

Seattle Public Schools: Seattle, WA Utilities Help Public Schools Conserve Energy

EnergySmart School Close-Ups highlight schools and school districts that have found ways to use energy more wisely, lowering their energy bills and raising awareness of energy issues.

- Improving Existing Buildings
- Financing Building Improvements
- Operating and Maintaining Buildings
- Designing New Buildings
- Teaching and Learning
- Using Renewable Energy Technologies
- Using Alternatively Fueled School Buses

A collaborative effort involving Seattle City Light, Seattle Public Utilities, Puget Sound Energy, and Bonneville Power Administration has resulted in Seattle Public Schools (SPS) reaping the extensive rewards of energy-saving retrofits.



Seattle's Roosevelt High School

A wealth of opportunity

Before the energy-efficiency measures were put in place, the school system was spending nearly \$4 million annually on energy costs for its more than 100 educational buildings and facilities. Many of the outdated structures were over a century old and few were resource-efficient.

The project's Resource Conservation Manager, Dave Broustis, helped to implement energy-efficiency measures throughout SPS—performing lighting retrofits in 15 schools, replacing and retrofitting toilets and urinals in 81 facilities, and upgrading energy management systems in 25 facilities.

Lighting improvements were the first concern, given the high costs associated with lighting retrofits. NORESKO, a Rebuild America Business Partner and the district's lighting contractor, worked with school and utility officials to audit schools and determine the scope, costs, and expected utility incentives for each facility. SPS replaced 65,000 high-wattage incandescent and pendant fluorescent fixtures with energy-efficient T-8 compact fluorescent lights. The total cost came to \$5.5 million, with Seattle City Light providing \$1.8 million in incentives. Estimated energy savings are expected to exceed 15.5 million kWh annually.



A Campaign of Rebuild America
U.S. Department of Energy



PROFILE:

Location:

Seattle, WA

District size:

Over 100 school facilities

Energy project scope:

Lighting retrofits, water conservation, upgraded energy management systems, and energy education

Date completed:

June 2000

Energy saved:

15.5 million kWh annually

Dollars saved:

\$1.3 million annually

Project funding:

Seattle City Light, Seattle Public Utilities, Puget Sound Energy, Bonneville Power Admin., NORESCO

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Water conservation was another concern, and a \$467,391 grant from Seattle Public Utilities allowed SPS to install 2,216 low-flow toilets in 62 school facilities and perform more than 500 urinal retrofits. “We were very happy with the results,” said Frank Griffin, Mechanical Coordinator for SPS. The retrofits enabled the schools to realize real savings, at minimum cost to the public. Total project costs came to \$7.2 million, approximately half of which were recouped through utility financial incentives.

Educating the entire school community

To highlight the extensive retrofits across the school system, the resource conservation project sought to educate the entire school community about both its efforts and energy efficiency as a whole.

“Working with facilities employees proved to be the most effective thing in terms of behavioral savings,” stated Broustis. Once employees understood the high cost of inefficiencies like leaks and continuously running pumps, they were quick to identify and remedy problems.

The conservation project was also an opportunity to educate Seattle teachers and students about energy efficiency, especially electricity-related concerns such as classroom lights, overhead projectors, and other equipment. Some schools even created “resource patrols” that checked for water leaks, lights on in unused classrooms, and other wasteful practices. The heightened awareness increased monetary savings and provided vital education about energy and water conservation.

A unique success

While many conservation projects are based on collaboration, few take that interaction to the level shown in SPS. “What really makes [this project] unique in my mind, is that the different utilities got together and tried to encompass the different resources,” said Broustis.

Financially, the district embarked on a different path by borrowing money for the conservation project and paying it back through utility savings. The district’s chief financial officer and others backed the unusual agreement. “This is not something we normally do,” said Griffin. “District officials wanted assurances that the debt would be reasonably repaid and they found that the numbers showed what they wanted to see, persuading them to proceed with the project.”

SPS continues to emphasize natural resource conservation, and each of the project’s partners has provided on-going staff support. According to David Van Holde of Seattle City Light, “The major effort that the collaboration took was worth it. It helped partners to focus on the ultimate goal of reducing the schools’ operating costs.”

See the EnergySmart Schools Web site at:
www.eren.doe.gov/energysmartschools

Or call the Energy Efficiency and
Renewable Energy Clearinghouse (EREC)
at: 1-800-DOE-3732



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