

BOARD OF DIRECTORS

President
Durward Narramore
Jenkins Independent
President-elect
Allen Kennedy
Hancock County
Immediate Past President
Tom Blankenship
Lincoln County

Directors-at-large

Jeff Eaton
Allen County
Dianne Mackey
Daviess County
Linda Duncan
Jefferson County
Eugene Peel
Jessamine County
James See
Lawrence County
William Owens
Lee County
Ramona Malone
Newport Independent
Larry Dodson
Oldham County
Dr. Ann Gaines
Pineville Independent
Dr. Tina Hasty
Rockcastle County
David Webster
Simpson County
Nora Hatton
Washington County

Regional Chairpersons

James Sargent
Anderson County
Dr. Michael Turner
Casey County
Barry Cornelius
Christian County
Murrell "Gene" Allen
East Bernstadt Independent
Bill Robertson
Fulton Independent
Marshall Jenkins
Morgan County
Scotty Combs
Owsley County
Mark Ross
Pendleton County
Allen Phillips
Shelby County
Michael Wilson
Warren County
Jo Sabol
West Point Independent
Susan Cable
Wolfe County

Interim EXECUTIVE DIRECTOR
David A. Baird
BOARD TEAM DEVELOPMENT
Kerri Schelling
CHIEF FINANCIAL OFFICER
Stephen B. Smith
GOVERNMENTAL RELATIONS
Shannon Pratt Stiglitz
LEGAL & ADMINISTRATIVE
TRAINING SERVICES
Teresa Combs
MEMBER SUPPORT SERVICES
Brad Hughes
POLICY & PROCEDURES SERVICES
Katrina Kinman

August 15, 2014

Mr. David Huff
LG&E
Director Customer Energy Efficiency & Smart Grid Strategy
220 West Main Street
Louisville, KY 40202-1395

Re: School Energy Management Program Annual Report

Mr. Huff:

According to the Application and Order of Case No. 2013-00067, KSBA will manage and operate a School Energy Management Program and provide annually a report for LG&E that provides the amount of district funding; initiatives implemented; EUI; consumption reduction; preceding and current year peak demand and annual energy use; as well as associated energy and demand savings compared to the metrics as set out in the Application.

Per the Energy Management Program Agreement of June 3, 2013 KSBA is pleased to submit the annual report for FY2014.

Respectfully,



Jon Nipple
Manager, SEMP Project
260 Democrat Drive Frankfort
Frankfort, KY 40601
jon.nipple@ksba.org



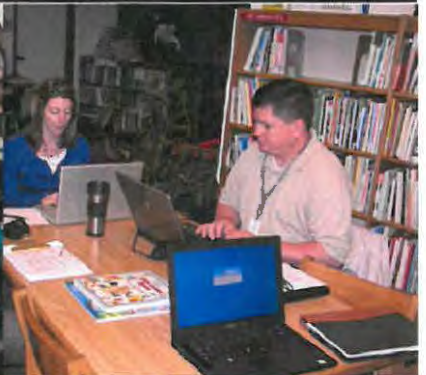
Ron Willhite
Director, SEMP Project
260 Democrat Drive
Frankfort, KY 40601
ron.willhite@ksba.org

SEMP . . . Supporting school districts in utilizing energy more wisely by communicating, funding, and educating school boards, administrators and energy managers.



Let's Save Energy

School Energy Managers Project



Energy Management Program

Annual Report

to

Louisville Gas & Electric



PPL companies



TABLE OF CONTENTS

- I. Executive Summary
- II. District Funding
- III. Initiatives Implemented
- IV. Energy Utilization Indices
- V. Consumption Reduction and Annual Comparison
 - a. Energy
 - b. Demand
 - i. Summer
 - ii. Winter
 - c. Natural Gas Usage
 - d. ENERGY STAR Schools
 - e. Energy and Demand Savings Compared to Application Metrics
- VI. Process
 - a. District MOA
 - b. Energy Manager Training
 - c. Outreach and Awareness
 - d. Data Gathering
 - e. Data Scrubbing
 - f. Data Analysis
- VII. Appendix
 - a. Sample MOA

Executive Summary

The Application in Case No. 2013-00067 identified the primary goal of the Energy Management Program for Schools to “support school districts in utilizing energy more wisely” with the overall objective for each school district to reduce consumption over time by an annual rate of 2.5 percent and achieve energy utilization indices (“EUI”) of fifty or lower. The participation goal was for all districts served by LGE or KU to retain or employ an employ energy manager through at least FY2015 to maximize district response to KRS 160.325.

The LGE districts are exceeding the target for demand reduction (16.0%) and are at the target for energy (9.7%). All five districts receiving LGE electric service participated in the program and two have EUI’s less than 50.

With the progress thus far and the process that has been established the primary goal is expected to be achieved for fiscal year 2015.

The partnership established between LGE-KU and KSBA has provided a means for the School Energy Managers Project (SEMP) to maintain a major presence within schools in Kentucky. Five School Districts within the LGE-service area and 53 School Districts within the KU-service area have benefitted financially and technically from this work.

The School Energy Managers serving these school districts have benefited from continuity of employment, technical training and improved skills, due to the funding which was provided. They and their school districts will benefit from the knowledge that has been gained. Knowing that an expectation of a 2.5% annual reduction provides leverage for energy and demand conservation measures which may not otherwise be undertaken. Future results and further technological upgrades will be impacted.

District Funding

LGE-KU SCHOOL ENERGY MANAGEMENT PROGRAM

FUNDING DISTRIBUTION

FY2014

	Total	LGE	KU
Project Management			
SEMP Staff	\$ 33,863	\$ 4,334	\$ 29,528
Outreach	\$ 22,258	\$ 2,849	\$ 19,409
Travel	\$ 5,606	\$ 718	\$ 4,889
Sub Total	\$ 61,727	\$ 7,901	\$ 53,826
District Energy Manager Funding/Support			
Engineering	\$ 56,025	\$ 7,171	\$ 48,853
Training	\$ 42,628	\$ 5,456	\$ 37,171
Salary Match	\$ 325,847	\$ 46,183	\$ 279,664
SubTotal	\$ 424,499	\$ 58,810	\$ 365,689
Total	\$ 486,226	\$ 66,712	\$ 419,515

*Includes indirect Costs @15% of all items except energy manager salary match

Initiatives Implemented

The following is a summary of significant work projects carried out since fiscal year 2010 which lower the electric and total district Energy Usage Intensity, EUI. They are categorized by the type of work project.

Lighting Retrofits

Lighting is an important energy savings opportunity for schools. Approximately 25% of the energy use in schools is lighting. Technology improvements in lighting allow schools to improve the quality of lights and lower their operating costs with minimal impact to building occupants. Consequently most school districts have completed lighting retrofits during this timeframe. The leading districts for “lighting the way” with LED technology are Scott County and Madison County.

Scott County got off to an early start by retrofitting all remaining T12 Fluorescent bulbs to T8 fluorescent bulbs. Following that, they have converted metal halide gym lights to LEDs and are currently replacing exterior lighting to LEDs.

Madison County is another district where LED lighting is making headway. Over half of Madison County’s Gyms have already been converted from Metal Halide fixtures to LED fixtures. Madison County has an active work plan to convert a gym every three months to LEDs until all gym lights have been replaced. Additionally, Madison County is systematically replacing all of their exterior owned lighting to LEDs.

Other districts that have done significant lighting improvements include: Rowan County, Fleming County, Mason County, Bath County, Augusta Independent, Carroll County, Laurel County, Woodford County and Bracken County. Several of these districts not only retrofitted lights and fixtures, but additionally installed motion sensors and/or delamped vending machines.



This picture from Madison County shows an LED replacement (left) of a typical exterior metal halide fixture (right). Note the amount of light cast on the building with the LED



This picture shows a gymnasium in Scott County which was converted from metal halide fixtures to LED fixtures.

Control Work

HVAC System controls are vitally important to schools because schools are only occupied about 25%-30% of the time on an annual basis. However, Control Systems and district-wide integration are expensive investments for schools.

Shelby County, Scott County and Somerset Independent are some of the leaders in optimizing HVAC Control Systems. Through the last few years, these districts have upgraded their control systems and put qualified operators in place to ensure system setback and shutdowns. The system upgrades and qualified operators have allowed these districts to set back to unoccupied mode for “snow days” and to use precise “event scheduling” to temporarily override setbacks and then return the system to unoccupied modes.

Other districts that have done significant work on control systems include: Rowan County, Fleming County, Bath County, and Somerset Independent. In making these upgrades, the Energy Manager who serves Somerset Independent, Russell County, McCreary County, Science Hill and Wayne County has saved thousands of dollars for those districts.



An Energy Manager/District Facility Director ensures his buildings are scheduled correctly.

Culture Change

Technology upgrades are great and badly needed in many districts. However, even the best technologies can be defeated with poor behaviors. Many districts have not used the technologies already installed because they lacked capable personnel for enabling them or hadn't worked to change the culture to accept them. Unlike a business culture where an edict can drive change, schools require a much more collaborative environment to enact change. There are many aspects of changing to a culture of energy efficiency and only a few are mentioned here.

Communication throughout the system

Scott County is an example in this area. Monthly performance communications are given to the school board, school leadership and teachers about how each school is performing compared to each other and the previous year. The composite energy savings are also published monthly.



Many strategies are used to involve faculty, staff and students, such as an Energy Contests, shown at Scott County High School

Energy Contests

Several Districts have implemented energy contests which return some of the monthly or annual energy dollar savings to the schools which generated them. Savings awards are either given as a flat amount (\$500 annually) or as a percentage of the savings generated.

Examples in this area include Hopkins County, Carroll County, Gallatin County, and Fayette County.



Oldham County Energy Manager works closely to support Student Energy Team.

Energy Teams

Several districts have established student energy teams which have activities ranging from building walkthrough audits to recycling.

The examples in this area are Oldham, Fayette, and Scott Counties.

District Leadership

Tops down leadership and support are important to making things happen within a school district. For example the superintendent in Clay County has helped lead the way in this area. The superintendent has actively supported the energy manager in planning district-wide shutdowns, and then again with participation in the post shutdown reviews of how things were actually executed. These follow-up reviews were used to improve subsequent shutdowns.



Superintendents involved in a significant way, often leads to success

Rate Changes

While Rate Changes aren't really work plan improvements, they do help to fund improvements which occur. Several districts have changed from PS to TOD. Others have renegotiated Contract Minimums.

Union County, Hopkins County and Fleming County were early adopters and have saved their districts thousands of dollars which were in part reinvested in energy projects.

Performance Contracting

Because of the costs of many capital improvements, many districts do not have the funding or bonding potential to invest in needed building upgrades. Some districts have entered into energy savings performance contracts to meet their needs. What we have seen as a winning combination is a good energy manager paired with a performance contractor.

The leading districts in performance contracting are Bullitt County, Rowan County, and Henry County. These districts have outstanding energy managers who work closely with the performance contractors to monitor performance and ensure that the details of the contract are met.

Other districts that have performance contracts include: Jessamine and Muhlenberg Counties.

New Construction

The leader in new construction is Robertson County. By un-occupying and demolishing the Deming School and building a new school, Robertson County lowered their district wide EUI from 114 to 40 kBtu/sf. This construction included a Chilled Beam System and Control System which integrated the lighting.



New construction since the program began, is leading to building higher efficiency buildings.

Renovation

Several districts have completed renovations during this timeframe. Examples include: Cartmell Elementary, Centerfield Elementary, Carroll Middle School, Gallatin Lower Elementary, Gallatin Upper Elementary and Middle School, Painted Stone Elementary and TT Knight Middle School to mention a few. All these schools lowered their EUI building scores and consequently lowered their overall district scores. These renovations contain many of the elements listed above.

Energy Utilization Indices

One of the key indicators for measuring energy performance is district-wide Energy Use Intensity, measured in kBtu/sf/yr. This measure is slightly different from the Building Energy Use Intensity in that the district EUI is a measure of **all** the energy use in a district divided only by the square footage of the **conditioned** area. The statewide average for district-wide EUI in FY2010 was 64.2kBtu/sf/yr. By FY2013 the district-wide EUI had dropped to 58.6 kBtu/sf/yr. Lower EUI indicates a more energy efficient condition.

We have also reported the electric-only EUI which calculates the EUI based on electrical usage only.

Statewide and for most districts the EUI was lowered. This can be attributed to several things. New school construction and renovations are likely more energy efficient. Equally important are the energy conservation measures such as lighting or HVAC projects which impact existing construction.

Table 1, shows the data for LGE funded districts. The table below shows that most districts have lowered both their electric and overall EUI.¹

Table 1
EUI History (kbtu/sf)
LGE Funded Districts

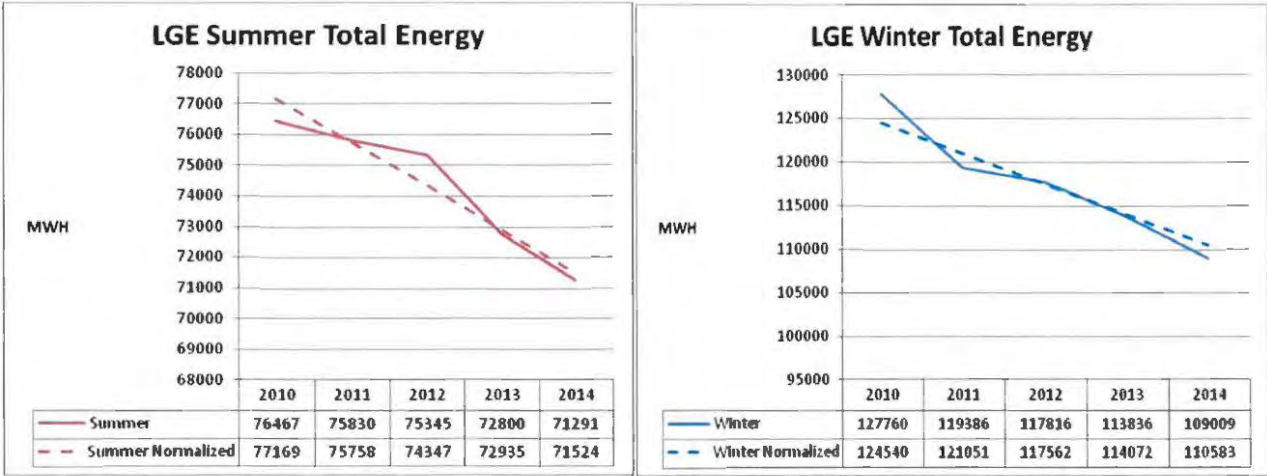
District	2010 Electric EUI	2013 Electric EUI	2010 Total EUI	2013 Total EUI
Anchorage	30.34	25.27	73.77	71.48
Bullitt	40.51	35.90	53.71	43.72
Jefferson	40.49	37.46	68.15	62.61
Oldham	31.65	28.63	45.69	41.83
West Point	NR	51.51	NR	51.51

The total average EUI for LGE-funded districts has reduced from 64.6kBtu/sf/yr in 2010 to 58.8kBtu/sf/yr in 2013. The total average Electric EUI moved from 39.6 kBtu/sf/yr to 36.4 kBtu/sf/y during that same timeframe. Since the inception of the program two districts are below the target of 50 kBtu/sq/yr.

¹FY2014 EUI data will not be available until October 1 when all state districts are required to submit through KSBA-SEMP to the Legislative Research Commission and Energy and Environment Cabinet their Annual Energy Management Report.

Consumption Reduction and Annual Comparison

ENERGY (MWH) REDUCTION



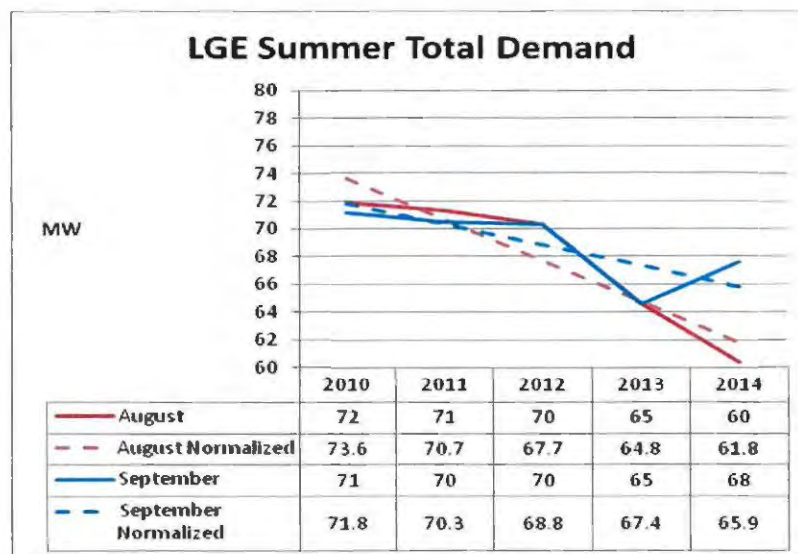
The LGE-served districts reduced their summer energy usage by 7.3% and winter energy usage by 11.2% over the base period.

DEMAND (MW) REDUCTION

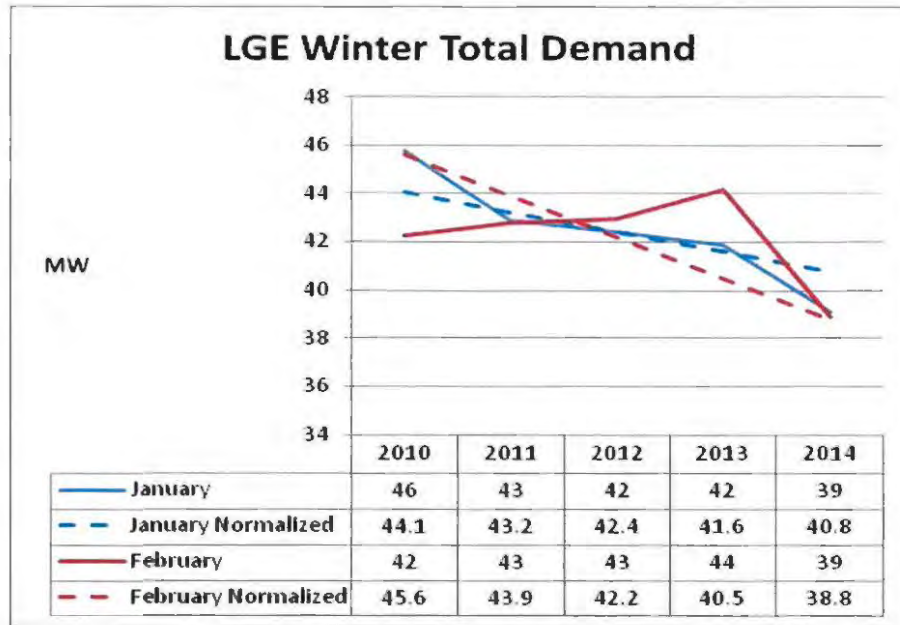
Individual school district measured demand data was rolled up into an LGE or KU summary.(Demand values for non-demand billed accounts were calculated monthly using respective monthly load factor for the demand billed accounts.) The non-diversified demand data was then analyzed for Summer Demand (August and September) and Winter Demand (January and February).

Summer Demand Reductions

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 returning to a student-occupied mode.



The Summer Demand reduction for LGE –served districts dropped 16.0% for August and 8.2% for September during the measured timeframe.



The LGE-served districts show a 7.5% reduction in January Demand and a 14.9% reduction in February Demand over the base period.

LG&E Natural Gas

The following chart shows the consumption of LG&E Natural Gas over the period from July 2009 through June 2014.²

Consumption by year, ccf					
School District	2010	2011	2012	2013	2014
Jefferson	3,893,946	3,866,707	2,943,660	3,853,584	4,360,121
Shelby	5,137	5,370	3,208	3,859	5,577
Bullitt	189,575	155,801	118,695	137,893	167,471
Oldham	247,625	264,057	200,195	247,120	290,504
Hardin	207,207	187,293	190,412	159,815	182,368
Nelson	39,057	47,966	39,091	34,991	41,255
Henry	56,938	73,351	51,127	62,397	37,932
Trimble	54,188	56,347	42,138	49,725	57,751
Anchorage	40,308	43,091	30,840	42,868	49,267
West Point	2,905	2,638	2,107	2,626	2,450
	4,736,886	4,702,621	3,621,473	4,594,878	5,194,696

² Data is provided to KSBA SEMP for analysis and reporting on a quarterly basis. Since June 2014 data was not completely available for all districts at the due date of this report, April through June 2013 was used as a proxy for FY2014 Q4. KSBA will provide an update to this report to include FY2014 Q4 upon receipt from all districts.

ENERGY STAR Schools

The number of ENERGY STAR Labeled School Buildings is also a measure of progress. Having a building which is ENERGY STAR labeled is international recognition for energy efficiency. Figure 1 shows that the number of buildings has grown steadily since 2010 indicating greater energy efficiency.

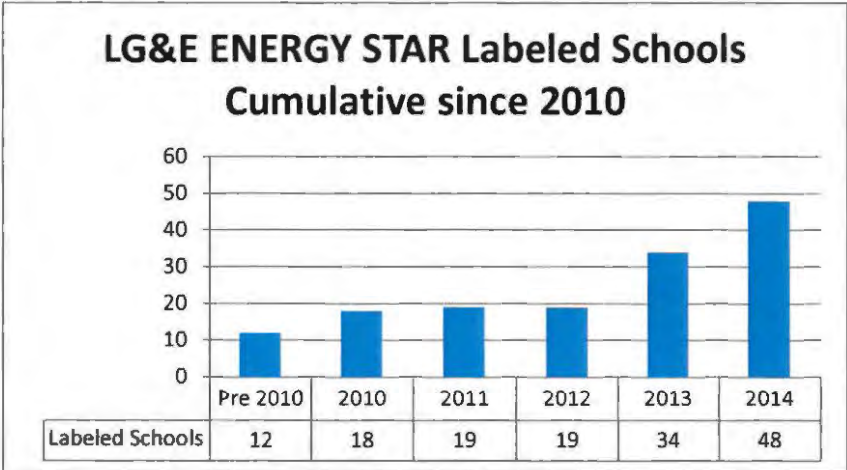


Figure 1, Cumulative ENERGY STAR labeled schools in LGE served districts by year since 2010.

Energy and demand savings compared to Application metrics

The Application in Case No. 2013-00067 identified the primary goal of the Energy Management Program for Schools to be “support school districts in utilizing energy more wisely” with the overall objective for each school district to reduce consumption over time by an annual rate of 2.5 percent and achieve energy utilization indices (“EUI”) of fifty or lower. The participation goal was for all districts served by LGE or KU to retain or employ an employ energy manager through at least FY2015 to maximize district response to KRS 160.325.

Participation

K-12 Schools:	Total	LGE	KU
Total	555	168	374
Participating	456	168	288
Districts:			
Total	84	5	79
Participating	58	5	53

Demand and Energy Reduction

The SEMP base year is FY2010 and the first reporting year under LGE-KU program is FY2014. The data reported in Section V is for metered energy and demand for continuous accounts from the base year through FY2014. The reported demands are the summation of metered demands for demand billed accounts and calculated demands for energy only billed accounts and are thus the accumulated non-diversified class demand. Next the accumulated demands were normalized for weather and then as in the Application a seventy-five percent coincident factor was assumed for converting the accumulated demands to a system coincident peak demand.

The LGE districts exceed the target for coincident peak demand reduction in August and are just slightly under the target for energy. The table below lists the demand results for August and the annual energy usage by year.

August MW												
	Actual Class NCP					Norm Class NCP					Norm Class CP	
		Incr		Cum			Incr		Cum			
FY2010	72.0					73.6					55.2	
FY2011	71.0	1.0	1.39%	1.0	1.39%	70.7	2.9	3.94%	2.9	3.94%	53.0	3.94%
FY2012	70.0	1.0	1.41%	2.0	2.78%	67.7	3.0	4.24%	5.9	8.02%	50.8	8.02%
FY2013	65.0	5.0	7.14%	7.0	9.72%	64.8	2.9	4.28%	8.8	11.96%	48.6	11.96%
FY2014	60.0	5.0	7.69%	12.0	16.67%	61.8	3.0	4.63%	11.8	16.03%	46.4	16.03%

TOTAL MWH												
	Actual					Norm						
		Incr		Cum			Incr		Cum			
FY2010	204,227					201,709						
FY2011	195,216	9,011	4.41%	9,011	4.41%	196,809	4,900	2.43%	4,900	2.43%		
FY2012	193,161	2,055	1.05%	11,066	5.42%	191,909	4,900	2.49%	9,800	4.86%		
FY2013	186,636	6,525	3.38%	17,591	8.61%	187,007	4,902	2.55%	14,702	7.29%		
FY2014	180,300	6,336	3.39%	23,927	11.72%	182,107	4,900	2.62%	19,602	9.72%		

Process

KSBA-District Memorandum Of Agreement

From the Kentucky School Boards Association standpoint, the process began with execution of a Memorandum of Agreement (MOA) with a “Lead” school district in a LGE or KU-served area who wanted to participate in the program. The MOA outlined the obligations of the district in terms of employing an energy manager, data collection, reporting, energy and demand reduction goals, and also financial remuneration based on the number of KU/LGE K-12 schools within each school district who may have partnered with the Lead to share in the costs and services of the energy manager. A sample MOA from Fleming County is attached in the Appendix.

Since many Energy Managers cover multiple school districts, it was up to the lead school district in a partnership to set up a partnership agreement with each participating partner. This example illustrates the complexity of dealing within multiple district partnerships each having a different percentage of LGE-KU K-12 schools.

Energy Manager Training

As soon as the district MOA’s were in place, one-on-one meetings began with each energy manager to discuss standardized data collection and formats. With a wide-range of experience in energy and energy management, several strategies were used to build the depth of knowledge for energy managers. It was



James Gardner, Vice Chairman, PSC presents issues for energy managers to consider in their planning.

also important to recognize this group being the “boots on the ground” in the district, have daily contact with the building users, thus having an impact on the culture surrounding energy usage. This effort was supported by the LGE-KU grant and other funding opportunities. The training was available to all LGE-KU served districts whether or not their energy manager was funded in part by the LGE-KU grant.

The following professional development opportunities were provided:

- Fifty-seven (57) one-on-one (or small group) sessions with 64 attendees.
- Two (2) training conferences for funded energy managers with 58 attendees with the following topics:
 - Benchmarking Best Practices
 - Emerging Energy Opportunities presentation by Kentucky Public Service Commissioner

- Energy Outlook by Economist
- Insides of Portfolio Manager
- Technical Update
- Project Analysis
- Energy Auditing
- Energy Savings Projects . . . a Financial Solution
- Calculating Efficiency
- The Building Envelope (and Infiltration)



Technical updates were coordinated with experts such as Joe Horrell, VP Operation for University of Cincinnati.



David Huff, LG&E Director Customer Energy Efficiency & Smart Grid Strategy spoke to energy managers attending a regional meeting

- Four (4) regional training sessions covering the following topics:
 - Understanding Demand
 - Utility Rate Issues and Funding Update
 - Is Power Factor correction a problem?
 - Funding of Best Practices
 - Moving from the Energy Management Plan to Budgeted Actions
 - Why do an Energy Audit?
 - Best Practices & Pitfalls
 - Governance (Statutes and Board Policy)

- Numerous remote sessions utilizing "Go To Assists" to provide individual instruction on utility tracking, rate comparison, as well as EXCEL training

Outreach and Awareness

An important deliverable of SEMP is to keep school district 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 adjusting to the ever changing educational standards, there is a continual need to educate stakeholders of resources to support the district's mission. Funds provided by LGE-KU along with other funding made possible presentations, exhibits, and monthly newsletters to fulfill this objective during the reporting period.

Presentations were made to the following:

- Kentucky General Assembly Special Subcommittee on Energy
- Midwest Energy Efficiency Alliance Benchmarking Conference
- UK School Finance Officer Training Certification
- KSBA's Annual Conference – "Is your energy score "Distinguished, Proficient or Needs Improvement?"
- "Kentucky Public Schools Energy Management Report" at the High Performance Sustainable Schools Workshop
- Kentucky Association of School Business Officials
- Kentucky congressional delegation, Edison Electric Institute and Federal Department of Education Green Ribbon Schools Coordinator

Exhibitor at the following conferences:

- Kentucky School Plant Management Association Annual Conference
- Kentucky School Boards Association Annual, Summer Leadership and Winter Symposium Conferences
- Kentucky Association of School Business Officials Fall and Spring Conferences



Let's Save Energy



School Energy Managers Project



February 2014

School Energy Managers Project Status Update

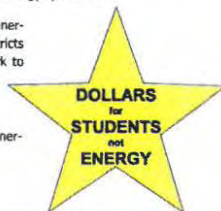


Northern Elementary School (Scott Co) celebrates achieving ENERGY STAR "Top Performer" School District

Two decades ago, Kentucky was a national leader in education reform. Today, it is still attracting national attention with its energy-efficient schools. Since March 2010, the average retail price of electricity for schools in Kentucky has risen by 33 percent. To address these rising costs, the Kentucky General Assembly in 2009 enacted KRS 160.325, which required school boards to adopt energy management policies that require development and implementation of energy management plans, along with annual reporting to the Kentucky Energy and Environment Cabinet and the Legislative Research Commission. KSBA's School Energy Managers Project (SEMP) is making sure the focus on energy stays sharp by helping schools maximize their energy savings with the help of energy specialists.

Since July 1, 2010, Kentucky's school energy managers have helped generate nearly \$32 million in refunds or annual cost avoidance in the districts they represent – and that's just the beginning. Energy managers work to assist schools in the districts they serve to:

- Establish energy teams
- Educate staff and students
- Develop energy-efficiency goals
- Foster wise energy choices
- Analyze utility bills
- Develop and implement an Energy Management Plan
- Evaluate HVAC and lighting systems



Savings To Date

Cumulative Savings To Date		
Actions Taken	FY2012-13	Cumulative FY2010-13
Consumption	\$ 12,900,000	\$ 25,500,000
Rate Correction	\$ 1,480,000	\$ 4,230,000
Utility Case Intervention	\$ 350,000	\$ 1,680,000
Rebates & Refunds		\$ 1,420,000

Let's Save Energy is distributed to all school board members, superintendents, and other stakeholders monthly.

Monthly Newsletter sent to over 1600 stakeholders, focusing on:

- Benchmarking best practices
- New technologies
- Education of energy related terms, i.e., Energy Utilization Index (EUI), load profiles, demand, consumption, etc.
- Recognition of schools/districts and energy managers who are succeeding with energy management efforts
- Discussion of factors impacting energy
- Emerging Energy Issues

Data Gathering

Energy Usage and Demand data was gathered by month for each district beginning with July 2009 through March 2013.³ School districts do not have a standardized tool for collecting and recording data so this involved multiple collection tools ranging from Purchased Software (EnergyCap, EnergyWatchdog, and SchoolDude) to excel spreadsheets. Where historical demand and usage data was missing from district records, KU-LGE regional customer support managers were contacted to fill in the required data.

Data Scrubbing

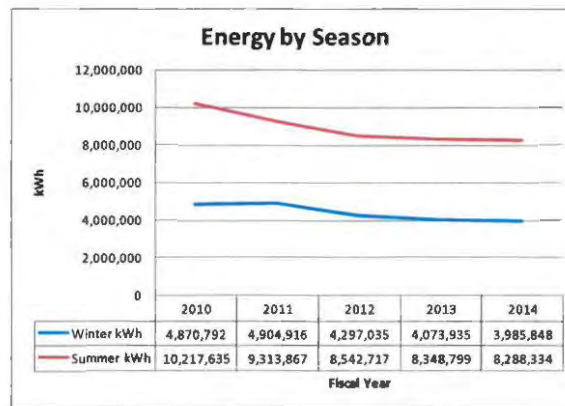
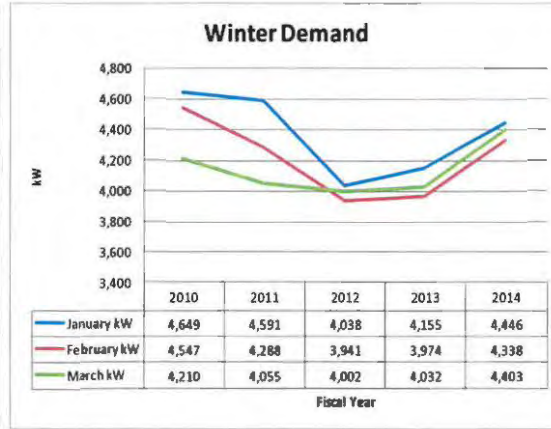
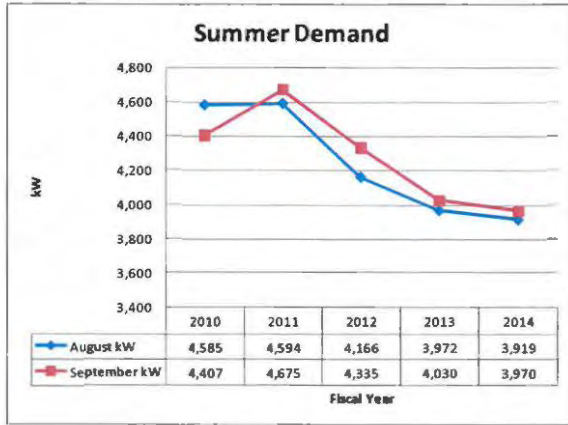
Only those accounts that were present since July 2009 and still remaining today were analyzed. Accounts which have been vacated since July 2009 were eliminated from the data analysis. Accounts which are new since that were new since July 2009 are reflected in the overall district EUI but not in the demand or usage results. Accounts which had usage and demand changes due to renovations were either eliminated from the data base or reconciled by square footage calculations.

Data Analysis

Following the scrubbing of the data, each district's data was graphed showing individual performance on energy and demand reductions. For the demand accounts, data was plotted as Summer Demand, Winter Demand, and Energy-by-Season. For the non-demand accounts, a load factor was calculated using the demand accounts and then applied to calculate a demand value for the accounts where demand was not captured. Samples of the district level non-normalized graphs are shown below. Finally, all data was rolled-up into an LGE or KU Summary and weather normalized.

³ Data is provided to KSBA SEMP for analysis and reporting on a quarterly basis. Since June 2014 data was not completely available for all districts at the due date of this report, April through June 2013 was used as a proxy for FY2014 Q4. KSBA will provide an update to this report to include FY2014 Q4 upon receipt from all districts.

The following are examples of graphs used in School Districts



MEMORANDUM OF AGREEMENT
BETWEEN THE
KENTUCKY SCHOOL BOARDS ASSOCIATION
(KSBA)
AND
FLEMING COUNTY SCHOOLS

LGE-KU SCHOOL ENERGY MANAGERS PROJECT

THIS MEMORANDUM OF AGREEMENT (the "AGREEMENT") is made and entered into this May 31, 2013 by and between the Kentucky School Boards Association, 260 Democrat Drive, Frankfort, Kentucky 40601 (hereinafter "KSBA") and Fleming County Schools, 211 W. Water St., Flemingsburg, KY 41041, (hereinafter "Fleming").

WITNESSETH:

WHEREAS, Commonwealth of Kentucky schools spend over \$100 million per year on energy costs; and

WHEREAS, KRS 160.325 requires school districts to respond to rising energy costs by focusing on the management of its various uses of energy; and

WHEREAS, KRS 160.325 requires the Kentucky Pollution Prevention Center (hereinafter the "KPPC"), beginning on or before December 1, 2011, to report to the Kentucky Department of Energy Development and Independence and the Kentucky Legislative Research Commission

on the status of the development of energy management plans by boards of education and the anticipated savings to be obtained from those plans; and

Whereas, board policy 05.23 requires the Superintendent to direct the development of an energy management plan(EMP) and oversee the implementation and maintenance of the plan; and

WHEREAS, KSBA is a nonprofit corporation, governed by a statewide board of directors,comprised of school board members from public school systems in the Commonwealth of Kentucky; and

WHEREAS, KSBA in 2010 implemented the School Energy Managers Project ("SEMP") to support district efforts in compliance with KRS 160.325; and

WHEREAS, Fleming recognizes the opportunity to conserve both financially and environmentally by implementing an energy management plan; and

WHEREAS, The Louisville Gas and Electric ("LGE") and Kentucky Utilities ("KU") Companies have been authorized by the Kentucky Public Service Commission in PSC Case No. 2013-00067 to establish an Energy Management Program for Schools that makes available \$1,000,000 during the FY2014 – FY2015 period to provide matching funds for energy managers employed to serve public districts with schools located in their service territory; and

WHEREAS, KSBA and LGE-KU have entered into anEnergy Management Program Agreement(the "Program Agreement") whereby KSBA agreed to coordinate and administer through SEMP a grant program to provide the matching funds and support for energy management programs at the district level; and

WHEREAS,KSBA, pursuant to the Program Agreement, can reimburse districts based on the relationship of LGE-KU served K-12 schools to total district K-12 schools up to 50 percent of the salary, not to exceed \$27,500 annually, for a full-time Energy Manager position during

FY2014 and up to 25 percent of the salary, not to exceed \$13,750 annually, for a full-time Energy Manager position during FY2015; and

WHEREAS, the expenditure of funds shall be monitored and subject to KU review within the terms of the Program Agreement; and

WHEREAS, Fleming is a body politic and corporate, pursuant to KRS 160.160, having the authority to contract; and

WHEREAS, Fleming may enter into agreements to share the resources provided for herein with other school districts, subject to the terms and conditions of this agreement on a basis mutually agreed to which agreements shall be authorized in the Board Minutes of the following districts (hereinafter "Partners"): August Independent Schools, Bath County Schools, Bracken County Schools, Mason County Schools, Menifee County Schools, Robertson County Schools and Rowan County Schools.

NOW, THEREFORE, in consideration of the mutual covenants and conditions contained herein, and for other good and valuable consideration, the receipt, mutuality and sufficiency of which is hereby acknowledged by the parties to this AGREEMENT, KSBA and Fleming hereby COVENANT AND AGREE to partner together in the School Energy Managers Project and to participate in the program as follows:

A. 1. OBLIGATIONS OF Fleming

1.1 Fleming shall undertake the following obligations for itself and each of the Partners for LGE-KU served K-12 schools and further agrees that such terms shall be binding as applicable on the partnering districts sharing resources as provided in the premises:

- 1.1.1 Employ an Energy Manager to comply with the energy management grant awarded to District by KSBA beginning July 1, 2013 and continuing through June 30, 2015 to serve itself and the Partners;
- 1.1.2 Develop and implement an Energy Management Plan ("EMP") and identify anticipated savings as consistent with KRS 160.325;
- 1.1.3 Provide for its Energy Manager to participate in energy management training, as coordinated by KSBA;
- 1.1.4 Submit to KSBA within 30 days of the last day of each calendar quarter for FY2013-14 and FY2014-15 the following information as required by the Program Agreement for itself and each of its partners:
 - a. Energy management initiatives implemented in the quarter.
 - b. Total monthly electric and gas demand and energy usage separated by LGE-KU and non LGE-KU service and by demand billed and non-demand billed on forms provided KSBA.
- 1.1.5 Develop a job description for the energy manager position that includes the following responsibilities:
 - Assist district energy committee with implementation and maintenance of district EMP.
 - Analyze utility bill correctness and develop baselines to facilitate computation of ongoing energy savings.
 - Facilitate and/or conduct building energy assessments and identify actions to enhance efficient use of energy.
 - Review existing building operation procedures and implement revised procedures to facilitate more efficient energy use practices.
 - Implement and support Energy Teams at the individual school level.
 - Maintain accurate records and databases for efficient program monitoring and evaluation.

- Communicate efficient energy usage practices and achievements to faculty, staff, students and the community.
- Evaluate opportunities for ENERGY STAR Certification and develop and implement practices to achieve such certification.
- Participate in Professional Development opportunities to better understand relationship between energy management, school districts and its relationship to educational, financial and environmental goals and objectives.
- Collaborate with teachers in developing energy efficiency as a core curriculum element.

1.1.6 Coordinate with KSBA an annual work plan for the Energy Manager to facilitate the following goals for LGE-KU served K-12 schools:

- Reduction of school Energy Utilization Index by 2.5 percent
- Compliance with KRS160.325 and Board Policy
- Completion up to five building energy assessments
- Certification of one or more new ENERGY STAR Rated Schools as applicable
- Support of student energy team projects

1.1.7 Provide invoice(s) and supporting documentation quarterly as required to KSBA for costs to be reimbursed subject to terms of this Agreement;

1.1.8 Provide KSBA monthly timesheets for the Energy Manager that shows time spent for each district served by the Energy Manager;

1.1.9 Comply with the applicable requirements of the attached Program Agreement, which is attached and is hereby incorporated into this AGREEMENT;

1.1.10 Retain all records relating to the Project for at least three (3) years after the end of the term of this AGREEMENT;

2. OBLIGATIONS OF KSBA

2.1 KSBA shall undertake the following obligations:

2.1.1 Pay Fleming the amounts for each partner as listed under "LGE-KU Funding" as set forth on Attachment A for FY2014 and FY2015 or until termination of the

MOA, whichever occurs earlier, prorated on a monthly basis as allowed by the terms of the Program Agreement

- 2.1.2 Payment will be made no less than quarterly within 30 days of receipt of payroll records from Fleming;
- 2.1.3 Assist with the training, coaching and the establishment, monitoring and evaluation of performance goals of the Energy Manager;
- 2.1.4 Coordinate planning and scheduling of technical and professional development for the Energy Manager;
- 2.1.5 Assist the Districts in complying with the requirements of KRS 160.325 and Board Policy 05.23;
- 2.1.6 Facilitate development of an Energy Manager Sharing Agreement with the partnering districts, as needed;
- 2.1.8 Assist the Energy Manager in communicating with the school administration and the local community regarding the program.

3. MUTUALITY OF OBLIGATIONS

- 3.1 The obligations imposed upon the parties to this AGREEMENT are for the benefit of the parties and we each hereby agree that timely fulfillment of each and every obligation in accordance with this AGREEMENT is material and necessary. In the event of a material breach by either party to this AGREEMENT, the other party shall give written notice of the breach to the breaching party and the opportunity to cure such breach within (10) business days. Upon the failure of the breaching party to cure within said timeframe, the non-breaching party may terminate this AGREEMENT upon notice without further obligation to the other party.

3.2 Except as otherwise provided in this AGREEMENT, the parties to this AGREEMENT shall be solely responsible for any costs incurred in fulfilling their obligations under the AGREEMENT, and no party shall have any claim against the other party for reimbursement of such costs.

3.3 Fleming agrees and understands that this AGREEMENT allows for a potential grant funding source which, subject to conditions of the grant and as set out herein, may apply towards certain costs of energy positions and Fleming further agrees and understands that Fleming shall be solely responsible for any and all legal, statutory, contractual, and financial obligations (over and above proper application of grant funding, including, but not limited to employee benefits) which apply by and between Fleming and individuals hired by Fleming in energy related positions. Nothing herein shall be deemed to create an employment or third party beneficiary relationship between individuals hired by the district in energy related positions and KSBA, the Commonwealth of Kentucky, or any agency thereof.

4. TERM OF AGREEMENT

4.1 The term of this AGREEMENT is from July 1, 2013 through June 30, 2015, or until termination of the Grant Agreement, whichever occurs earlier.

5. CANCELLATION

5.1 This AGREEMENT can be terminated without cause by mutual consent of the parties following thirty (30) days prior written notice to the other party, or by KSBA at anytime upon depletion of the grant funding and for cause as provided for in paragraph 3.1.

6. NOTICE

6.1 Notices required under this agreement shall be mailed by registered or certified mail, or hand-delivered, to the Fleming County Schools' Superintendent at the address at the beginning of this AGREEMENT and to the KSBA Executive Director at the address at the beginning of this AGREEMENT.

IN WITNESS WHEREOF, KSBA and Fleming have executed this AGREEMENT as of the date first written above.

AGREED TO BY:

Kentucky School Boards Association

William Scott, Executive Director

Date: _____

Fleming County School Board of Education

Board Chairperson

Date: _____

Attested by: _____
Board Secretary

Date: _____

District	K-12 Schools		Percent KU-LGE*	Salary Partnership Allocation \$45,000.00	LGE-KU Funding	
	KU-LGE	Total			FY2014 Grant Max - 50%	FY2015 Grant Max -25%
Fleming	3	6	50.00%	\$7,875.00	\$1,968.75	\$984.38
Mason	4	4	100.00%	\$10,485.00	\$5,242.50	\$2,621.25
Rowan	2	6	33.33%	\$10,575.00	\$1,762.50	\$881.25
Bath	3	4	75.00%	\$5,940.00	\$2,227.50	\$1,113.75
Robertson	1	1	100.00%	\$2,025.00	\$1,012.50	\$506.25
Augusta	1	1	100.00%	\$1,170.00	\$585.00	\$292.50
Menifee	0	3	0.00%	\$3,285.00	\$0.00	\$0.00
Bracken	3	3	100.00%	\$3,645.00	\$1,822.50	\$911.25
Total	17	28		\$45,000.00	\$14,621.25	\$7,310.63