

Power Up

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Energy management can play a role in combating school funding inequity.

BY DAN DOWELL

T **EACHER** strikes and walkouts such as those in Arizona, Kentucky, and Oklahoma—three of 29 states where state education funding in 2015 was still below 2008 levels—have made headlines. What's missing from those news accounts is how hard it is for local resources to make up for those cuts, and the kinds of solutions school community leaders can turn to.

On average, local revenues supply 45 percent of public school funding, and that's not counting capital expenditures. Local school revenues depend mostly on a district's tax base, which varies greatly across communities. Throughout years of post-recession recovery, school districts have not seen equal improvements in budget allocations. That lack of equity is holding back school districts.



But there's something all schools share that could help bring about a funding solution. At first glance, that something looks like a cost—energy. By turning that cost on its head, districts can find a way to both reduce energy use and pay for needed improvements.

WHY IT'S TIME TO TURN ON LOCAL SOLUTIONS

Despite numerous efforts to boost school funding, local leaders still face hard choices forced by insufficient budgets. School funding perennially is the subject of uncertain legislative action and court proceedings, and aging facilities aren't getting any younger. Local resources already foot the bill for 88 percent of capital budgets for schools, that's over and above the 45 percent share of operating funds for everything from teachers to utility bills.

The underlying disparity that many communities face rules out raising taxes or issuing new bonds in many communities.

One way to address funding inequity at the local level is to help schools squeeze more value from existing spending. For many schools, that means a hard look at how spending best benefits students.

After employee salaries, the next highest group of costs for K-12 schools is for facility operations and utilities. By keeping real value from leaving schools in the form of excess energy and operational spending, the benefits of that value can be redirected to students, teachers and staff.

But neither the social good of cutting energy waste or the lure of future savings can pay for the upgrades that schools need to lower their utility bills. Funding inequity

already forces schools every day to put off good ideas. What schools need is a way to make change happen.

HOW CHANGING ENERGY USE POWERS CHANGE

Dollars already earmarked for current and future energy spending seem locked in by the school's equipment and infrastructure. But what if those dollars weren't lost to unnecessarily high energy costs? If operations and energy savings can be guaranteed, those future funds could be freed up to pay for investments schools need.



Getting to that guarantee, however, takes a commitment to prioritizing value for the school. A comprehensive assessment of facility spending should uncover not only energy waste, but also where operational dollars are underperforming. That kind of assessment depends on a holistic view of school needs, paired with in-depth technical expertise in multiple aspects of facilities, administration, and operations.

FINDING OPTIONS THAT FUND A BETTER FUTURE

Achieving operations and energy savings through upgrades to heating and cooling should include how HVAC systems best serve school buildings and students. Ventilation, indoor air quality, and the comfort factors of humidity and temperature are all factors known to affect both health and engagement.

Heating and cooling are great targets for energy conservation measures, or ECMs, but there are many more. A complete facility assessment that includes HVAC, building controls, lighting, and electrical systems can uncover inefficiencies that may be the cause of higher than necessary utility bills. Water conservation and water heating are also areas an assessment examine. Refrigeration for school cafeterias and information technology also may present energy-saving opportunities. A thorough analysis of operational costs should:

- Examine facility data over time to identify spending trends and long-term needs
- Account for actual costs, including capital risk, lost productivity, and administration
- Report accurate data that best informs district leadership



Measuring actual costs and uncovering hidden costs is key. Energy waste tied to building envelope deficiencies and the results of reactive maintenance deserve special attention. Fixing problems, eliminating waste, and generating savings through upgrades is possible in multiple areas. Advances in building controls, powered by the Internet of Things (IoT) also provide opportunities for greater efficiency. But the ability to guarantee those savings depends on good data.

Accurate assessments should gather and track years of spending data. Conditions in school facilities should be monitored over time. With clear measurement and reporting, district leaders can see exactly how to get more value from the funds their schools are already using.

Once technicians have a clear picture of operational spending, a financial plan to achieve change becomes possible. Creating savings enables schools to redirect spending where it is needed most.

GUARANTEED SAVINGS, GUARANTEED RESULTS

Energy savings are an engine that can drive change, but that's not the whole story. When cost control expertise is joined with the financial know-how to put future savings to work now, it's possible to achieve more than energy upgrades. Schools can generate positive cash flow to meet needs.

The Brooks County (Ga.) school district has put \$10.5 million in guaranteed energy and operating costs savings to work, achieving key goals beyond upgrades in HVAC, lighting, electrical transformers and refrigeration. Opening a new kindergarten wing required a roof replacement and new sprinklers. District leaders also felt that best practices for student safety

BIO

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required new security cameras. With capital for building improvements tied up in bond payments for years, the new sprinklers and cameras were in steep competition for resources. By leveraging energy savings from elsewhere to pay for those upgrades, Brooks County could move their kindergarten and pre-k plans forward, even though new sprinklers and cameras didn't deliver energy savings.

Energy savings can pay for key goals. They also should be able to facilitate upgrades that are difficult to accomplish as one-off projects, because the energy savings involved have longer payback periods. Folded into a plan of proper scope, those upgrades can make a real difference to long-term savings.

Schools also may find they want to plan for energy savings to generate general fund relief. Practical experience in guaranteed energy savings can help schools strike the right balance between using savings to improve facilities and putting energy savings back into their budgets.

EQUITABLE SPENDING SOLUTION

Because bonds are used primarily to invest in new schools, the benefit of that new debt is limited, reaching only some students, only some of the community. The strategy discussed here, and as carried out by the Brooks County district, positively affects every student. The dilemma of equitable funding may be difficult to solve, but communities have options they can use to help close the gap. ■