

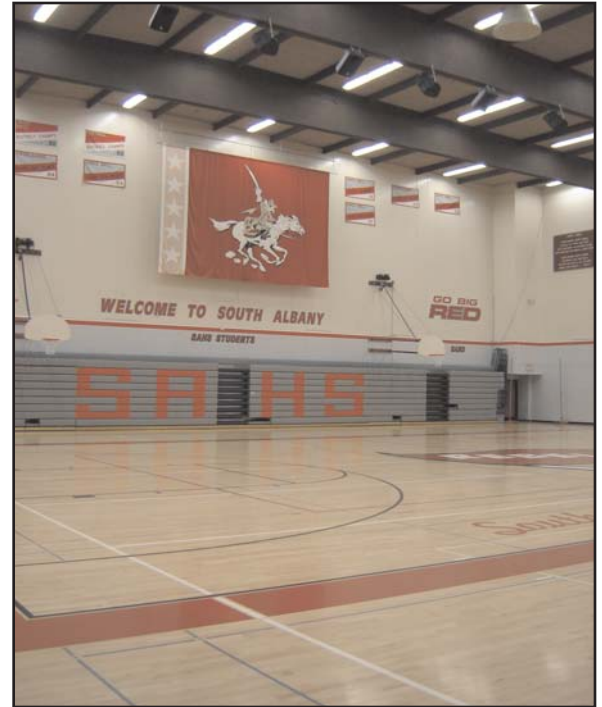
Energy Savings Performance Contract

Aging schools, more students, high energy costs

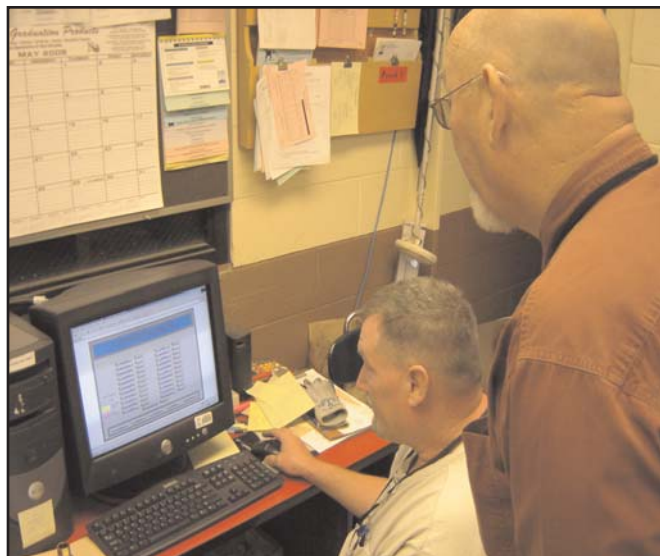
Jim McGowan is Facilities Director for Greater Albany Public Schools. Located in the heart of Oregon's agricultural Willamette Valley, Greater Albany School District has 14 elementary, three middle schools, two high schools and one alternative middle/high school and currently serves 9,000 students.

McGowan, like many Oregon school district facilities directors, has a challenging job. The average age for school district buildings is more than 50 years old. Systems and equipment are outdated and inefficient. Albany growth projections indicate the district can expect to enroll approximately 200 additional students per year for the next several years. And, as if this isn't enough, energy costs are rising each year.

Most Oregon public schools face these same problems and all have one more to overcome. They lack the capital funds to make improvements.



Lighting at South Albany High School gymnasium was one of the projects that was included in the district's Energy Savings Performance Contract with McKinstry.



Greater Albany School District Boiler Tech Ken Ries (left) troubleshoots with district DDC. District Facilities Director Jim McGowan observes.

McGowan introduced a unique solution to the Great Albany School District administration.

Getting work done

His proposal was to use an Energy Savings Performance Contract (ESPC), an innovative method to purchase energy efficiency improvements in buildings.

"The school district administrators and board members were very receptive," McGowan said, "They recognized how an ESPC would allow us to get the work done that could not have happened otherwise."



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ESPC is a tool

Brandon Adams, coordinator for the Schools Program at the Oregon Department of Energy, agrees with McGowan. “The ESPC is a tool to get work done on school buildings in a situation where there essentially is no capital on hand,” he said. “It’s one of many contracting vehicles and is not appropriate for every situation. It is, however, one more tool for Oregon public schools to consider.”

The ESPC allows a school district to select one company with expertise to manage numerous projects to improve energy performance from start to finish. Oregon procurement law allows a project owner to select a company based on qualifications instead of the lowest bid. Most important, the contract guarantees energy savings.

“When a contract guarantees the energy savings, it removes a lot of the risk for the school district,” said Adams. “And having one point of contact with an experienced project manager allows school district staff to continue to do their regular jobs and not try and manage an energy project, too.”

Hiring and contracting

The Albany school district contracted with McKinstry Company, a major mechanical construction and engineering firm in the Pacific Northwest. McKinstry guaranteed that their recommended energy efficiency improvements in the district’s 20 school buildings and the district office would pay for themselves in what the district saved on their utility expenses when combined with available incentives. If the total of the energy savings and incentives of the installed measures fails to meet the amount that McKinstry Company guaranteed, McKinstry will pay the difference.

Oregon Department of Energy staff facilitated the ESPC between McKinstry and the Greater Albany School District and assisted with obtaining other financial incentives. Willamette Education Service District was also involved. Another major benefit to an ESPC is that the payment for the energy measures is made from the energy savings—the guaranteed energy savings—and the incentives that the projects qualify for. The industry term for this, according to Adams, is “budget neutral.”

Funding for the ESPC

Public schools within PGE and Pacific Power service territory have SB 1149 and SB 838 funds available for energy projects according to Adams. The funds have been available since 2001 and continue until 2025. Greater Albany School District has access to approximately \$2.54 million over a 23 year period that will help pay for the loan payments.



Students and teachers can enjoy new lighting fixtures that use less energy thanks to the measures installed under the ESPC.

Additionally, energy projects can qualify for a Business Energy Tax Credit available through the Oregon Department of Energy. A school can partner with an Oregon business that will accept the 35 percent tax credit in exchange for a cash payment of 25.5 percent of the eligible project costs to the school.

The Greater Albany School District began its ESPC in 2005 with McKinstry upgrading lighting and conducting PCB remediation on 20 school buildings and the bus garage. (Fluorescent lights contain mercury and old magnetic ballasts contain polychlorinated biphenyls, PCBs, that need to be disposed of in a specific manner to not harm the environment.)

PCB remediation does not yield energy savings, but is required. Schools can get fined severely for not providing remediation when upgrading lighting.

Direct digital control upgrades

In 2006, McKinstry entered Phase 2 dealing with direct digital control upgrades at six schools, a new chiller and cooling tower at South Albany High School, and the conversion of four walk-in coolers from water-cooled to air-cooled condensers.

When additional financing became available, a third phase was added to the ESPC project in 2007. Primarily, this opportunity allowed the district to include direct digital control upgrades at 11 schools and at the district office. Phase 4 was made possible when Senate Bill 838 extended the public purpose charge through 2025, increasing the district's SB 1149 program funding. In Phase 4, McKinstry upgraded direct digital controls at nine schools, installed high efficiency water heaters at three schools, and replaced boilers at all three middle schools.

“At this time last year the notion of replacing the middle school boilers was not discussed,” McGowan reported. The existing boilers were 42 to 45 years old and were not included in the original ESPC. The opportunity expanded the scope of work to include the replacement of six boilers in 2007. “This was a dynamic project,” said McGowan. “It’s a partnership. And, that’s important.”

Altogether, the four phases of the ESPC totaled \$4.9 million. Greater Albany School District borrowed \$2.7 million as a Qualified Zone Academy Bond available to public schools. SB 1149 (and its extension, SB 838) funds provide approximately \$2.54 million over 23 years. Business Energy Tax Credit cash payment from the district's partners has added \$522,072; projected utility savings are estimated to be \$169,383 per year. The Energy Trust of Oregon incentives amounted to \$83,504.

Fewer comfort complaints

One of the benefits in completing the energy projects was that the number of comfort complaints from staff and students has been reduced considerably over the past three years, according to McGowan.

“We have much better control now,” McGowan said. “The systems are easier to use and to monitor. The ability to view the control system remotely helps improve labor efficiency which is a great savings in itself.”

For Jim McGowan and the Great Albany School District, the ESPC worked.

Grant funding from the US Department of Energy's Rebuild America program helped provide technical support and assistance to the school district through the performance contract process. If your school district is interested, contact the Schools Team at the Oregon Department of Energy at 1-800-221-8035.

Greater Albany School District ESPC

Project costs	\$4.9 million
Total loans	\$2.7 million
SB 1149 and SB 838 funds received over 23-year period	\$2.54 million (estimate)
Business Energy Tax Credit pass-through payment	\$522,072
Energy Trust of Oregon incentive	\$83,504
Annual utility savings	\$169,383 (estimate)
Environmental savings	Reduced CO2 emissions by 1,232 tons (equivalent to reduction of 2.5 million vehicle miles)

What is an Energy Savings Performance Contract?

An energy savings performance contract (ESPC) has three distinguishing features:

1. A single procurement is used to purchase a complete package of services in which one contractor is accountable for:
 - Investigating existing conditions
 - Calculating energy savings and project costs
 - Completing all necessary designs
 - Procuring the subcontractors
 - Providing project and construction management
 - Commissioning
 - Training staff to effectively operate the systems
 - Providing measurement and verification of savings throughout the term of the contract
 - Guaranteeing the results
2. Project financing covers the entire project costs so no up-front money is needed.
3. An energy savings performance contract is structured so that the energy savings meet the monthly or annual loan payments. It is budget “neutral.”

A conventional process to purchase energy-efficiency improvements often requires three separate solicitations and contract awards and time-consuming reviews at multiple levels. ESPC replaces this cumbersome collection of solicitations and uses a single request for proposals (RFP) covering all aspects of the project and one set of contract documents with the selected Energy Services Company (ESCO).

Process

The process begins with an evaluation of a facility’s potential for energy efficiency improvements by the facility staff. If the potential seems promising, the school district prepares an RFP. This RFP covers all engineering, equipment purchasing, construction, and commissioning needed to complete the project. The school district awards the contract to a single contractor who is accountable for all services and guarantees a level of savings to the facility.

Once selected, the ESCO performs a detailed study of energy efficiency opportunities at the facility. The school district reviews this study and approves a final list of energy efficiency improvements. The ESCO then prepares plans and specifications that the school district reviews and approves.

After receiving notice to proceed, the ESCO furnishes, installs, and commissions the energy efficiency improvements. Commissioning includes verification of system installation and operating parameters, training of operations and maintenance staff, providing equipment manuals and documentation, and all warranty information. When the project is complete, the energy savings measurement and verification process begins and the savings guarantee goes into effect. These activities continue for the duration of the contract term.

The school district monitors the day-to-day performance of the ESCO during the construction phase in the same manner as any capital improvement project. After construction is completed and accepted, the school district reviews equipment operation and measurement and verification reports to ensure the guaranteed energy savings are achieved.

Step 1 - Get information

The Oregon Department of Energy Schools Team is available to provide a Guidebook (on the Web at www.oregon.gov/ENERGY/CONS/school/docs/ESPCGuide.pdf). For additional information on the Web visit: www.oregon.gov/ENERGY/CONS/school/espctemp.shtml or call toll-free in Oregon 1-800-221-8035.