

LET'S SAVE ENERGY

School Energy Efficiency News

KSBA-SEMP ... Cultivating energy efficiency, best practices in Kentucky school districts



August 2017

2017 Solar Eclipse . . . impact on energy

In recent times, Carly Simon has sung about seeing "a total eclipse of the sun" and Pink Floyd about "the sun is eclipsed by the moon." The eclipse even inspired Bonnie Tyler's song about "a total eclipse of the heart." With more modern technology, a new analysis has come: the impact the 2017 solar eclipse will have on solar generation.

The US Energy Information Administration (EIA.gov) reports that 2 percent of the nation's electric generation is from solar power. Bloomberg News has calculated the impact of the 2017 solar eclipse on the grid to be more than 9,000 megawatts across the 70-mile-wide shadow, from Oregon to South Carolina.

With the increase in solar panels and the interconnections with electric companies, utility companies across the nation have been encouraged to coordinate in advance to address potential additional power generation requirements.

Patrick Walshe, TVA Operations & Analysis manager, explains that as the largest public utility in the United States has been readying for this event for months. "We are absolutely ready because we've been preparing for this eclipse like a major storm or

2017 Total Solar Eclipse's Path Across the U.S.



Casting a 70-mile wide shadow across the US, Hopkinsville, Ky. is named as the "point of greatest eclipse." (illustration from NASA.gov)

temperature event that could affect our ability to keep electricity flowing to our consumers." Walshe adds, "We don't put all of our eggs in one generating basket, so we'll have plenty of clean, low-cost, reliable power to meet the demand."

TVA serves parts of 28 counties in Kentucky and operates one 41 kW solar site in Bowling Green. Pennyrile RECC and Hopkinsville Electric System are two TVA distribution companies in Hopkinsville area, which has been identified as the "point of greatest eclipse."

Over ninety percent of **Christian County Schools'** electric service is provided by one of the two mentioned distribution companies. Superintendent Mary Ann Gemmill

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Double play: PSC reduces impact of utility rate hike on schools, paves way for special tariff

The utility bills of public schools served by Louisville Gas & Electric and Kentucky Utilities will not take as large a hit as originally projected, thanks to KSBA and other groups that intervened in the companies' latest rate hike submission. But other action by the state Public Service Commission in the case could have even more significant implications.

The PSC signed off on an order in late June reducing the size of the rate request. "LGE-served schools will see their electric costs rise by approximately \$1.1 million less than originally requested by LGE, and KU-served public schools should realize an estimated \$1.5 million less of an increase than initially sought," said Ron Willhite, director of KSBA's School Energy Managers Project. LGE natural gas-served school buildings also will be less affected compared with the original rate request.

This isn't the first success KSBA has had in intervening on behalf of schools in utility rate cases. But in this most recent case, the settlement has the potential for generating long-term change. As part of the agreement, the PSC approved special rate tariffs for schools, both public and private, in a pilot program.

While those tariffs will provide immediate energy cost avoidance, the benefit would be more long-lasting if they are continued, Willhite said.

The process

KSBA is in the process of filing a plan with the PSC for choosing the schools that will receive the special pilot tariffs and for implementing the overall program. The association will work with the Kentucky Non-Public Schools Commission – which certifies private schools – on this process, Willhite said.

"Every school (in the LGE-KU service area) won't be eligible because they're already on a tariff that costs them less than the pilot tariff, so it doesn't make any sense for them

to switch," he explained. The pilot tariffs could produce estimated decreases of \$5,000 to \$15,000 in participants' annual school utility bills from the otherwise applicable tariff.

The PSC set a cap on the amount of savings that the pilot schools can generate with the new tariffs: a total of \$750,000 for each utility. "Those tariffs will stay in effect until the earlier of the companies' next rate cases or July 1, 2020," Willhite said. Those figures are included in the overall savings he cited as a result of the entire settlement.

Of the 84 districts involved, 71 have a school that would be eligible for the pilot tariffs, "and every district that has an eligible school will have a school in the pilot," Willhite said.

He said there could be as many as 100 eligible public and private schools in each utility's territory. KDE enrollment numbers for the schools will be used to ensure that there is a proportionate ratio of public to private schools in the pilot.

KSBA-SEMP will track the data generated with the new tariffs, which the PSC will use to determine whether to expand the pilots or make the system permanent. "One of the goals of this project is to gather information to support continuing or discontinuing the pilot rates," Willhite said.

Energy managers

As part of the settlement in the case, LG&E and KU have agreed to apply to the PSC for authorization to continue providing funds to supplement the salary of about three dozen energy managers serving school districts in their coverage area. The current funding, also achieved through KSBA's intervention in earlier rate cases, will end June 30, 2018. The utilities will file later this year to ask PSC to approve their funding of \$1.45 million for the energy managers. That new infusion would support these professionals through June 30, 2020.

CONSIDER THIS PROJECT:

Union County Schools save with replacement lighting

With diminished metal halide lighting in three buildings, energy manager Steve Buckman didn't have to look long to identify an energy project to submit for the Special Energy Project Funding (SEPF). Between two schools, a parking lot and the bus garage, seventy-three metal halide fixtures are being replaced with appropriate LED fixtures.

Superintendent Patricia Sheffer stated, "We appreciate the opportunity to participate in the SEPF. This has allowed us to replace old, outdated lighting, which would have otherwise been more difficult to replace." She added, "The improvement in lighting and reduced maintenance time/costs, will be a nice addition to the 2017-18 school year!"

Buckman serves as the district's maintenance supervisor, along with responsibilities as energy manager.



Shown above are the outdated 458 watt metal-halide fixture, alongside the 108 watt LED replacement fixture, used for the high school auxiliary gym. Improvement in lighting levels and, when completed, saving an estimated 70,000 kWh annually are a plus for the district.

Anderson County Schools announces \$2 million in energy savings

After eight years of a district-wide focus on energy management, Anderson County Schools is celebrating over \$2 million in cumulative savings.

Gary Stinnett, the district's energy manager, has been involved with the program since its beginning. "Constant monitoring to ensure our unoccupied building temperatures are within district guidelines of 68 degrees in winter and 74 degrees in summer, is key," said Stinnett. "Also working with the

custodians to keep lights off in the unoccupied areas of the building, and to involve them in looking for ways to reduce has helped our district."

Superintendent Sheila Mitchell is quick to give accolades to Stinnett for his continuous monitoring and tracking of energy. She has also seen the importance of involving the full district. "The challenge in school energy management is that saving significant energy dollars requires the consistent execution of hundreds of energy-saving actions by hundreds of faculty and staff members every minute of every day," Mitchell said. "We appreciate their commitment to using all resources wisely."

From the beginning of the program, district staff removed small appliances from classrooms and developed monthly and yearly incentives to keep others in the district involved. Their habit of reviewing procedures to identify opportunities for optimal energy savings – such as the timing of hallway and gym lighting – also helped the district save energy.



As Anderson County Schools prepares for another school year, Energy Manager Gary Stinnett will continue routine monitoring of each building.

2017 Solar Eclipse . . . impact on energy (continued from page one)

states, "Because of the impact of the expected influx of visitors and related traffic congestion on the community and the district, Christian County Schools are closed on August 21 and 22." The district has four "Solar Eclipse Viewing Sites" in which spaces are being sold online. She adds, "Here in Hopkinsville, we have embraced the news of the Solar Eclipse and its relevancy to our community. It has afforded our schools with numerous educational opportunities."

Warren County Schools has amended its school calendar to also close schools on August 21. Jay Wilson, the district's energy manager, notes, "When school is not in session, we ensure all schools in the district are on unoccupied mode, using the least amount of energy." Because of this, he expects little impact on Richardsville Elementary, the nation's first net-zero school site, that provides approximately 348 kW.

For more information on the solar eclipse, check out the following websites:



<http://www.eclipseville.com/>



<https://eclipse2017.nasa.gov>

Should you miss the 2017 solar eclipse, mark your calendars now for the April 8, 2024 solar eclipse. Kentucky should be a good viewing location then, as well!

Kentucky's Battle . . . Registration open until August 15

Send your list of schools to compete, along with the building address, to: martha.casher@ksba.org



Kentucky's Battle of the School Buildings



An ENERGY STAR® Battle of the Buildings™ Competition

