



Annual Report

for



Kentucky Power Company School Energy Management Program

July 1, 2017 - June 30, 2018



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EXECUTIVE SUMMARY

The Kentucky Power School Energy Management Program ("Program") has provided funding support for public school energy management programs. It was intended to conclude June 2017; however, on November 2, 2017, the Kentucky Public Service Commission (Case 2017-00097) approved use of the unspent funds to continue the program through June 2018. This program was a six-month commercial Demand Side Management program that made funding available to support all public school districts in Kentucky Power's service territory. The Program was administered by the Kentucky School Boards Association ("KSBA") as part of its School Energy Managers Project ("SEMP") pursuant to Energy Manager Program Agreements between Kentucky Power ("KPC") and KSBA.

Sixteen public school districts participated. They included: Breathitt County, Carter County, Fairview Independent, Floyd County, Jackson Independent, Jenkins Independent, Johnson County, Knott County, Lawrence County, Leslie County, Letcher County, Magoffin County, Martin County, Paintsville Independent Perry County, and Pikeville Independent. One of the original funded districts choose not to participant in the grant restart because the position was not continued in FY2018.

The Program funded district energy managers who facilitate identification, evaluation, implementation, and monitoring of energy-efficiency measures to lower demand and consumption. As part of its obligations under the Program Agreements KSBA-SEMP is providing KPC with this report on the Program and energy savings achieved.

The sixteen participating districts reduced their FY2018 energy consumption over FY2015 by 9.71 percent and their summer and winter peak demands by 13.13 percent and 5.91 percent respectively.

DISTRICT FUNDING

KPC SCHOOL ENERGY MANAGEMENT PROGRAM

FUNDING DISTRIBUTION

KPC Grant #1 - FY2018							
District	Project Management			Energy Manager Support			Total
	Staff	Outreach	Travel	Technical	Training	Salary	
FY2015	\$1,373	\$1,332	\$248	\$871	\$1,441	\$26,346	\$31,610
FY2016	\$2,347	\$1,630	\$436	\$3,351	\$3,425	\$31,946	\$43,135
FY2017	\$3,142	\$3,042	\$498	\$5,918	\$8,276	\$26,342	\$47,217
FY2018*	\$3,038						\$3,038
Total	\$9,900	\$6,003	\$1,183	\$10,139	\$13,142	\$84,634	\$125,000
*Accounting adjustment							

KPC Grant #2 FY2018

District	Project Management		Energy Manager Support				Total
	Staff	Outreach	Travel	Technical	Training	Salary	
Breathitt						\$1,794	\$1,794
Carter						\$2,893	\$2,893
Fairview						\$0	\$0
Floyd						\$6,194	\$6,194
Jackson Ind						\$579	\$579
Jenkins						\$579	\$579
Johnson						\$2,916	\$2,916
Knott						\$4,050	\$4,050
Lawrence						\$2,430	\$2,430
Leslie						\$2,893	\$2,893
Letcher						\$4,628	\$4,628
Magoffin						\$1,944	\$1,944
Martin						\$1,944	\$1,944
Paintsville						\$972	\$972
Perry						\$5,207	\$5,207
Pikeville						\$1,157	\$1,157
FY2017 Adj						-\$3,248	-\$3,248
FY2018	\$ 3,796	\$ 6,813	\$ 706	\$ 14,826	\$ 22,610	\$36,932	\$85,682
FY2017	\$ 12,741	\$ 12,419	\$ 1,596	\$ 24,071	\$ 33,252	\$90,887	\$174,966
FY2016	\$8,725	\$6,028	\$1,380	\$12,254	\$12,682	\$98,283	\$139,352
Total	\$25,262	\$25,260	\$3,682	\$51,151	\$68,544	\$226,102	\$400,000

INITIATIVES IMPLEMENTED

A listing of energy projects or initiatives reported by the districts are included as **Attachment A**. Some of the projects did receive a rebate under Kentucky Power Company's utility rebate program. Please note that while not indicated for all districts, district and student teams continued a focus on energy-efficient behaviors during the six-month period.

An example of the initiatives is shown below:

AEP-KPC Project Number (if known)	Energy Projects											
	HVAC				Lighting				Other			
	Project Description	Completion date	Rebate :Receipt Date	KW and KWh savings	Project Description	Completion date	Rebate :Receipt Date	KW and KWh savings	Project Description	Completion date	Rebate :Receipt Date	KW and KWh savings
Note - AEPKY-16-01220					1/2 gym - removal of metal halide and installed LED. (Lack of rebate funding to complete the other 1/2 of gym)	Applied 2016, completed 2017						
Note - AEPKY-17-01641					Lunchroom lighting	2017						

ENERGY UTILIZATION INDICES

One of the key indicators for measuring energy performance is district-wide Energy Use Intensity (EUI), measured in kBtu/sf/yr. This measure is slightly different from the building EUI in that the district EUI is a measure of **all** the non-transportation energy used in a district divided by the square footage of the **conditioned** area. The statewide average for district-wide EUI in FY2010 was 64.2kBtu/sf/yr.¹ By FY2017 the state-wide district-wide EUI had dropped to 49.7 kBtu/sf/yr. Lower EUI indicates a more energy efficient condition.

Statewide, and for most districts, the EUI has been lowered for several reasons. The enactment of KRS160.325 and the implementation of KSBA's School Energy Managers Project supported by KPC have educated and focused school districts on the importance of valuing best practices. While new school construction and renovation statewide are very energy efficient, work by energy managers also is leading to significant elimination of energy waste in both new and existing buildings.

Table 1 on the next page shows the data by participating KPC districts with both their Electric EUI and their Total EUI for the immediate four-years, FY2014, FY2015, FY2016 and FY2017.¹

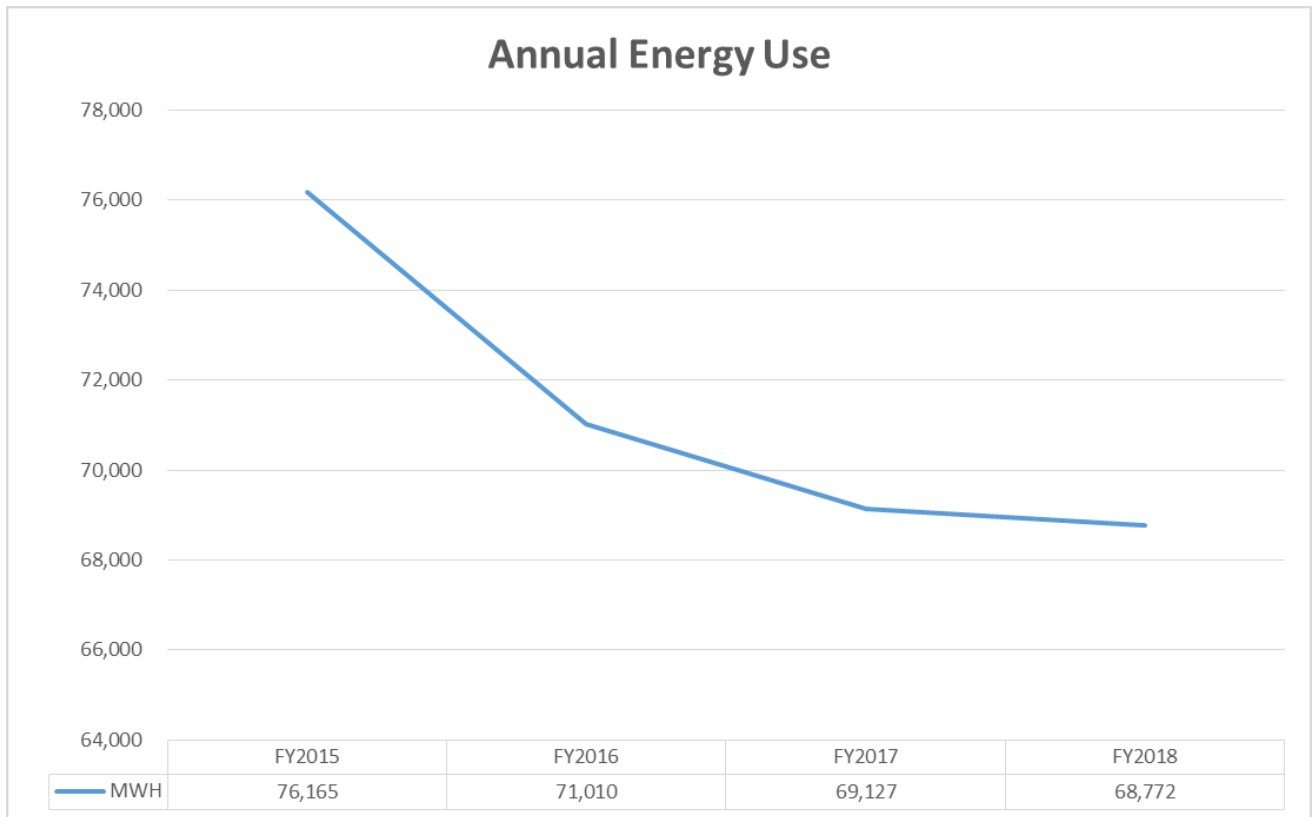
¹ EUI's are not adjusted for weather and include all forms of non-transportation energy use. FY2018 data not available until October, 2018.

Table 1 EUI History (kBtu/sf) <i>Sixteen Participating Districts</i>									
District	2014 Electric EUI	2015 Electric EUI	2016 Electric EUI	2017 Electric EUI		2014 Total EUI	2015 Total EUI	2016 Total EUI	2017 Total EUI
Breathitt	53.42	54.30	42.92	37.48		78.74	75.33	56.72	50.80
Carter	40.74	43.31	38.81	38.74		54.26	53.07	46.01	44.47
Fairview	47.95	49.87	46.63	38.54		86.20	85.89	77.47	62.92
Floyd	40.52	38.15	36.91	36.60		52.85	49.51	44.88	44.94
Jackson Ind.	100.19	93.26	95.89	91.32		112.78	106.51	101.95	100.12
Jenkins	58.90	48.80	51.12	45.94		58.90	48.80	51.12	45.94
Johnson	43.39	42.12	42.92	42.50		61.19	59.46	62.58	57.31
Knott	49.58	46.60	45.63	43.23		54.43	51.58	62.65	52.99
Lawrence	38.56	39.92	35.87	37.88		51.12	52.47	45.07	47.39
Leslie	58.84	56.47	51.99	43.77		63.90	63.10	55.24	47.43
Letcher	44.94	44.65	50.99	49.52		48.12	48.84	53.03	53.51
Magoffin	44.33	50.37	48.70	41.40		50.84	58.76	54.36	47.09
Martin	53.30	47.81	45.40	37.83		70.50	67.50	58.20	44.78
Paintsville	37.93	38.83	35.93	37.61		50.40	49.98	44.13	46.82
Perry	58.85	57.71	52.60	50.03		63.33	61.96	56.25	52.97
Pikeville Ind.	60.53	57.48	53.03	52.01		66.71	62.62	57.79	55.59

CONSUMPTION REDUCTION

PRECEDING AND CURRENT YEAR PEAK DEMAND and ENERGY USE COMPARED TO July 2014 through June 2018

Energy Usage

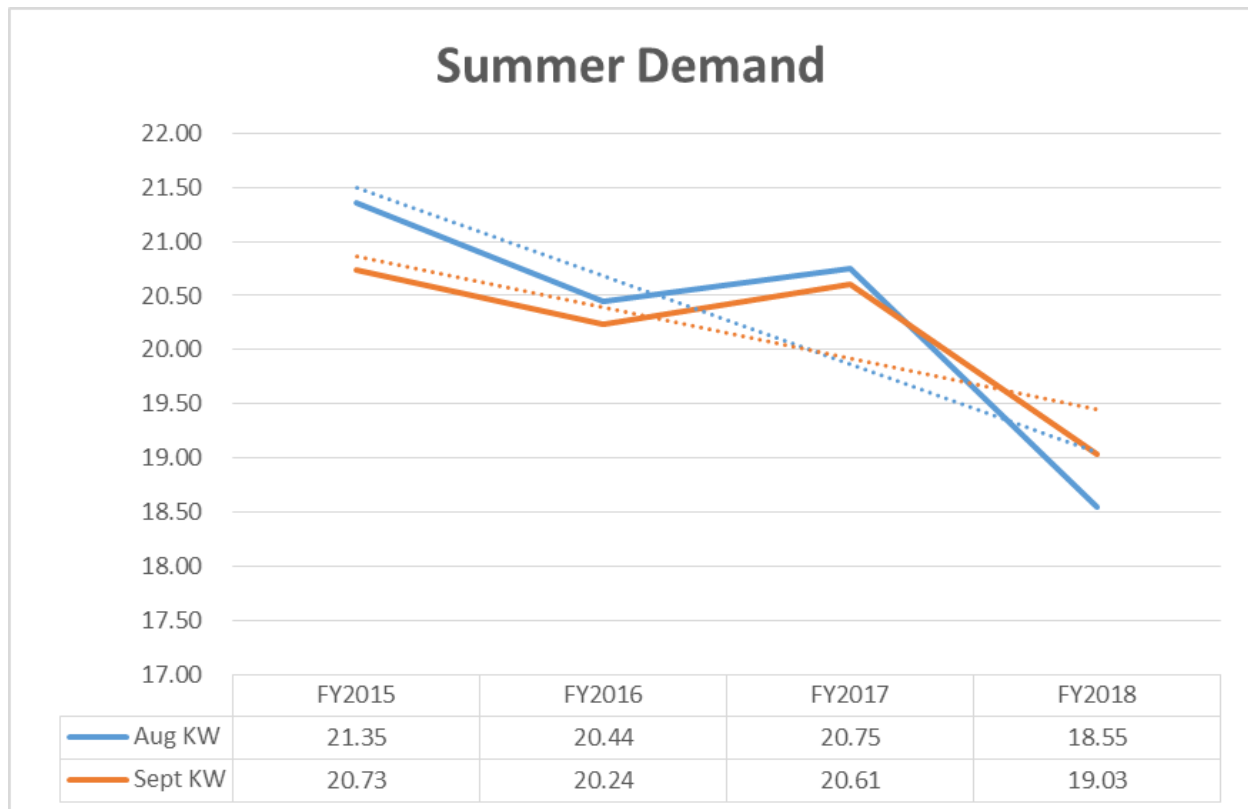


The sixteen participating districts reduced their FY2018 annual energy use over FY2015 by 9.71 percent.

Demand Usage

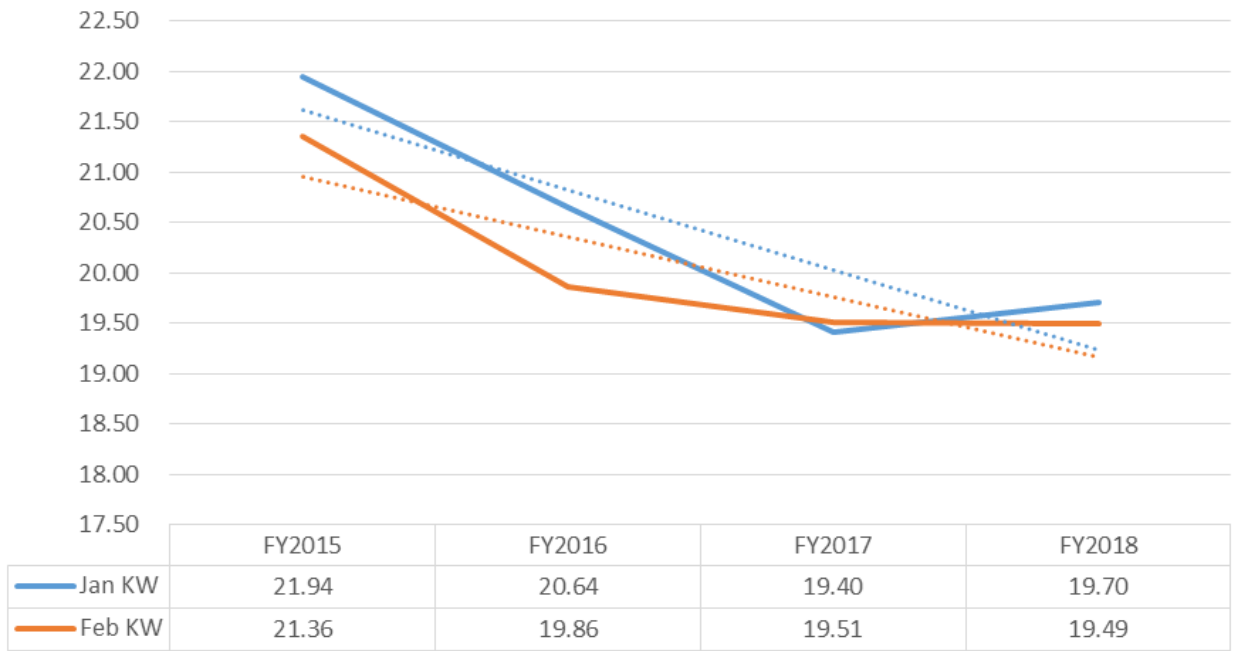
Individual school district measured demand data (Tariffs 240 and 260) were rolled up into a KPC summary. The non-diversified billing demand data was then analyzed for Summer Demand (August and September) and Winter Demand (January and February). Trend lines were developed to approximate normalized results.

The summer peak demand for schools coincides with the start of the school year when buildings are being taken out of summer setback and unoccupied modes and returned to a student-occupied mode.



The sixteen participating districts showed a 13.13 percent reduction in August Demand and an 8.18 percent reduction in September Demand from FY2015 to FY2018.

Winter Demand



The sixteen participating districts showed a 10.2 percent reduction in January Demand and an 8.76 percent reduction in February Demand from FY2015 to FY2018.

ASSOCIATED ENERGY & DEMAND SAVINGS

COMPARED TO METRICS IN PROGRAM AGREEMENT

– ATTACHMENT 1 (AND ATTACHMENT 4)

Year	Summer Peak Demand (kW)			Winter Peak Demand (kW)			Incremental Energy (kWh)	
	Metric	Actual		Metric	Actual		Metric	Actual
2016		2,030.7		193.8	2,230.3		1,131,870	5,482,705
2017	338.3	303.4		422.9	1,201.2		2,469,530	2,259,359
2018		1,894.8			942.1			2,338,116
Total	338.3	4,229.0		616.7	4,373.6		3,601,400	10,080,180

PROCESS

Energy Management Training

Professional development for school professionals has been a significant focus for KSBA-SEMP. Besides training provided for energy managers who are responsible for the tracking, monitoring and reporting of energy usage, training was also provided for Board members, Superintendents, Facility Directors and Finance Officers. Training opportunities were available to school professionals through various conferences.

Energy manager training had been initially conducted with each energy manager to discuss utility tracking, standardized data collection, and energy project/initiative reporting. Because of a wide-range of experience in energy and energy management, the use of webinars, “Go-To Assists,” as well as one-on-one training strategies were used to educate energy managers. These efforts were supported by the KPC grant and other funding opportunities. Because one Kentucky Power served district had a change in designated energy managers, individual sessions were held with the new energy manager.

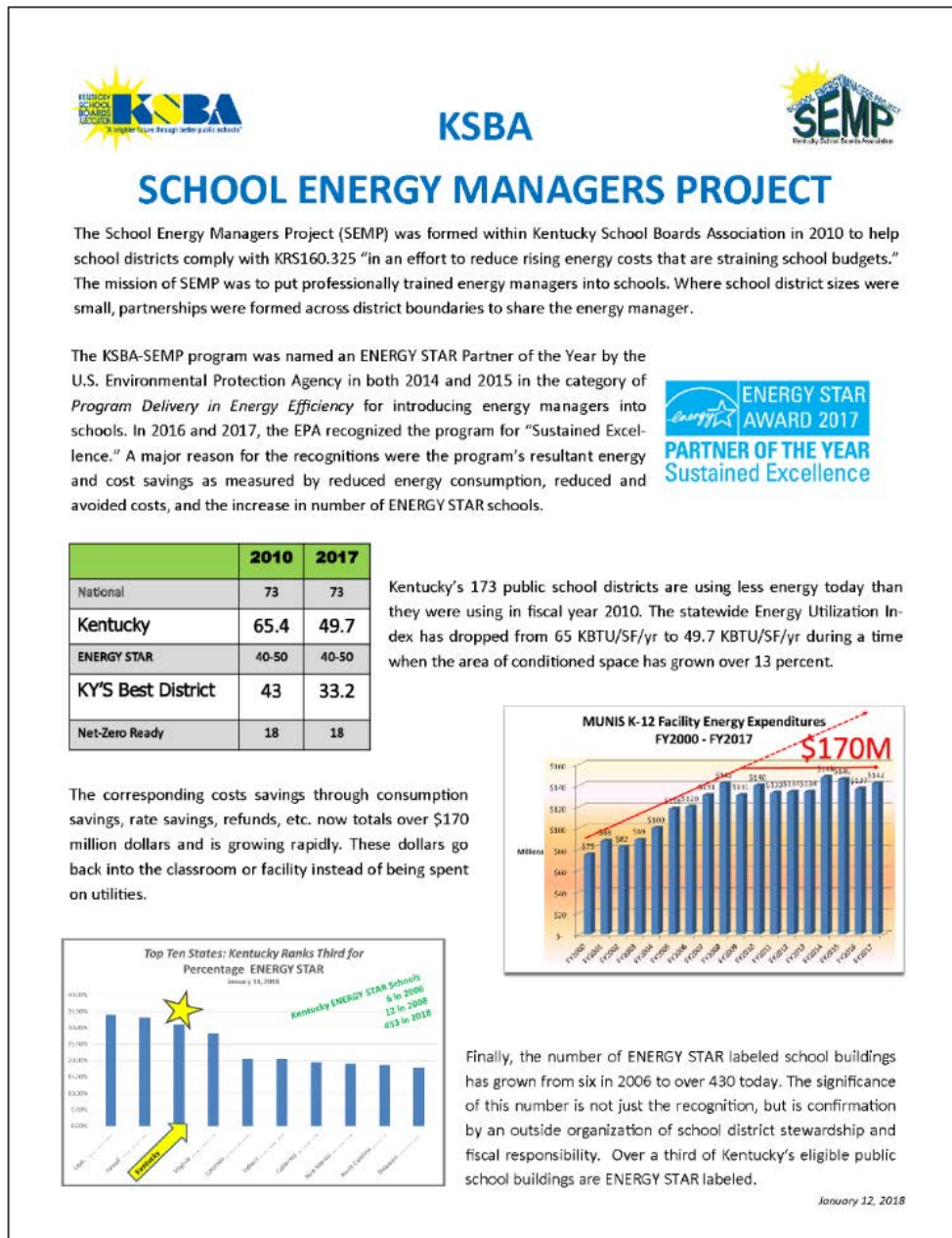
In April 2018, the second School Energy Summit was held. (**Attachment B**) All of the sixteen participating districts attended the Summit and some districts had two representatives. Sessions (**Attachment C**) for the Summit included:

- General Session: The Changing Energy Landscape
- Breakout A
 - A-1: BEFORE the Basics
 - A-2: Energy Audit 101
 - A-3: Emerging Technologies
 - A-4: Renovation Best Practice- Air Barrier Is Key to Energy Efficiency
- Breakout B
 - B-1: Addressing the questions of energy management
 - B-2: Lighting Audit Workshop
 - B-3: Facility Tour – University of Kentucky
- General Session: Engaging District Leadership
- Breakout C
 - C-1: Student led energy activities
 - C-2: Operations Best Practices
 - C-3: Renovations and Indoor Air Quality
 - C-4: Life Cycle Costing (Part 1)
- Breakout D
 - D-1: Getting to ENERGY STAR
 - D-2: Building Maintenance Best Practices
 - D-3: Emerging Technology - Is it time for solar?
 - D-4: Life Cycle Costing (Part 2)
- General Session: Impacting the Learning Environment
- Networking with energy related vendor representatives

Outreach and Awareness

An important deliverable of KSBA-SEMP is to keep board members, leadership and staff; governmental officials; and local communities informed of energy efficiency opportunities and to highlight district success stories. With a district's primary mission of education and staff turnover, there is a continual need to educate current stakeholders of resources to support the district's mission. Funds provided by KPC, along with other funding, made possible the outreach for energy management.

KSBA annually conducts regional meetings and participates monthly education cooperative meetings. Providing routine information in these meetings aids district decision making in energy-efficiency efforts. The "One-Page Report" shown at below has been provided routinely for these meetings.



Data

Energy Usage and Demand Data was gathered by month for each of the sixteen districts by funded energy managers. A composite history was gathered in FY2015 to ensure proper baseline data, which was analyzed throughout the period.

Only those accounts that existed since July 2014 and still remain today were analyzed. Accounts that have been vacated since July 2014 were eliminated from the data analysis. Accounts that are new since July 2014 are reflected in the overall district EUI but not in the demand or usage results. Accounts with usage and demand changes due to renovations were either eliminated from the database or reconciled by square footage calculations.

Data reported in this report is not comparable to previous reports as one district did not participate in the FY2018 grant restart.

Following the scrubbing of the data, each district's data was graphed, showing individual performance on energy and demand reductions. For the schools on the Large General Service Tariff (Tariff 240 or 260), data was plotted as Summer Demand and Winter Demand. Annual Energy Use was totaled for all accounts.

ENERGY STAR Labeled Schools

in KPC Service Territory

ENERGY STAR labeling is an energy-efficiency performance benchmark for Kentucky Schools. ENERGY STAR certification provides independent verification of actual energy efficiency measures from sound energy management practices and not measures or credits for non-energy related activities. The number of ENERGY STAR Schools has grown from six in 2006 to 448 now, constituting over 30 percent of public schools in Kentucky. Twenty of those schools are in KPC service territory, with 14 verified since 2014. One district in KPC service territory was recognized in March 2018 for becoming 100% ENERGY STAR Labeled.

B_ID	Kentucky Power Company ENERGY STAR Schools	Building Owner	First Label Year	Max	Floor Space FT ²	Year Cons	Grade	Utility
1830754	Adams Middle School	Floyd County Board of Education	2012	80	70354	1990	2	AEP/KY
2502410	Allen Central High	Floyd County Board of Education	2010	75	100222	1972	3	AEP/KY
1830807	Allen Elementary School	Floyd County Board of Education	2012	76	55904	1991	1	AEP/KY
1830821	Betsy Layne High School	Floyd County Board of Education	2012	90	60750	1980	3	AEP/KY
3508108	Boyd County High School	Boyd County Public Schools	2014	95	144447	2012	3	AEP/KY
5495137	Breathitt County High School	Breathitt County Schools	2017	98	130943	1980	3	AEP/KY
4612446	Fleming Neon Middle School	Letcher County Public Schools	2015	85	28765	1960	2	AEP/KY
3772920	Greenup High School	Greenup County Schools	2016	76	134690	1972	3	AEP/KY
3809781	Greysbranch Elementary School	Greenup County Schools	2015	95	37000	1971	1	AEP/KY
4064793	Hazard High School	Hazard Independent Schools	2017	87	58336	1976	3	AEP/KY
4024223	McDowell Intermediate School	Russell Independent Schools	2015	79	55000	1960	2	AEP/KY
3810587	McKell Elementary School	Greenup County Schools	2015	92	45000	1971	1	AEP/KY
3807574	McKell Middle School	Greenup County Schools	2015	94	67340	1971	2	AEP/KY
1725812	North Magoffin Elementary School	Magoffin County Schools	2009	75	55000	2008	1	AEP/KY
4024116	Russell High School	Russell Independent Schools	2015	83	105000	1960	3	AEP/KY
4024238	Russell Primary School	Russell Independent Schools	2015	75	78000	1980	1	AEP/KY
5495210	Sebastian Middle School	Breathitt County Schools	2017	97	55230	2007	2	AEP/KY
2502486	Stumbo Elementary	Floyd County Board of Education	2010	91	58536	1962	1	AEP/KY
3809287	Wurtland Elementary School	Greenup County Schools	2015	98	37000	1971	1	AEP/KY
3807577	Wurtland Middle School	Greenup County Schools	2015	89	61484	1971	2	AEP/KY
Total sq ft					1,439,001			

Listed above are the 20 schools in the Kentucky Power Service Area that are ENERGY STAR certified.

Attachment A - FY2018 Energy Projects/Initiatives

Attachment B – School Energy Summit Preview

Attachment C – School Energy Summit Agenda

District	School or Facility Name	Account Number(s)	AEP-KPC Project Number (if known)	Energy Projects										Energy Initiatives	
				HVAC				Lighting				Other			
				Project Description	Completion date	Rebate :Receipt	KW and KWh savings	Project Description	Completion date	Rebate :Receipt Date	KW and KWh savings	Project Descripti on	Completi on date	Rebate :Receipt Date	KW and KWh savings
Letcher County Schools	Cowan Elementary	034-380-026-9-7	Too late to apply					Replace exit signs with LED as needed	ongoing	No					Energy Team formed, Shut down checklists implemented not only during summer breaks bu for Fall Break, Thanksgiving break and Christmas Break. Educated employees and students on the importance of energy conservation (Behavior Change)
Letcher County Schools	Fleming Neon Middle	031-782-995-0-3													Energy Team formed, Shut down checklists implemented not only during summer breaks bu for Fall Break, Thanksgiving break and Christmas Break. Educated employees and students on the importance of energy conservation (Behavior Change)
Letcher County Schools	Fleming Neon Middle	033-440-040-5-0													Energy Team formed, Shut down checklists implemented not only during summer breaks bu for Fall Break, Thanksgiving break and Christmas Break. Educated employees and students on the importance of energy conservation (Behavior Change)
Letcher County Schools	Fleming Neon Middle	033-940-040-0-0													Energy Team formed, Shut down checklists implemented not only during summer breaks bu for Fall Break, Thanksgiving break and Christmas Break. Educated employees and students on the importance of energy conservation (Behavior Change)
Letcher County Schools	Fleming Neon Middle	036-440-040-5-7,													Energy Team formed, Shut down checklists implemented not only during summer breaks bu for Fall Break, Thanksgiving break and Christmas Break. Educated employees and students on the importance of energy conservation (Behavior Change)
Letcher County Schools	Fleming Neon Middle	037-520-040-5-5													Energy Team formed, Shut down checklists implemented not only during summer breaks bu for Fall Break, Thanksgiving break and Christmas Break. Educated employees and students on the importance of energy conservation (Behavior Change)
Letcher County Schools	Fleming Neon Middle	037-340-040-5-8						Replace Exit signs as needed with LED	ongoing						Energy Team formed, Shut down checklists implemented not only during summer breaks bu for Fall Break, Thanksgiving break and Christmas Break. Educated employees and students on the importance of energy conservation (Behavior Change)
Letcher County Schools	Fleming Neon Middle	033-130-040-9-9													Energy Team formed, Shut down checklists implemented not only during summer breaks bu for Fall Break, Thanksgiving break and Christmas Break. Educated employees and students on the importance of energy conservation (Behavior Change)
Letcher County Schools	Letcher County Central High	031-403-674-1-2	Too late to apply					Replace exit signs with LED as needed	ongoing	No					Energy Team formed, Shut down checklists implemented not only during summer breaks bu for Fall Break, Thanksgiving break and Christmas Break. Educated employees and students on the importance of energy conservation (Behavior Change)
Letcher County Schools	Letcher County Central High	032-762-440-0-5													Energy Team formed, Shut down checklists implemented not only during summer breaks bu for Fall Break, Thanksgiving break and Christmas Break. Educated employees and students on the importance of energy conservation (Behavior Change)
Letcher County Schools	Letcher County Central High	033-743-263-0-8													Energy Team formed, Shut down checklists implemented not only during summer breaks bu for Fall Break, Thanksgiving break and Christmas Break. Educated employees and students on the importance of energy conservation (Behavior Change)
Letcher County Schools	Letcher County Central High	031-876-264-0-7													Energy Team formed, Shut down checklists implemented not only during summer breaks bu for Fall Break, Thanksgiving break and Christmas Break. Educated employees and students on the importance of energy conservation (Behavior Change)
Letcher County Schools	Letcher Elementary	036-290-095-4-3	Too late to apply					Replace exit signs with LED as needed	ongoing	No					Energy Team formed, Shut down checklists implemented not only during summer breaks bu for Fall Break, Thanksgiving break and Christmas Break. Educated employees and students on the importance of energy conservation (Behavior Change)
Letcher County Schools	Letcher Elementary	036-290-095-4-3	Too late to apply					Replaced outside lights with LED	Feb-18	No	16352 KWH per year				
Letcher County Schools	Letcher Elementary	033-490-025-6-2													Energy Team formed, Shut down checklists implemented not only during summer breaks bu for Fall Break, Thanksgiving break and Christmas Break. Educated employees and students on the importance of energy conservation (Behavior Change)
Letcher County Schools	Letcher Elementary	034-390-025-6-3													Energy Team formed, Shut down checklists implemented not only during summer breaks bu for Fall Break, Thanksgiving break and Christmas Break. Educated employees and students on the importance of energy conservation (Behavior Change)

Letcher County Schools	Letcher Middle	036-490-025-6-9	Too late to apply						ongoing	No						Energy Team formed, Shut down checklists implemented not only during summer breaks bu for Fall Break, Thanksgiving break and Christmas Break. Educated employees and students on the importance of energy conservation (Behavior Change)
Letcher County Schools	Letcher Middle	038-296-455-0-0														Energy Team formed, Shut down checklists implemented not only during summer breaks bu for Fall Break, Thanksgiving break and Christmas Break. Educated employees and students on the importance of energy conservation (Behavior Change)
Letcher County Schools	Letcher Middle	039-313-443-0-7														Energy Team formed, Shut down checklists implemented not only during summer breaks bu for Fall Break, Thanksgiving break and Christmas Break. Educated employees and students on the importance of energy conservation (Behavior Change)
Letcher County Schools	Letcher Middle	039-441-229-0-6														Energy Team formed, Shut down checklists implemented not only during summer breaks bu for Fall Break, Thanksgiving break and Christmas Break. Educated employees and students on the importance of energy conservation (Behavior Change)
Letcher County Schools	Letcher Middle	039-490-025-6-6						Replace exit signs with LED as needed								Energy Team formed, Shut down checklists implemented not only during summer breaks bu for Fall Break, Thanksgiving break and Christmas Break. Educated employees and students on the importance of energy conservation (Behavior Change)
Letcher County Schools	Martha Jane Potter Elementary	031-890-095-3-7,	Too late to apply					Replace exit signs with LED as needed	ongoing	No						Energy Team formed, Shut down checklists implemented not only during summer breaks bu for Fall Break, Thanksgiving break and Christmas Break. Educated employees and students on the importance of energy conservation (Behavior Change)
Letcher County Schools	Martha Jane Potter Elementary	031-890-095-3-7,														Energy Team formed, Shut down checklists implemented not only during summer breaks bu for Fall Break, Thanksgiving break and Christmas Break. Educated employees and students on the importance of energy conservation (Behavior Change)
Letcher County Schools	Martha Jane Potter Elementary	031-890-095-3-7,														Energy Team formed, Shut down checklists implemented not only during summer breaks bu for Fall Break, Thanksgiving break and Christmas Break. Educated employees and students on the importance of energy conservation (Behavior Change)
Letcher County Schools	Martha Jane Potter Elementary	030-020-001-8-4														Energy Team formed, Shut down checklists implemented not only during summer breaks bu for Fall Break, Thanksgiving break and Christmas Break. Educated employees and students on the importance of energy conservation (Behavior Change)
Letcher County Schools	West Whitesburg Elementary	032-990-095-4-2	Too late to apply					Replace exit signs with LED as needed	ongoing	No						Energy Team formed, Shut down checklists implemented not only during summer breaks bu for Fall Break, Thanksgiving break and Christmas Break. Educated employees and students on the importance of energy conservation (Behavior Change)
Letcher County Schools	Whitesburg Middle School	030-010-013-3-2,,	Too late to apply					Replace exit signs with LED as needed	ongoing	No						Energy Team formed, Shut down checklists implemented not only during summer breaks bu for Fall Break, Thanksgiving break and Christmas Break. Educated employees and students on the importance of energy conservation (Behavior Change)
Letcher County Schools	Whitesburg Middle School	034-210-013-3-4														Energy Team formed, Shut down checklists implemented not only during summer breaks bu for Fall Break, Thanksgiving break and Christmas Break. Educated employees and students on the importance of energy conservation (Behavior Change)
Letcher County Schools	Whitesburg Middle School	037-910-013-2-8														Energy Team formed, Shut down checklists implemented not only during summer breaks bu for Fall Break, Thanksgiving break and Christmas Break. Educated employees and students on the importance of energy conservation (Behavior Change)
Letcher County Schools	Whitesburg Middle School	039-890-095-4-7														Energy Team formed, Shut down checklists implemented not only during summer breaks bu for Fall Break, Thanksgiving break and Christmas Break. Educated employees and students on the importance of energy conservation (Behavior Change)
Jenkins Independent	Burdine Elementary	032-930-031-5-2,,														Energy Team, Shut down checklists developed and implemented, staff and student education on the importance of energy conservation (Behavior change)

Jenkins Independent	Burdine Elementary	039-690-095-3-3															Energy Team, Shut down checklists developed and implemented, staff and student education on the importance of energy conservation (Behavior change)
Jenkins Independent	Jenkins Middle High School	038-790-095-3-2															Energy Team, Shut down checklists developed and implemented, staff and student education on the importance of energy conservation (Behavior change)
Jenkins Independent	Jenkins Middle High School	030-810-071-3-4															Energy Team, Shut down checklists developed and implemented, staff and student education on the importance of energy conservation (Behavior change)
Jenkins Independent	Jenkins Football Field/Concessions	031-114-880-0-7															Energy Team, Shut down checklists developed and implemented, staff and student education on the importance of energy conservation (Behavior change)
Jenkins Independent	Jenkins Football Field	035-735-790-0-4															Energy Team, Shut down checklists developed and implemented, staff and student education on the importance of energy conservation (Behavior change)
Johnson County Schools	Central Elementray	035-620-006-4	Applied and received					All interior and exterior lights upgraded to LED	2017								
Johnson County Schools	Highland Elem	031-735-010-0	Applied and received					All interior and exterior lights upgraded to LED	2017								
Johnson County Schools	Johnson Middle	036-920-006-3-5	Applied and received					All interior and exterior lights upgraded to LED	2017								
Johnson County Schools	JohnsonCentral High School	039-920-006-3	Applied and received					All interior and exterior lights upgraded to LED	2017								
Johnson County Schools	Porter Elem	030-120-006-5	Applied and received					All interior and exterior lights upgraded to LED	2017								
Johnson County Schools	WR Castle	033-743-615-0	Applied and received					All interior and exterior lights upgraded to LED	2017								
Johnson County Schools	Board Office	032-129-531-0	Applied and received					All interior and exterior lights upgraded to LED	2017								
Johnson County Schools	Board Office	034-390-065-5	Applied and received					All interior and exterior lights upgraded to LED	2017								
Perry County Schools	West Perry Elementary School		Note - AEPKY-16-01228	Extensive renovation of HVAC -VRF Air Cooled w/ Heat Recovery Heat Pumps				Updated all interior and exterior to LED	Applied 2016, completed 2017								
Knott County Schools	Carr Creek Elementary	039-100-006-4	Note - AEPKY-16-01220					1/2 gym - removal of metal halide and installed LED. (Lack of rebate funding to complete the other 1/2 of gym)	Applied 2016, completed late 2017								
Pikeville Independent Schools	Pikeville Elementary School	037-890-095-6	Note - AEPKY-17-01641					Lunchroom lighting	2017								

Save energy, save money for the classroom

Staff report

With budget cuts looming, there is still one category of expenses where school leaders can continue squeezing out savings and preserving money for the classroom: energy. That's why the timing is perfect for KSBA's Second Annual School Energy Summit, April 16–17 at Lexington's Embassy Suites.

The event – designed for energy managers, facility directors and board teams – builds on the success of last year's inaugural summit and is focused heavily on the practical side of energy management, said Ron Willhite, director of KSBA's School Energy Managers Project.

"Energy is the second-largest expense for most school districts and it can be managed," he said. "We're thrilled to be able to continue to once again offer this opportunity to school districts. The key to energy savings is having someone working at the local district level who understands these issues."

The summit continues the aim of helping district leaders and others understand how energy and associated costs impact the overarching goal of educating students.

State House Minority Floor Leader Rocky Adkins will be one of the general session speakers. Adkins, a representative since 1986, was a sponsor of legislation that has been instrumental in setting the direction for school energy management.

Four workshop tracks will be offered, concentrating on skill-building and best practices: a basic track, two tracks for more experienced energy



House Minority Floor Leader Rocky Adkins will speak at KSBA-SEMP's Second Annual School Energy Summit in Lexington. (Photo courtesy of LRC Public Information)

managers and a track for district finance officers.

Similar to last year, the summit features optional field trips on the first day, with two tours examining the two highest-leverage items for energy reduction. One site visit focuses on a basic lighting audit and the other tour reviews control and optimization strategies at the University of Kentucky's central facilities control, called Delta Center. The UK tour also includes a review of the university's communications and water processing efforts.

Among the general sessions at this year's summit, Scott County Schools Superintendent Kevin Hub will address ways energy managers can engage district leaders in energy management. He will then moderate a roundtable session with school board members to help energy managers understand the board member's perspective.

Education Commissioner Stephen Pruitt is the closing general session speaker, focusing on impacting the learning environment. Also on the final day, winners will be recognized in the 2018 Kentucky Battle of the School Buildings, a voluntary competition to see which schools can reduce the most energy costs as determined by percentage-based reduction in energy use in calendar year 2017 over 2016. ■



Stephen Pruitt

What attendees will learn during the 2018 School Energy Summit

- Best practices
- Energy efficiency and bottom-line costs
- Professional development for energy practitioners
- Resources for school districts
- Future trends in energy

Look for registration information later this month at www.ksba.org

"Energy is the second-largest expense for most school districts and it can be managed. ... **The key to energy savings is having someone working at the local district level who understands these issues.**"

– Ron Willhite, director of KSBA's School Energy Managers Project

KSBA-SEMP presents the 2nd annual

School Energy SUMMIT



April 16-17
2018

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Welcome



Dear School Energy Summit participants:

Welcome to the 2018 School Energy Summit!

Since 1936, the Kentucky School Boards Association (KSBA) has provided ongoing professional development and other services to school board members and school districts across Kentucky. In 2010, the enactment of KRS160.325 required school boards to focus on reducing energy use in order to reduce rising energy costs. Because KSBA already supported all local school boards, it made sense to expand services to include a level of energy management support to districts through our School Energy Managers Project.

This year's Summit offers you opportunities for increased knowledge on issues impacting school energy management. State and national leaders open the conference with an overview of the Changing Energy Landscape that affects us all; breakout sessions provide strategies for implementing energy and cost savings. Tuesday morning's general session features a panel on engaging district leadership, and vendors on both days showcase their latest products and technologies for reducing energy use within schools. The closing session is led by Kentucky Education Commissioner Dr. Stephen Pruitt and focuses on how the classroom environment impacts the learning environment; and the winner of Kentucky's Battle of the School Buildings also will be announced. We hope you will take the opportunity to listen, learn and exchange ideas to support your schools in becoming more energy efficient.

Sincerely,

Kerri Schelling
Executive Director, KSBA

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Opinions expressed by program participants do not necessarily reflect official positions of the Kentucky School Boards Association.

Registration and Trade Show

Monday, April 16

8 - 9 a.m.

While you are waiting for the opening session to begin, visit the Trade Show area to visit with the vendors participating at this year's School Energy Summit. You can collect tickets from vendors to win door prizes

OPENING GENERAL SESSION

Monday, April 16
9 - 10:30 a.m.

Coldstream III

Welcome

Kerri Schelling, KSBA executive director

Presentation of the Flag

Henry Clay (Fayette Co.) High School Color Guard

Student performance

Henry Clay (Fayette Co.) High School student

Moderator

Tom Abele, vice president, Harshaw Trane, Diamond Level Sponsor

The Changing Energy Landscape

The energy landscape continues to be a challenge in managing energy costs. Government and industry leaders discuss the current energy landscape and progress made through technological advances in energy efficiency as well as the impact of state and federal regulations.

Rep. Rocky Adkins, minority floor leader, Kentucky House of Representatives

Dr. Carolyn Snyder, director, Climate Protection Partnerships Division, U.S. Environmental Protection Agency

Drew Fellon, business leader, Trane Energy Services



Rocky Adkins



Dr. Carolyn Snyder



Drew Fellon

"The goal was to become more energy efficient and, as a result, reduce energy usage and energy cost outlay. Since that time, **energy efficiency has become a priority for most school districts.** ... it has led to over \$170 million in cumulative cost savings since 2010."

— **Rep. Rocky Adkins**, on HB2, which passed in 2008 and envisioned public school districts developing and implementing energy management plans and reporting on savings from those plans annually to the General Assembly

****Please note participation in ALL GENERAL SESSIONS is required for board member, EILA, finance officer and energy manager PDH credits***

The Breakout Sessions have been designed so that practitioners of all skill levels can find training appropriate for their needs and growth.

- ▶ **Introductory sessions** are available for understanding the basics of energy management.
- ▶ **Intermediate sessions** have been created with topics specific to seasoned energy managers.
- ▶ **Advanced/Finance sessions** are geared for advanced energy and finance practitioners to hone their skills.

However, if you see a topic of specific interest to you, feel free to attend that session regardless of the skill level.

Thanks to the 2018 School Energy Summit Planning Team:

- ▶ **Jeff Fristoe** – Comfort Process Solutions
- ▶ **Billie Hardin** - KCTCS
- ▶ **Eileen Hardy** – Department for Energy Development and Independence
- ▶ **Jeff Myers** – LGE-KU Energy
- ▶ **Chris Tyler** – Thermal Equipment

“What gets measured gets done.”

– **Tom Peters**, writer on business management practices

BREAKOUT SESSION A

Monday, April 16
10:45 – 11:45 a.m.

A-1: Before the Basics

Bourbon Room

Introductory

Your district has decided to get serious about energy management, yet you're not sure where to begin. This session lays out a process for the overall journey that provides the novice with an understanding of the key steps and resources available to succeed.

Martha Boles Casher, energy services coordinator, KSBA School Energy Managers Project

A-2: Energy Audit 101

Clark Room

Intermediate

Identifying energy projects to reduce energy use is a must. The presenter reviews basic steps to assessing potential procedures/projects that impact schools, along with a review of a simple audit form.

Tom Nicolas, mechanical engineer, CMTA Energy Solutions

A-3: Emerging Technologies

Coldstream III

Intermediate

Advancements in technology have influenced the programs now offered by utility companies. Learn about the options/changes that are coming, including advanced metering, solar power choice and changes to utility rebates.

Jay Robertson, emerging technologies program manager, Rhonda Truman, energy efficiency operations program manager, and Kevin Craft, energy efficiency analyst, LG&E-KU Energy

A-4: Renovation Best Practice – Air Barrier Is Key to Efficiency

Fayette Room

Advanced–Finance

Unintended air infiltration into school buildings is widely overlooked and often a key cause of increased energy costs and poor classroom comfort. This session shows how the preliminary visual inspection is validated by pre- and post- blower door tests. The presenter shares calculations that connect air barrier solutions to the entire HVAC system, making the financial and environmental impact case for change.

Todd Smith, president, EBEB Solutions

Trade Show and Lunch

Monday, April 16

11:45 a.m. – 1:45 p.m.

Here is your opportunity to visit with the exhibitors, receive tickets for door prizes, identify more opportunities and have lunch.

BREAKOUT SESSION B

Monday, April 16
1:45 – 4:30 p.m.

B-1: Addressing the Questions of Energy Management **Coldstream III**

Introductory – laptops or calculators required

This workshop (participant work required) addresses many of the questions energy managers may have, including how to get started, how to determine current energy conditions and opportunities to improve them, what improvements make the most sense financially, and what cumulative savings to expect.

Jon Nipple, energy program manager, KSBA School Energy Managers Project

B-2: Lighting Audit Workshop **Clark Room**

Intermediate – laptops or calculators encouraged

Participant work is required in this workshop, which takes attendees through the steps of assessing current lighting fixtures and defining potential energy- and money-saving lighting replacements. Participants use the conference site

to complete a high-level lighting audit, and receive a tool to do the same in their schools.

Jim McClanahan, energy manager, Scott County Schools; Terry Anderson, energy manager, Mason and Rowan county schools; and Bruce Sauer, energy manager, Hopkins County Schools Partnership

B-3: Facility Tour – University of Kentucky **Meet in the lobby**

Advanced – Finance

The Utilities and Energy Management Group at the University of Kentucky strives to balance campus needs for life safety, human and creature comfort, along with energy savings. The tour at the University of Kentucky includes Delta Room operations, scheduling optimization, communications and funding decisions, plus a review of the University Sustainability Plan.

Jeff Zumwalt, director of utilities and energy management, Galen Tolliver, manager of Delta Room, Mike Baldwin, Delta Room operations, and Shane Tedder, sustainability coordinator, University of Kentucky

T Join us at the School Energy Summit TAILGATE PARTY Y

5-7 p.m.

Monday, April 16

Embassy Suites Ballroom

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Play games at the Tailgate Party to earn more tickets for door prizes

Door prizes will be given at Tailgate Party and Closing Luncheon

MUST BE PRESENT TO WIN

MORNING GENERAL SESSION

Tuesday, April 17
8 – 9:20 a.m.

Coldstream III

Engaging District Leadership

The responsibility for energy management involves many tasks and people. It's important that district leadership and board members both support and understand this complicated business. Scott County Superintendent Dr. Kevin Hub presents his methods for engaging leadership and then moderates a panel of board members to gain their insight.

Dr. Kevin Hub, superintendent, Scott County Schools; Todd Earlywine, Bourbon County school board chairman; Tony Whaley, Henry County school board chairman; Carl Wicklund, Kenton County school board chairman



Dr. Kevin Hub

BREAKOUT SESSION C

Tuesday, April 17
9:35 – 10:25 a.m.

C-1: Student-led Energy Activities

Clark Room

Introductory

How do you involve building occupants with real concerted efforts to conserve energy? Let the students lead the effort! Learn how students in the Kenton County school district drive change and work with faculty and staff to affect their energy consumption and the financial bottom line.

Chris Baker, energy systems coordinator, Kenton County Schools; Chris Bryson, college and career coordinator, Kenton County Schools Academies of Innovation and Technology; students who are advanced energy management interns from the Kenton County Schools Academies of Innovation and Technology

C-2: Operations Best Practices

Coldstream III

Intermediate

Schools often are the hub of community activities and therefore open during extended days and weekends. Learn the procedures that a panel of facility and energy managers use to optimize the use of school buildings

while still ensuring their energy-efficient use.

Chris Tyler (moderator), Thermal Equipment; Jimmy Arnold, CIO and energy manager, Butler County Schools; Dan Logan, director of maintenance, Owen County Schools; Scott Caslow, energy manager, Somerset Independent Schools Partnership

C-3: Renovations, Preventive Maintenance & Indoor Air Quality

Bourbon Room

Intermediate

A school's indoor environment, including indoor air quality, can have a significant impact on children's health and learning. Learn best practices for healthy, efficient and reliable school buildings, and how Estill Springs Elementary protects indoor air quality. Presenters share tools and resources for preventive maintenance practices and protecting indoor air quality during energy-efficiency upgrades and retrofits.

Kudret Ütebay, deputy program manager working with ENERGY STAR for the U.S. EPA; Jeff Saylor, superintendent, Jeremy Simpson, energy manager, Estill County Schools

C-4: Life Cycle Costing (Part 1)

Fayette Room

Advanced – Finance

State energy management law encourages the use of life cycle costing, an approach to building design that considers construction, operation and maintenance during the initial decision-making process. This session is directed toward school districts constructing new buildings or renovating existing buildings, and outlines the steps to implementing life cycle project costing.

Todd Smith, president, EBEB Solutions



Two-part session on Life Cycle Costing

Todd Smith, president of EBEB Solutions, will lead two sessions – C-4 and D-4 – on the use of life cycle costing. Part 2 will begin in the same room at 10:40 a.m.

BREAKOUT SESSION D

Tuesday, April 17
10:40 – 11:30 a.m.

D-1: Getting to ENERGY STAR

Bourbon Room

Introductory

ENERGY STAR certification continues to be a key metric for Kentucky schools, enabling them to provide a better learning environment and operate more efficiently than typical schools. Presenters provide a hands-on demonstration in benchmarking schools in EPA's ENERGY STAR Portfolio Manager, using data from Paris Independent Schools. Participants also will learn the benefits of benchmarking and ENERGY STAR certification.

Kudret Ütebay, deputy program manager working with ENERGY STAR for the U.S. EPA; Jim McClanahan, energy manager, Scott County Schools; Ken Bicknell, superintendent, Paris Independent Schools

D-2: Building Maintenance Best Practices

Coldstream III

Intermediate

The need to retain equipment as long as possible is even more pressing in this time of budget cuts. Learn from a panel of facility and energy managers some of the best practices in preventive maintenance for keeping equipment in tip-top shape while extending the usable life.

Jeff Fristoe (moderator), Comfort Process Solutions; Greg

Binkley, director of maintenance, Crittenden County Schools; Charlie Bryant, director of maintenance, Anchorage Independent Schools; Linda Hackworth, coordinator of facility support/energy manager, Floyd County Schools

D-3: Emerging Technology - Is It Time for Solar?

Clark Room

Intermediate

How would you like to receive a check from your electric company, instead of a bill? Kentucky is pushing the envelope, or the sun, with the construction of another net zero energy school. Learn more about the possibilities.

Kenny Stanfield, Sherman Carter Barnhart Architects

D-4: Life Cycle Costing (Part 2)

Fayette Room

Advanced-Finance

This continuation of Breakout C-4 focuses on the life cycle costing approach to building design that considers construction, operation and maintenance during the initial decision-making process. Participants learn the steps to implement life cycle project costing. This session is directed toward school districts constructing new buildings or renovating existing buildings.

Todd Smith, president, EBEB Solutions

Trade Show: Last Call

Tuesday, April 17

11:30 a.m. – 12:30 p.m.

This is the last chance to visit with the exhibitors to receive tickets for door prizes and identify more opportunities.



Kentucky's Battle of the School Buildings



Congrats to the top finishers in the 2018 Kentucky's Battle of the School Buildings competition:

School..... Source Energy Reduction

1. East Valley Elem. (Morgan Co.)41.41%
2. Maryville Elem. (Bullitt Co.)40.67%
3. Mt. Washington Elem. (Bullitt Co.)36.08%
4. Morgan Co. Middle32.15%

School..... Source Energy Reduction

5. Morgan (Co.) Central Elem.31.49%
6. Bourbon Co. Middle24.03%
7. Chenault Agriculture Center (Bath Co.)22.75%
8. Northside Elementary (Woodford Co.)21.03%

**An ENERGY STAR®
Battle of the Buildings™ Competition**



CLOSING LUNCHEON SESSION

Tuesday, April 17
12:30 – 2 p.m.

Coldstream III

Student performance

Western Elementary School - Students in Marcie Wright's class

Lunch will be served

Impacting the Learning Environment

Recent studies show the classroom environment can affect a student's learning and academic progress by as much as 25 percent. Kentucky's education chief discusses opportunities to make a difference for Kentucky schools.

Dr. Stephen Pruitt, commissioner, Kentucky Department of Education



Dr. Stephen Pruitt

**2018 Winner of Kentucky's Battle of the School Buildings will be recognized
and door prizes will be announced.**

Meet your KSBA-SEMP team



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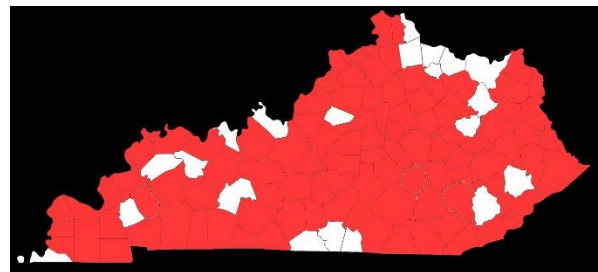
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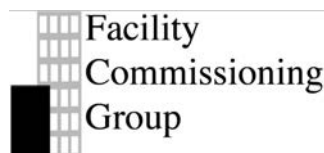
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About the Presenters

Jimmy Arnold is CIO and energy manager for Butler County Schools, named the most energy-efficient district in Kentucky in 2010. His CIO duties expanded in 2004 to energy management. Arnold, a certified energy manager, has been a resource for other districts, as his own district continues to find ways to improve.

Rocky Adkins, House minority floor leader from Sandy Hook who represents the 99th District, has been called “the South’s lead legislator on energy.” He was instrumental in 2008 legislation that became the law requiring Kentucky school districts to focus on energy tracking and reporting, and energy management plans. Adkins serves on the House Appropriations and Revenue Committee, Committee on Committees and Rules Committee.

Terry Anderson is the energy manager for Mason and Rowan county school districts, having previously served as regional energy manager for the seven-district Fleming County Schools Partnership. He spent 21 years as a residential and commercial energy adviser for Kentucky Utilities Co. and worked for the Brock-McVey Co. in Maysville.

Chris Baker, energy systems coordinator for Kenton County School District for the past 13 years, created and manages the district’s energy management program. During that time, the district realized over \$11 million in avoided energy costs, receiving national and state awards for its efforts. Baker, a certified energy manager, also created the state’s first district-wide student energy team program, which was recognized by the National Energy Education Development Project.

Ken Bicknell, a 26-year education veteran, is superintendent of Paris Independent Schools. He is a former educational recovery leader with the Kentucky Department of Education. Bicknell also served as principal at B. Michael Caudill Middle School in Madison County.

Greg Binkley has been director of maintenance for Crittenden County Schools for 25 years. As a licensed plumber and electrician, he has dealt with every facet of facility services. Binkley is a former president of the Kentucky School Plant Managers Association and added energy manager to his titles four years ago; the district has been focused on energy management for eight years.

Charlie Bryant is the director of maintenance and energy manager for Anchorage Independent Schools. Prior to joining the school district, Bryant was self-employed and also worked for the University of Louisville with the HVAC and controls departments. At Anchorage, Bryant has been implementing energy-conscious facility choices to benefit the district as well as the environment.

Martha Boles Casher is energy services coordinator for KSBA’s School Energy Managers Project, joining the project at its 2010 inception. She retired from LGE-KU after spending 22 years in customer services, marketing and human resources positions, and spent eight years as a teacher in public schools. Casher is a certified energy efficiency practitioner.

Scott Caslow is the energy manager for Somerset and Science Hill independent districts, and for Wayne, Russell and McCreary county systems. Caslow primarily focuses on HVAC controls in his collaborative, proving the worth of temperature control during unoccupied periods and after hours. A certified energy manager since 1995, he is a member of The American Society of Heating, Refrigerating and Air Conditioning Engineers.

Kevin Craft is an energy efficiency analyst and manages the day-to-day operations of LG&E/KU’s Advanced Meter Early Adoption Program and its Green Energy Program. He supports the organization’s goals with data analysis, market research, and program design and evaluation.

Todd Earlywine, a Bourbon County Schools alumnus, has been a member of the Bourbon County school board since 2005, and has served as chairman since 2007. He is the owner of E and E Drilling, specializing in geothermal loop installation. The company has worked at numerous schools around Kentucky.

About the Presenters

Andrew R. Fellon is the business leader for Trane Energy Services in Louisville. Prior to this role, he co-founded and headed the energy procurement and management company Fellon-McCord, which later became a business unit of Trane/Ingersoll Rand. Fellon also co-founded Alliance Gas Services, which eventually became Constellation NewEnergy Gas, one of the largest natural gas marketing companies in North America.

Dr. Kevin Hub is superintendent of Scott County Schools and previously held that position for Logan County Schools. Hub also worked in Madison County Schools during his 24-year career in public education. He is an adjunct instructor for the University of the Cumberlands and has been an adjunct instructor for Eastern Kentucky University off and on since 1995.

Linda Hackworth is Floyd County Schools' coordinator of facility support and energy manager. A 23-year employee of the school system, she works with the district's facilities director in making energy-informed decisions to make Floyd County Schools an energy-efficient district.

Dan Logan is the director of maintenance for Owen County Schools, which has been the most energy-efficient district in Kentucky two of the past three years due to his efforts. Logan previously was county road foreman and solid waste coordinator for Owen County government and also has worked as production manager at TruGreen.

Jim McClanahan has worked for Scott County Schools for over 10 years, currently serving as energy manager/assistant director of maintenance. For the past three years, he also has worked for KSBA-SEMP, assisting other school districts with their energy management program. A professional engineer, McClanahan's career includes 26 years at IBM and Lexmark and two terms as a Scott County magistrate.

Tom Nicolas is a mechanical engineer with CMTA Energy Solutions. Most of his nearly 20-year career in the energy field has been focused on identifying traditional energy saving opportunities, but he has also been involved with nationally recognized renewable and behavioral change projects. A certified energy manager, Nicolas has received the Technology Award from the American Society of Heating, Refrigerating and Air-Conditioning Engineers.

Jon Nipple is the project manager for the School Energy Managers Project. He is a certified energy manager with over 40 years of engineering, management and executive experience, mostly in the business sector.

Dr. Stephen Pruitt has been Kentucky's education commissioner since 2015. He has an extensive background in education at the local, state and national levels, and he currently sits on the board of directors for the national Council of Chief State School Officers. The Georgia native has served as senior vice president for Achieve, Inc., a national, nonpartisan, nonprofit education reform organization based in Washington, D.C. He also was mathematics program manager and director of academic standards at the Georgia Department of Education.

Jay Robertson is program manager of Emerging Technologies for LG&E/KU Energy. A licensed electrical engineer, he serves as a subject-matter expert on emerging technologies in the utility industry. Robertson's areas of expertise include solar energy, electric vehicle charging, battery storage, smart grid technology and distributed generation.

Bruce Sauer has been the energy manager for the Hopkins, McLean and Caldwell county districts and Dawson Springs Independent Schools for seven years. Prior to that, Sauer, a certified energy manager, owned and operated a building inspection company. Most recently, he has been serving on the Paducah Board of Adjustments.

Jeff Saylor is superintendent of the Estill County school district. Prior to coming to Estill County, he worked in Bell County Schools as a teacher, principal and central office administrator. Saylor is in his 33rd year of serving students in eastern Kentucky.

About the Presenters

Jeremy Simpson is the district technology coordinator, chief information officer and energy manager for Estill County Schools. He has taught chemistry and physics at Estill County High School and at Nelson County High School, and worked several years in technology and textbook sales.

Todd Smith is the president of EBEB Solutions, Inc., based in Dayton, Ohio. He previously was director of high-performance building solutions for Tremco, Inc. A certified energy manager and sustainable design professional, he also has held senior positions with Duke Energy and Trane, where he developed energy solutions and structured financial offerings to improve profitability and reduce risk for Fortune 500 companies, educational institutions, government facilities and health care systems.

Dr. Carolyn W. Snyder is director of the U.S. EPA's Climate Protection Partnership Division, which includes ENERGY STAR as one of its flagship programs. She has worked in public and private positions on strategy, organizational design, change management and regulatory strategy for McKinsey & Company. Snyder has been a White House Fellow in the federal Office of Management and Budget and worked in Delaware state government's Division of Energy and Climate.

Kenneth W. Stanfield is a principal with Sherman Carter Barnhart Architects focusing exclusively on educational facilities. He is a nationally recognized leader in the planning and design of sustainable schools. For the past decade, he has led the design of groundbreaking, high-performance schools, including the first net zero energy public school in the United States and its next one; and on Kentucky's first four ENERGY STAR schools.

Rhonda Truman, a 34-year employee of LG&E and KU, is program manager for the Commercial Rebate Program, overseeing its day-to-day operations and administration. She has held positions with the utilities' Supply Chain Department, including senior support analyst for transaction efficiency, sourcing leader for goods and services, and inventory analyst and buyer.

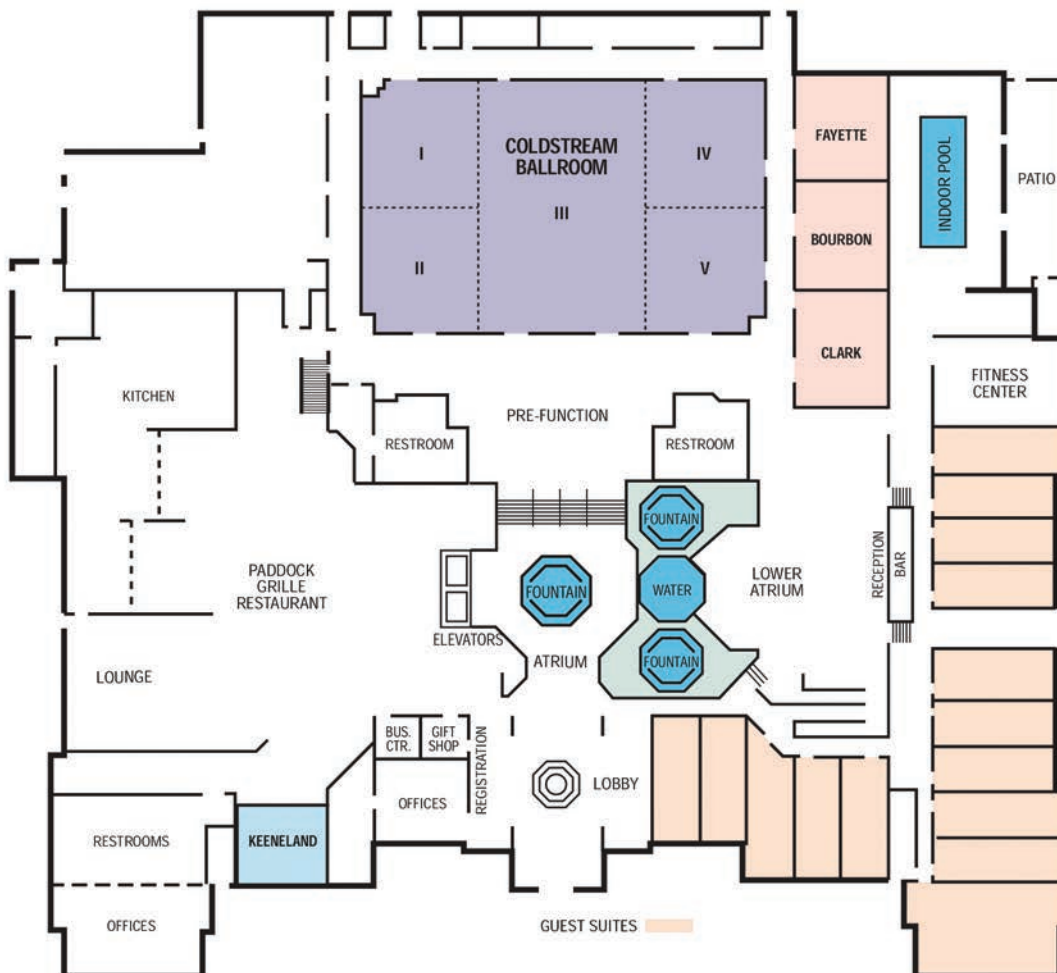
Kudret Ütebay has over 22 years of experience in the education, research, energy, science and technology fields. He is deputy program manager for the U.S. EPA's ENERGY STAR commercial and industrial program support. He also works closely with hundreds of school districts to evaluate building energy performance, and with trained professionals on energy efficiency and indoor air quality. Ütebay has been a technical adviser to the Green Schools Alliance National Advisory Board since 2008.

Tony Whaley has served on the Henry County school board since 2013 and currently serves as chairman. He has been active in the school system from which he graduated and has chaired its Education Foundation. Whaley is a 31-year State Farm Insurance agent and has a beef cattle farm in Henry County.

Carl Wicklund chairs the Kenton County school board, on which he has served since 1991. A Warren G. Proudfoot Outstanding School Board Member honoree, he has served on the boards of KSBA and its Educational Foundation. Wicklund, a Kentucky Association of Manufacturers board member, has helped organize partnerships for the Kenton County Schools Academies. He is a member of the Northern Kentucky Chamber of Commerce Education Alliance.

Ron Willhite has been the director of the KSBA-SEMP since it was founded in 2010 to assist school districts in managing energy costs. His career spans over 40 years in the electric and gas utility industry, beginning with Kentucky Utilities Co. A former Scott County school board member, Willhite has testified on utility issues before the Kentucky Public Service Commission, Virginia State Corporation Commission and Federal Energy Regulatory Commission.

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