveling trophy filled with coal as the incentive for their Energy Patrol. The classroom remembering to turn their lights off most often won the trophy. At the end of the year, the class with the best record received a candy prize.



Mark Twain students surprised energy wasters while on Patrol.

Ouida Robinson's third grade classroom at **Laclede Elementary** handed out tickets and reminders during their Energy Patrol. They also used the Science of Energy Kit to learn more about the potential and kinetic forms of energy.



Waring's Kindergarten class demonstrates how electricity is delivered to schools using MERP's Coal Chain activity.

### Kindergarten

During **Waring ABI Elementary's** Energy Patrol, only one person forgot to turn off their lights all year! Kathleen Anderson's class was also involved in the school recycling program. They held a "Pennies for the Rainforest" campaign. The kindergarten raised \$1,862.13, enough money to save 53 acres of rainforest in Belize.

### Video Projects in After School Programs

Fifth graders at **Farragut Elementary School**, working with teacher Johnny Monette, performed an energy play. Directed by Crystal Francis, the students videotaped the production. The show was a take off on the "Brady Bunch," and it was viewed by the entire school.

At **Clay Elementary**, students in Hiram Wilkins and Lynette Jones' classes videotaped their interview with head custodian Randy Barrett. Mr. Barrett offered tips to help Clay School be more energy efficient!

### We Love SEED!

**Cook Elementary's** favorite activity was "Mouse House Surprise," a story about what happens when the lights go out. Westley Glenn's second graders also investigated what sources of energy are used for different jobs.

At **Cole Elementary** Patricia Dennis' third graders began their year by learning MERP's 8-Step Action Plan. They enjoyed the Coal Chain and the handboiler, while investigating forms of energy and exploring

electricity.

Peggy DeVilla's fifth grade class at **Ford Elementary** developed a baseline of the school's energy use and compared it with current bills. They determined that the energy-efficient upgrades are saving their school money. At **Ford Branch** they enjoyed storytelling and

learning about electrical safety.

The **Cupples Elementary** third grade students in Jerome Jernigan's class enjoyed a successful Energy Patrol. They incorporated energy into learning about water cycles and weather. Marva Young, their head custodian, also provided them with a building tour.

### Oak Hill Elementary Learning Energy Efficiency in the Home

At **Oak Hill Elementary**, Ellainia Miller's fifth grade class researched, designed and created an energy-efficient model house, complete with solar panels and cut away walls to

demonstrate where pipes, insulation and conduit are found in a real home. The class made a videotape to share their ideas with others! Students also led the kindergarten classes in an electrical safety activity.



From the drawing board to reality! Oak Hill elementary students created an energy efficient house out of scraps and discarded items.



# Business and Energy Efficiency



Kennard students at Home Depot.

## Operation K.E.E.P. - Kennard Energy Efficiency Program

Under the direction of drama teacher Richard Towns, fifth graders from Ms. Holmes' classroom at **Kennard CJA** used a variety of methods to research energy efficiency, including a field trip to Home Depot. Their project was to host "Energy Night." Many school, community and neighborhood residents toured seven stations, including the Trash Sort Relay, Light Box, Coal Chain, Forms and Sources, Energy Smart Model House, and "Who's Afraid of the Boiler Room," a student produced video. The last station was the culminating event - a student written 15 minute musical. Kennard Classical Junior Academy was selected to receive the State Energy Education Award at the Elementary Level from NEED - National Energy Education Development, for their exceptional work in educating others about energy!

## Middle Schools

Terri Mize had her sixth grade social studies class at **Fanning Middle CEC** debate which of the ten sources of energy are the best. Their answer? There is no one best answer, at least not with the technologies that now exist. Students determined that the most effective way to conserve resources is to use energy wisely.

*"We did a project on energy. Some people didn't care about saving electricity. They always wasted it. I really care about saving energy because it's important to me. It should be important to everyone."  
--Samad Bishop, fourth grader,  
Mark Twain Elementary*

At **L'Ouverture Middle**, Elizabeth Wagner's sixth grade class began their year by creating a huge banner of the forms of energy in the main hallway of the school. Creating art out of trash was another popular project for the class, learning how wasting less conserves resources and money.

**Blewett Middle School's** seventh grade science class toured the boiler room area with head custodian Marsha Johnson. Ms. Johnson demonstrated 'blowing down the boiler,' an effective preventative maintenance technique, and discussed how custodians help to ensure the building safety through regular maintenance. Sandra Kraemer's class then combined an Energy Patrol and public relations campaign with a poster contest. The winner was awarded a cash prize!

## High Schools

Bill Brush's students at **Cleveland NJROTC** identified, through a Comfort Survey, an area of overheating in their school. After obtaining a copy of building plans and comparing results from their survey, the students determined that a group of rooms reporting similar problems were all linked to one particular fan. A letter was sent to the Buildings and Grounds office suggesting that adjustments to this fan could improve comfort and save energy at Cleveland. This school won MERP's Golden Caulk Gun Award for their outstanding efforts!

MERP presented Forms and Sources and the Coal Chain to introduce the subject of energy to all four of Steve Frager's Physics classes at **Central VPA**. These high school students then used MERP's Energy Bike to study Ohm's Law and various properties of electrical components. Mr. Frager said, "The Energy Bike was very effective during our unit on electricity."

Yolanda Lamprich's Environmental Science class at **Sumner High School** learned about the six forms and ten sources of energy. They became aware of the effects of energy usage on the environment. Students especially enjoyed the Coal Chain activity as they explored ways to teach about using coal to generate electricity to younger students. Ms. Lamprich is already looking forward to incorporating energy awareness and efficiency into her classes next year.



Teacher Bill Brush and student Kristy Weems accept MERP's Golden Caulk Gun Award for outstanding research at Cleveland NJROTC.



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MERP (MidAmerica Energy & Resource Partners) promotes the efficient use of energy and resources through education, technology and partnerships. Now twelve years old, MERP's activities are partially funded by the Missouri Department of Natural Resources' Energy Center to promote energy efficiency in schools.



SEED (School Energy Efficiency Development) reduces utility costs through building improvements, energy education and behavior changes. It involves educators, administrators, custodians, parents, businesses and students in turning wasted watts into district dollars.



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## CMS Viron Empowers Kennard Students

Thanks to a generous donation of \$5,000 from CMS Viron Energy Services, 21 students, their parents, principal and teachers from Kennard are heading to Madison, Wisconsin this June. These fifth grade students have been invited to present at the "Empowerment 2000, Green Schools and Energy Wise Students" Conference. This is the first national conference offered for energy educators. The students are participating in a panel discussion on comprehensive energy-efficiency programs (incorporating facility improvements with energy education) by sharing their experience in the SEED program. They will also perform their original musical K.E.E.P. (Kennard Energy Efficiency Program)



Operation KEEEP as performed at the SEED Summit.

Additional sponsors of the trip to Wisconsin include: the U.S. Department of Energy, American Lighting, Temperature Control Systems, Delta Water, Missouri Environmental Education Association and the Missouri Department of Natural Resources' Energy Center.

## CMS Viron Energy Services Continues Efficiency Work in SLPS

The St. Louis Public Schools District has been working with CMS Viron since 1996 to implement over \$7 million in energy related facility improvements in the 42 district buildings of Phase I and II. All improvements, including new lighting, energy management systems, water conservation methods, variable frequency drive motors, selected direct digital control systems and energy education, will be paid for out of energy savings. SLPS is expected to save over \$9 million dollars in 10 years.

**Blewett Middle School**  
**Sandra Kraemer**  
**Central VPA High School**  
**Steve Frager**  
**Clay Elementary School CEC**  
**Lynette Jones**  
**Hiram Wilkins**  
**Cleveland NJROTC Academy**  
**Bill Brush**  
**Cole Elementary School**  
**Patricia Dennis**  
**Cook Elementary School**  
**Westley Glenn**  
**Fanning Middle School CEC**  
**Terri Mize**  
**Farragut Elementary School**  
**Johnny Monette**  
**Crystal Francis**

**Ford & Ford Branch Elementary School CEC**  
**Peggy DeVilla**  
**Kennard Classical Junior Academy**  
**Richard Towns**  
**Theresa Holmes**  
**Olivia McClinton**  
**L'Ouverture Middle School**  
**Elizabeth Wagner**  
**Laclede Elementary School**  
**Ouida Robinson**  
**Langston Middle School**  
**Beverly LaBriado**  
**Mark Twain Elementary School**  
**Debra Bahr**  
**Oak Hill Elementary School**  
**Ellainia Miller**

**Samuel Cupples Accelerated School**  
**Jerome Jernigans**  
**Sumner High School**  
**Yolanda Lamprich**  
**Waring ABI Elementary School**  
**Kathleen Anderson**

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