

Saving Money—And the Environment: A Conversation with St. Tammany Parish Public School System’s Supervisor John Swang

Public School Insights: Why did St. Tammany Parish decide to start a comprehensive energy management program?

Swang: About four and a half years ago, our energy bills were skyrocketing. At one point, the cost of energy doubled in three years. We were sending a lot of our resources to the utility companies. It was no different than what the rest of the country was experiencing—it was a kind of a runaway situation. And still, to a large extent, the cost of energy is increasing and probably will continue to do so for the foreseeable future.

But at that point the St. Tammany Parish School Board began talking about getting control of what we were spending on utilities, especially gas and electricity, which I would say are 97% of our utility costs. They brought together a committee of board members, district administrators, teachers and community stakeholders to see if we could figure out how to get a handle on these costs. Now, there are companies that sell their services to help organizations and businesses save energy, but they tend to be quite expensive. In fact, they tend to want all of your savings for the first two, three or four years of your partnership as their fee for implementing the program. That did not sound like a good idea to us. So we decided to go in-house and develop our own program. The board laid out two goals. One, reduce energy use by 10%. Two, take the cost avoidance—the money that we would have given to the utility companies—and put it back into the schools for the education of our students.

Public School Insights: What are some of the major components of this program?

Swang: First we developed an energy management policy, which is a broad view of how to gain control of energy use. That policy came out of the committee of stakeholders. Then out of that policy we developed energy saving procedures and guidelines, and all kinds of materials and resources schools could use to motivate staff and students to change their behavior in regards to lighting, cooling and heating.

A very important component of the program is feedback. We give feedback on energy use and cost avoidance to the administrators of all of our facilities on a monthly basis. That had never been done before. When our administrators got their first report, I will never forget, they looked at the bills from the electric and gas companies, and I had one principal ask, “Is this how much we use in a year?” And I said, “No, that is how much you use in a month.” It was a real eye-opener for them.

And you are not going to be able to manage your energy use unless you can measure it accurately. That is so important. We emphasize quality control for the reports that we put together. We use two different energy management tracking systems. One is from the company Abraxas, called Metrix 4. The other is available to us over the Internet from the Environmental Protection Agency’s ENERGY STAR program. It is a portfolio manager. Using two systems helps ensure we have accurate data. That is especially important since our reports are one of the most powerful tools we have to encourage facility managers to reduce energy use and to show what we have accomplished.

We put some of our resources into energy automation, using the program Novar. So we have software programs that operate on the Internet and tell a school’s air-conditioning, heating and lighting when to turn off, when to come on and, for heating and cooling, what temperatures should be established. That is another major component of the program. Half of our facilities are now monitored and controlled by automated

energy management programs. The rest are still saving energy in the good old-fashioned behavioral change kind of way, turning off the lights when leaving a room and setting the temperature to a comfortable but not excessive setting.

Another major part of our program is that we partnered with the EPA's ENERGY STAR program. We were the first school district in Louisiana to do so, and to my knowledge we are still the only district in the state to have done so. Basically, what we agreed to do with them was track energy use and set increasing goals for savings, moving from 10% savings to 20% to 30%. At this point we have achieved 20%, and going to 30% is going to be a significant challenge. ENERGY STAR has been a wonderful resource and we really could not have done this without them. They have an extensive website that offers all kinds of resources to help school districts, or any organization, begin and maintain an energy management program.

Those are the major components of our program. There are also a number of other aspects of the program that complement those major components. We have energy management specialists who go into the schools every day. We try to enter each facility, all 72 of them, once every two weeks. We do energy audits to see who is leaving the lights on and whose air-conditioning is not set at an appropriate temperature. Are doors ~~are~~ open to the exterior, allowing conditioned air to go into the environment? We look at windowsills and doorsills. We make sure that vending machines are de-lamped and that computers that are not in use are turned off. Then once we do the audit, we send the principal an e-mail of what we found. So they get not only a monthly report on their energy use, they get a couple of reports each month about how well they are doing in the classrooms, teachers lounges, auditoriums and gyms.

We provide recognition to our high-performing schools and facilities. We give them plaques, certificates or energy-saving trophies and hats, coolers. Recognition is very important to our schools. It motivates them. Our schools are competitive, and when they see other schools being recognized for a great job they try to emulate that success.

We developed an energy awareness curriculum to get students actively involved in learning about environmental science, ecology and conservation. We put together a pretty extensive set of learning experiences, lesson plans and other resources to teach these concepts. We correlated them to our state standards for our teachers to use in science, social studies, language arts, and math. They are on our website, <http://energy.stpsb.org/>, which is another part of our program. It contains all of our resources, publications, forms—everything we use for parents, students and staff.

We have custodian and maintenance mechanics inservice trainings twice a year. For instance, for summer we worked with custodians on shutting down their facilities, assuming there are no summer programs going on, or shutting them down as much as possible. We have worked with our maintenance department mechanics on how to optimize equipment and make it run more efficiently, and how to facilitate energy management savings in general when they are out working in the schools.

And we have a very strong collaborative relationship with our construction department. Whenever they build new schools or renovate older ones, they do it in as energy efficient a way as possible.

Another thing we do is monitor our bills. The energy tracking software I told you about is based on the bills that come in, and it tells us when it thinks there is a billing error. We have found tens of thousands of dollars of savings there, just on errors in charges and incorrect meter readings.

We have had a number of partners. I mentioned the EPA. We have also worked with other groups, including the Kent School District in Washington, the SEE program—Schools for Energy Efficiency—and the Cadmus Group. We had local partnerships with our utility companies. Our partners provided us with all kinds of resources and know-how to help us get over the learning curve.

Public School Insights: Have you seen any results with this program?

Swang: To measure results in this industry, you set a baseline and benchmark goals based upon it. So we started the program right after Hurricane Katrina. We were getting ready to start it, and then Katrina hit and it took us a while to get back on our feet. The last six months of the first fiscal year, when we came back from Katrina, all we did was tell the principals, “Turn off the lights when you leave the room. Set your thermostat to the lowest possible setting in the winter and the highest possible in the summer.” We did not give them any resources. But that alone saved us about 7%.

When we started bringing in all the resources, training teachers and going out into the schools with the information that we were gathering our savings increased. That first full year I think we saved about 8%. We were still learning how to go about these things, so we were really thrilled.

As we went along, we got a whole lot better. And the teachers, administrators and students began to see the savings and really started to buy in to the program. By the end of the third year of operations, we were saving 15%, almost 16%. The fourth year, we saved 20%. That was one of the benchmarks we were looking for. And currently we are saving about 21%.

The total energy cost we have avoided over the last four and a half years has been about six million dollars, which is a big, big savings. And we have put that money into classrooms. We're using it for all kinds of things, especially for state of the art instructional technology, from Promethean boards to the latest computers for the classrooms.

We also measure the success of our program by the recognition the district gets for its efforts. These recognitions are not about the energy management program. They are about the teachers, students, secretaries, custodians and administrators in the schools making all this happen. For example, in August 2008, the EPA gave us a recognition called the 10% Improvement, because we met the goal of saving 10%. We received the ENERGY STAR label for one of our facilities, which means it was in the top 25% in the country in regards to energy efficiency. You see the ENERGY STAR on washers and dryers. We have a building with that label. We were named a Top Performer in June 2008, got a 20% Improvement award in February 2010, and our second Top Performer recognition just recently in June 2010. Those are all from the ENERGY STAR Program. We have received recognition from the Louisiana State Department of Environmental Quality here at the state level as well. In addition, our program received the American School Board Journal's Magna Award in April, 2010.

Our school system is recognized as one of the best in the state of Louisiana from every accountability perspective you can look at—test scores, graduation rates, all those indicators. This energy management program is indicative of the stature that we have. But it is not only an indicator of that stature, it is a program that helps us maintain it. You can't do it without the resources the energy management program helps to provide.

Public School Insights: How have you gotten staff, student and community buy-in for this program?

Swang: During the third year of the program, the board used the program cost avoidance to increase the per student operational expense allowance by \$30. When the schools saw that, they were even more motivated to turn off the lights in unoccupied rooms and do all of the other things we had been encouraging them to do for several years.

We have a whole lot of posters we put up in schools reminding people to save energy. One is called the Energy Management Tips poster (*available at http://energy.stpsb.org/EnergyConservationProgramfiles/STPSBEnergyManagementTipsPoster09_10.pdf*). It has about 30 suggestions of things teachers, staff and students can do to save energy. It really condenses our program into a one-sheeter. It includes everything from turning off lights when you leave an unoccupied room to setting your computer screen to go off after 20 minutes of nonuse. The poster is in every room in the district, from the Xerox room to the boardroom, as a reminder of how we are asking people to save energy. And at the beginning of each school year, administrators review it with teachers—it changes just a bit each year. So it is a constant reminder, along with all kinds of other posters and stickers. We have stickers that go on every electrical appliance from computers to copy machines that say, “Turn me off.” We have “Turn off the light” stickers at every light switch, “Close this door” stickers at every door, and sticker with the recommended temperature settings on all the air conditioners. We put up a poster at the front of each school that tracks the school's energy savings each month, so when parents and other visitors come to the school they easily see how much the school is saving.

To help keep the idea of energy savings in the minds of everyone in the school, we also have energy savings announcements—one for every day of the school year—that we encourage principals to include in morning announcements. Every classroom does the Energy Saving Pledge, which is on the wall as a reminder of their commitment to saving energy. Schools participate in significant events throughout the year in regards to energy and environmentalism—Energy Awareness Month; the Energy Star Challenge, a program sponsored by the EPA; Environmental Education Week; Earth Hour, when we all turn off the lights for one hour on a specific day. And Earth Day is a very big event here in the district. That will be especially true next year, now that we have this terrible oil spill out in the Gulf of Mexico, which is only 40 miles away from us. So we will really be emphasizing Earth Day.

Staff involvement is really important, from the teachers to the custodians. We have a volunteer teacher Energy Leader in every school. That person is the point of contact between the energy management program and the faculty of the school, along with the school principal. This teacher really facilitates the initiatives we send to the schools and is a very important part of our program. And our custodians really are the people who know how well a school is doing with energy management, because they are all over the school. We depend greatly upon them.

To keep our students involved with energy management, as I mentioned before we have a curriculum that uses energy management and savings as a vehicle for teaching math, science and even language arts concepts. We have students who do science fair projects on energy-saving. We have door decorating contests, poster contests, essay contests. We have Energy Saving Helper Teams composed of students who go around schools looking for energy waste and savings. We provide them with stickers that say, “Congratulations,” or “Oops! We found your lights on!” The kids just love to do that. Even the older students, junior high and high school, will get involved in this.

We brought in the “Energy Hog.” It is a national program that goes to the middle- and lower- grades to talk about energy savings. We have earth protector clubs, environmental clubs—all kinds of clubs that get students

involved in everything from picking up litter to planting trees to recycling paper and old electronics. So we get our students actively involved in the protecting the environment.

And including our community is very, very important to us. We try to involve our parents, government officials, business owners, and churches. We try to make them as aware as possible of what we are doing. We want to be viewed as good stewards not only of the environment but of the tax dollars that we use. And the community is very receptive, especially parents, who are implementing the energy-saving behaviors that we are teaching children in classrooms back in their homes.

Public School Insights: What are some of the challenges you have encountered with this program?

Swang: In the beginning, there was some resistance. I cannot say that is a challenge today. Especially now with the Gulf oil spill that is devastating the Louisiana coastline—and if we have a hurricane that pushes all the oil up inland, it is going to be unimaginable, and we pray that does not happen—and with climate change and the state of the environment, especially the hurricanes that are getting more frequent and bigger down here, people here are starting to realize we cannot just continue to do what we were doing in regards to energy use. Since we are here on the front lines dealing with hurricanes and oil spills, it is not that challenging to get people's attention about conserving energy.

Earlier, before Katrina, we had to turn some heads. There was some pushback. Any time you implement a change program, especially of the magnitude we were talking about, you're going to have some resistance. In my experience, I find that you get a third of people to readily embrace it and a third who go one way or the other depending on how their day is going. And then you have a third who don't want to have any part of it. But I think we have come a long way as a district over the last four and a half years in changing people's minds about energy management, conservation and environmental stewardship. This district has embraced it. This community as a whole has embraced it.

Another challenge that we now face is a shifting baseline for measuring progress. Every time we build a new school, and we do that on about a yearly basis because we are growing so fast, the new school is pretty energy efficient. And it is hard work when you have a state-of-the-art building that is already saving energy, and you want to squeeze another 10% out of it. That is where you really have to have commitment and smart and hard work from the people who occupy that building. But for buildings that are 20 or 30 years old, you set your baseline and then you have a lot of room to save energy.

Another issue that is always there is that to save energy, you've got to expend energy. Like money. The program does cost money to implement. We have a little less than \$300,000 per year to run it. That includes personnel expenses, travel, materials and supplies. About half goes into getting automated systems into schools. We cannot afford to do the entire district at once, we are so big, so each year we have two or three schools that we automate. And in the very beginning, when we were spending \$250,000 or \$300,000, our return on investment was minimal. We just barely covered that investment, and that was good in and of itself. But now that we are saving \$1 million a year, that return on investment is wonderful. It is incredible. So it is much easier now to spend money to save energy than it was in the very beginning. We have overcome that obstacle as well.

Changes in attitudes, values, beliefs and behaviors have occurred. It just takes time and patience and repeating your message over and over and over again, which is what we are doing.

Public School Insights: Are there any questions that I should have asked you but did not?

Swang: I can tell you one thing that is really important if schools are thinking about doing this type of program. It is very important that the district as a whole, from the board down, embraces the idea and supports it for the long term. In many instances, schools will start feeling the pain of increased energy costs and say, “Okay. This has got to change.” They will put someone in charge of energy management, but soon that person will start to take on other responsibilities not related to energy management. Their focus becomes diffused. And in many instances, if you do not stay focused on your goal, you will lose the program. People will go back to their old ways of using energy. So it is most important that if the school district commits to an energy management program there is always somebody whose primary responsibility is going to be energy management.

And also, as regards our energy education program...The skills and knowledge we teach our children about energy, environmental stewardship and conservation are vital. They are as important as reading, writing and arithmetic. These are skills and knowledge that our children are going to need in order to succeed in the world and to live healthy lives as adults. So it is important that we save energy here in the school system, but the ultimate goal is to give these skills to the students for their adult lives.

We like to develop students who graduate as lifelong learners. If they can learn the basics of energy management, conservation and environmental stewardship while they are students they can continue learning more and more and getting better and better at it so that one day we will have a community that is much more comprehensive in its approach to the environment and how we relate to it. It is a long-term investment.

Public School Insights: Thank you so much for taking the time to talk to me. What you and the district have been able to accomplish with this program is very impressive, especially considering when it was started. Right after Hurricane Katrina, I don't think many people in Southeastern Louisiana were concerned about things like energy management.

Swang: No, they were not. They were in survival mode. But I will tell you what. We have a leadership team who constantly strives for excellence and providing everything our students and our community could possibly need. They brought St. Tammany Parish back from the brink. The City of Slidell area, over by the coast, was just destroyed. But in a matter of one month we got those schools back up and running. And once the schools were back up and running, people knew that St. Tammany was going to be okay. So they started coming home.

In the midst of that survival mode, the board and leadership team said, “We are going to start an energy management program.” I was thinking, “Oh my gosh, I am trying to get schools open!” But it was a great time to do it, and I look back on it now and I am so glad that we did it. I don't know what would have happened if we hadn't. It is a great program and we are very proud of it.