

Stacking the Pennies, Nickels and Dimes

The Van Independent School District (VISD) is WAY ahead of the curve in utility conservation efforts and has been for some time now. In fact, officials have been so successful in their mission that they've already achieved the savings required of all Texas schools via legislation passed two years ago. This law mandates that school districts, beginning in 2007, achieve a 5 percent decrease in utility (gas, electricity, water) use annually every year for six years until a 30 percent total savings is accomplished. To achieve VISD's savings, David Goff, executive director of operations, says the district didn't get there by "reinventing the

wheel, or buying a lot of stuff."

Goff says the driving force behind the initiative was that school districts eventually reach a point where they cannot generate significantly more funds, yet costs continue to rise. So the administration at VISD decided the best place to look for money would be through savings, specifically by decreasing utility bills.

In 2005, well before the law was enacted, Goff spearheaded the VISD energy-efficiency program. Although he was the one tasked with the primary responsibility of achieving the goal, Goff credits the school district's success to a

from-the-top-down, all-encompassing approach. At kickoff, the VISD board gave teeth to the program with a formal board resolution, and the superintendent, principals, teachers and support staff were all charged with helping to implement it. Goff says, "The reason we are so proud of our accomplishments is that it has been a part of a total team effort, and everybody has done their part."

To achieve the best results, the district partnered with Energy Education, a Dallas-based firm that has helped school districts across the nation save more than \$1.7 billion dollars through people-based energy conservation. Working with the firm's consultants, Goff began the program by gathering the prior year's usage data on all of the utilities and tracked cubic feet for gas, water per 1,000 gallons and kilowatt-hours for electricity. A pure dollar amount, with the way the rates fluctuate, would not have resulted in a fair assessment. Then the team set about analyzing and identifying opportunities for savings. For electricity, it determined that lights account for roughly 40 percent of the district's bill, while heating and cooling weighs in at 50 percent and other peripherals account for 10 percent.

It was of primary importance to ensure that none of the efficiency measures degraded the learning environment by reducing creature comforts or impinged on the safety and well-being of the students, faculty and other workers. So, at first, the team addressed the controllable factors by adopting a policy for off-hours and down times. For example, Goff says, "Now custodians only turn the light on in a room that they are working on, instead of lighting up a whole building until they are finished with their work." Also, cafeteria workers only turn on what they need when they arrive and shut down everything when they leave. At the



David Goff, executive director of operations, stands in front of one of the now dark soda machines. Electing to turn off the light on that one soda machine saves the district \$70 a year. When all machines were "de-lighted," the annual savings jumped to \$2,100.

end of their day, teachers turn off all computers, printers and any other equipment, along with classroom lights. The first steps were primarily a culture change and an adoption of conscious steps to avert electricity use, just by flipping the switch off for anything not being used.

Maintenance has also played an enormous role, Goff says, by taking charge of the air-conditioning system and using an energy-management system to only employ climate control when needed. For example, now, as soon as the bell rings to end the day, the air-conditioning system shuts down. However, if a teacher is tutoring students, each class is equipped with an override button for climate control so they can get that extra hour before or after normal school hours, especially on extremely cold or hot days.

Other after-hours ingenuity included using the timer feature on all campus parking-lot lights. Before, these lights were set to turn on and off with photo cells, so they came on at dusk and went off at dawn. The timers allow significantly reduced usage scheduled to coincide with actual need instead of the whims of the sun. Additionally, the team put timers on all of the water heaters and circulation systems, which Goff says is virtually the only specialized equipment that VISD bought.

The first year was the hardest, because change required a community culture shift. To make the program effective, Goff says, first required a lot of talking, the laying out of plans and the naming of expectations. It also took hard data to demonstrate to the skeptics how the program could succeed. One example was that the 1,000 computers and peripherals left on all night cost the district \$70 every night. The project then required auditing responsibilities, which fell to Goff, to ensure that all players were following through. With those audits came reminders in the form of notes for those who may have forgotten to turn off their computers or lights at the end of the day and compliments for those who had.

Once that first year had passed, VISD had reduced its energy use by a phenomenal 19 percent. Those first savings got the proverbial low-hanging fruit, but as the culture of change became ingrained, more of what Goff calls “penny, nickel and dime stuff” got rolled out. As practice, now anytime a room is left empty, say for teacher break, or when staff members go to a meeting, the lights are turned off. Also, savings have been found in other nooks and crannies like turning off the lights in the 30 district-wide soda vending machines. That move alone saves \$70 per machine and adds up to a tidy amount of change at \$2,100 a year.

Officials also have instituted other subtle changes, like asking teachers to only use the actual amount of lighting needed. Most classrooms have three sets of lights, so now when natural light floods a room, the teachers might only turn on one-third or two-thirds of the lights. Goff says there’s a side bonus to this action, since there are credible studies that show learning and attentiveness actually increase in a naturally lit environment. Then, Goff says it was a “no-brainer” to replace everything with compact fluorescent lightbulbs. Not only did that contribute to reduced

energy use, but it also cut maintenance costs, since the bulbs last so much longer.

As the years have gone by, Goff says officials are still looking for ways to save—and they have obviously found some, considering that they’ve steadily increased their savings to over 36 percent since 2005. That’s pretty extraordinary and even more so when one considers that VISD has added 50,000 square feet of buildings, including a new middle school and a large addition to the high school. Even with that added footage, Goff says the school district is actually spending less on electricity than that base year; to date, the district has saved right at \$20,000 per month, for a total program savings of about \$750,000.

Goff says, “We have not sacrificed comfort to save, and we have still achieved the success that we have had.” He believes firmly that the success is due to the fact that, “It’s a people program. It’s not a stuff program. Our people have achieved it, and everybody else can, too.” He also says some teachers have really taken the lessons to heart, inviting him into the classrooms to talk with the students. And other teachers have told him that they’ve begun employing some of the conservation measures at home and are now saving about \$100 a month.

The kids also have noticed the change, says Goff, and any given day you will almost always see that empty classrooms are dark. This leading by example introduces important lessons, and those kids take those lessons home to their parents.

Even though the roots of the VISD program were not about environmentalism, or “going green,” Goff does believe the program came about at the right time, and he is able to encourage more people—those who aren’t just motivated by the dollar savings—by calculating a carbon footprint reduction equal to taking 600 vehicles off the road or planting thousands of acres of trees.

Goff is proud to say that every VISD building has achieved the highest rating nationwide and has earned an Energy Star rating. That’s quite an achievement, as only the top 25 percent of schools in the nation have been awarded this honor that requires a certified engineer’s assessment. But he is most proud of the fact that a team of people working together has produced such positive results. And together, “the pennies and the nickels and the dimes add up to \$250,000 a year that you can use to educate kids.”

The superintendent and the VISD school board must have been pretty proud, too, because the savings allowed them to reward the VISD staff and teachers with 5 percent pay raises instead of the usual 2 percent. “I want our taxpayers to feel good about our school system, and our employees are responsible for these savings,” Goff says.

All connected with VISD should feel good about what they’ve done since it has resulted in a wonderful culture change ... and excess pocket change ... that will soon be approaching \$1 million. Can anybody say, “Cha-ching?”

Van Independent School District is a member of Wood County Electric Cooperative.

Invest Wisely When Considering Energy-Saving Improvements

Haven't you always heard, "If it sounds too good to be true, then it is?" That's why the team at WCEC urges you to thoroughly investigate services and products that are promising to save you incredible sums of money on your energy bill. There are many unscrupulous people out there just waiting to part you from your money. And while some spiels are clearly outlandish, others sound credible and therefore attractive—especially during this economy, when saving money has become a priority for so many. So, to help you avoid being bamboozled, here's some information on products we've identified as questionable. It will also become readily apparent that some of these products are simply ineffective gimmicks, while others are highly dangerous and/or criminal when used.

RPU-190 Electric Hero

First on the list, because of its extraordinarily unsafe nature, is a product called the RPU-190, which is being sold online. This device sells for about \$200 and claims to save users up to 50 percent on their electricity bill by "stabilizing the current." While it may sound like a good deal, in actuality, the product is a theft aid. The unlikely named "Electricity Hero" allows electrical current to bypass the meter so that the true level of electricity consumption is not accounted for. So, people who install this device on their electric meter, unwittingly or not, are committing larceny. And, as you likely know, ignorance of the law is no excuse. When discovered, depending on the value of services stolen, users of the product can be charged with a felony. Additionally, persons employing this product can also be charged with another crime called meter tampering, since to employ the RPU-190, a person must pull the meter.

However, putting all potential criminal charges aside for a moment, the primary reason consumers SHOULD NOT install this product, or those like it, is that they could suffer electrical shock, arc flash burns or possible electrocution. Pulling a meter can put the installer in contact with 120/240 voltage, which is enough to seriously maim or kill. A meter

should never be pulled by anyone other than a licensed electrician or a utility employee, and then for only a legitimate reason, with the individual wearing appropriate protective equipment. With this device, well-meaning people who wish simply to conserve on energy are being conned into risking their lives.

PowerSaver, PFC Unit, KVAR, Energy Controller

These are just a few of the names of a multitude of units out there that claim to increase or optimize the power factor, reduce reactive power, reduce electrical noise or regulate voltage. These products most likely won't electrocute you or burn down your house, but you should approach their money saving-claims with a healthy dose of skepticism.

Most folks are very aware that there is an energy crisis, and demand for electricity will soon outstrip supply unless new generation facilities are built. If these units worked as advertised, cutting power use by up to 30 percent, don't you think the government would have figured that out and made installation on homes mandatory? After all, if the claims are true, this plan would obviate the need for any new power plants for years to come while cutting greenhouse gas emissions by enormous amounts.

Some of these products are simply surge suppressors, and act as protective devices only, and the Federal Trade Commission and various consumer agencies have issued warnings to those businesses that make unwarranted energy-saving claims. Many advertisements claim to save up to 20 percent in energy by allowing appliances and HVAC systems to work more efficiently and thus cheaper.

What you should be aware of is that alternating current is made up of three components: real power, reactive power and apparent power. Real power is used by resistive loads, such as lightbulbs and strip heaters and is measured in watts. Reactive power is for inductive and capacitive loads with motors, like washing machines and dryers and contains stored energy. Reactive power is measured in

volt-amps reactive. While apparent power is the result of the real power added to the reactive power and is measured in volt-amps, power factor is the ratio of real power over the apparent power.

Reactive power is part of the total current but does no useful work. Some of the products are simply nothing more than capacitors that claim to remove that reactive power. Some commercial and industrial customers who have large reactive power loads like large motors, and are billed for that power, can be helped with some types of capacitive devices. But at normal household levels, there is no equivalent savings because residential consumers are not charged for the power factor. So in effect, an average residential user buying one of these units would only succeed in trying to reduce something he or she is not even being charged for to begin with.

Asking the Important Questions

Saving energy is important, and it can have beneficial effects on your pocketbook as well as on the environment. So it's important for you to invest your money where it counts. When researching a product, just ask yourself a few simple questions as a guide to any sensible purchase: Have reputable, independent scientific organizations certified or rated the products? Are there disclaimers that use could be illegal? Is there an ironclad money-back guarantee if the product does not perform as advertised? Do the claims sound too good to be true? If this product is so miraculous, why isn't everybody using it? Also, be sure to check out the ratings and reviews for the business and products online.

Lastly, if you are contemplating a purchase, but still have some questions or would like advice, call the cooperative. Our industry experts try to stay apprised of the latest innovations as well as the latest scams. They are always happy to offer you sound advice that has the potential to actually conserve energy. Also, you can visit www.wcec.org for all kinds of conservation and money-saving tips.

WCEC Connects Members to Stimulus Savings

With the passage of the federal stimulus bill, there's money available to assist all Americans in performing energy-efficiency improvements that will help them achieve savings on their electricity bills. The American Recovery and Reinvestment Act of 2009 allows significant tax credits for purchase of new appliances and systems that will conserve energy. There is also grant money slated for low-income homeowners to help them weatherize at no cost.

Grant Money

In the past, in the state of Texas, only households that earned up to 125 percent of the national poverty level were eligible to participate. The stimulus bill provides states with the flexibility to extend the eligibility to those with incomes below 200 percent of the national poverty level. The final eligibility requirements will be determined by the state agency administering the Weatherization Recovery Act funds, the Texas Department of Housing and Community Affairs. However, using the federal numbers as an example, for a family of four, 200 percent of poverty equals an income level of \$44,100. Weatherizing a home, which includes sealing air leaks and properly insulating, can save about 30 percent of the cost of

heating or cooling.

Through the Weatherization Assistance Program (WAP), qualifiers can receive a professional energy consultation and upgrades like proper insulation and roof and a more efficient heating and cooling system. The work usually takes two days with an average cost to the government of \$2,500. Since some homes have different needs, the stimulus bill allows up to \$6,500 to be spent on each home.

In Texas, the WAP is administered through 33 subrecipients (Community Action Agencies and other nonprofits or units of local government), which collectively cover all 254 counties. To learn more about the benefits WAP offers, members can visit www.tdhca.state.tx.us. Or, to inquire about assistance available in your specific county, call toll-free at 1-888-606-8889 or check the table accompanying this article.

Tax Credits

For members not eligible for federally funded programs, the stimulus plan provides a tax credit of up to \$1,500, or 30 percent, of the cost for new energy upgrades, including weatherization activities, as well as installation of efficient heating, ventilation and air-conditioning systems. Tax credits were already available for 2009 but carried a \$500 limit and only covered

up to 10 percent of an investment.

Tax credits, unlike deductions, reduce taxes owed dollar for dollar. In contrast, a tax deduction, like a home mortgage or charitable gift, only lowers taxable income and usually offers a smaller savings. For example, a \$1,500 tax deduction for someone in the 25 percent tax bracket would lower taxes owed by \$350; a \$1,500 tax credit for energy-efficiency efforts will lower taxes owed by \$1,500!

Members may have looked at the tax credit in the past and thought it wasn't worth the trouble, but this change effectively triples the amount of financial investment you can get credit for. Coupled with how much you can save on energy costs each year, any costs of efficiency measures are recouped much more quickly.

As always, before you buy any new products or contract for service, be sure to do your research to ensure that the product or work that you are having done will qualify for the tax credit. You can usually find a manufacturer's certification on the product's website. And, remember to claim your tax credits on IRS Form 5695 (2009 version) next year when you file your 2009 return. For more information about energy-efficiency tax credits, visit www.energystar.gov. Click on "tax credit for energy efficiency."

WEATHERIZATION ASSISTANCE PROGRAM

Contact Numbers by WCEC Service Area

COUNTY	AGENCY	WAP PHONE #	TOLL-FREE
CAMP	Texoma Council of Governments	(903) 813-3526	1-800-677-8264
FRANKLIN	Texoma Council of Governments	(903) 813-3526	1-800-677-8264
HOPKINS	Texoma Council of Governments	(903) 813-3526	1-800-677-8264
RAINS	Texoma Council of Governments	(903) 813-3526	1-800-677-8264
SMITH	Community Services, Inc.	(903) 872-2407	1-800-831-9929
TITUS	Texoma Council of Governments	(903) 813-3526	1-800-677-8264
UPSHUR	Tri-County Community Action, Inc.	(936) 598-6315, Ext. 23	
VAN ZANDT	Community Services, Inc.	(903) 872-2407	1-800-831-9929
WOOD	Greater East Texas Community Action Program	(936) 564-2491	1-800-621-5746