

School Energy Managers Project Update

KRS160.325

Special Subcommittee on Energy

June 19, 2015



Presenters

- Ron Willhite – Director KSBA - SEMP
- Jim McClanahan – Energy Manager, Scott County
- Ralph Slone – Head Custodian, Woodford County



Statutory & Policy Drivers

- HB2 (2008) to KRS160.325 to Board Policy 05.23
 - Develop/ Implement/Monitor Energy Management Plan
 - Track & Monitor Progress Managing & Reducing Costs
 - District/Superintendent Annual Reporting
 - KSBA collects, verifies and reports to DEDI & LRC

The Average School District in Kentucky

	Entire State	Less Fayette & Jefferson Counties
Elementary Schools	4.0	3.4
Middle and High Schools	2.5	2.2
TOTAL	6.5	5.5
Energy Consumption, MMBTU	38,309	30,154
Energy Spend, \$	\$842,758	\$682,022
Conditioned Square Footage	629,570	511,446

School Culture

- School administrator and personnel focus = education
- Background is education – not finance or energy
 - Default: “just pay the bill”
- Contrary to a business, schools have multiple decision makers
 - Each teacher can bring items (portable heaters, refrigerators, additional lights, and microwaves) and, in many cases, have control over the temperature of their room.

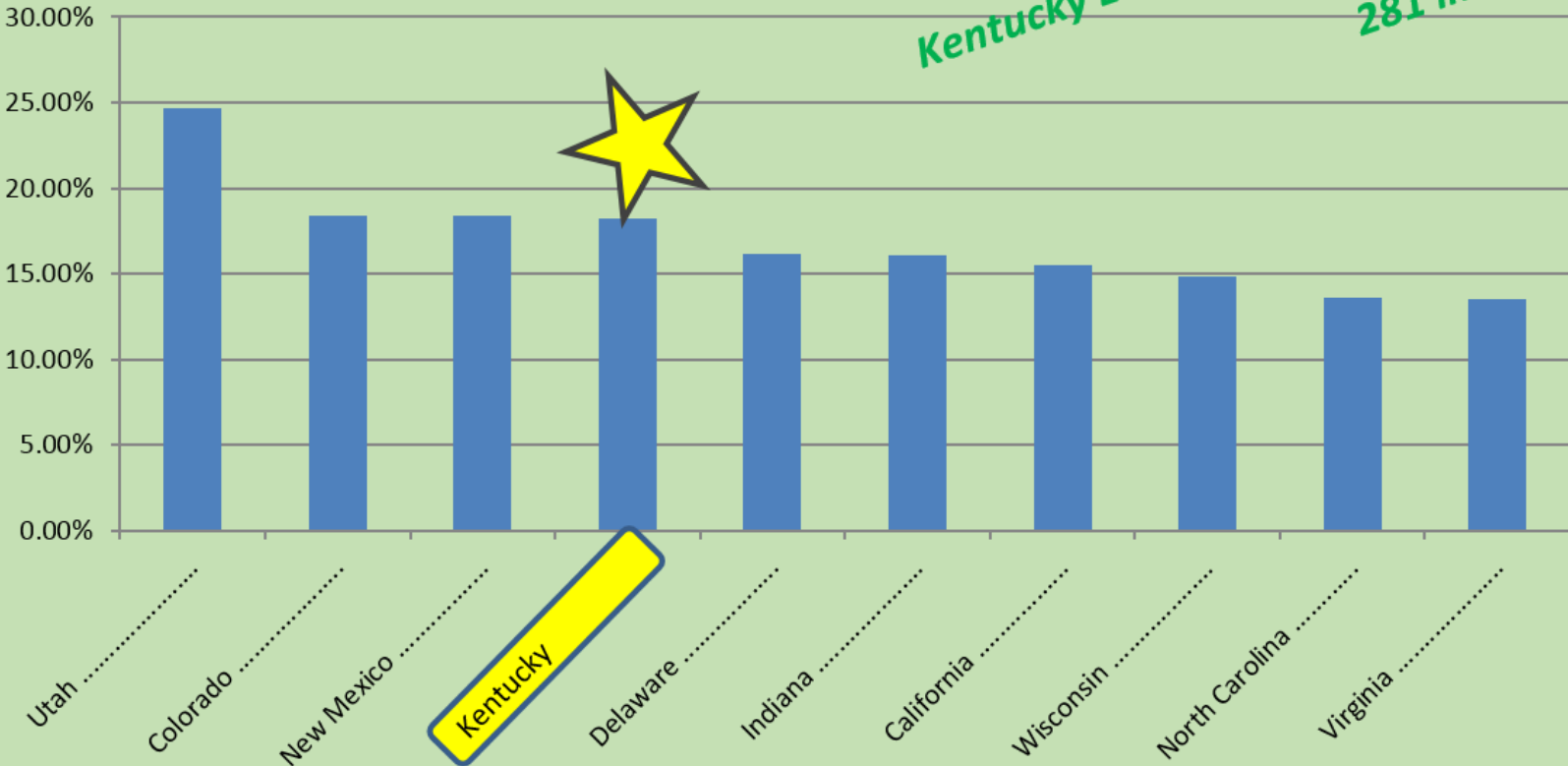
Energy Efficiency

	2010	2014
National	73	73
Kentucky	65	60
ENERGY STAR	50	50
KY's Best District	43	35
Net-Zero Ready	18	18

ENERGY STAR Labeled Buildings

Top Ten States
Percent ENERGY STAR Schools
June 4, 2015

Kentucky ENERGY STAR SCHOOLS
12 in 2008
281 in 2015



Jim McClanahan

Certified Energy Manager

Energy Manager

Scott County Schools

Woodford County Schools



Scott County Energy Management

- FY2009: Initiated Energy Management Program in response to KRS160.325
- FY2011 – FY2012: Funding for Energy Manager from KSBA-SEMP
- FY2013: Continued self funded
- FY2014 – FY2015: Utility funding and added Woodford County Schools to partnership



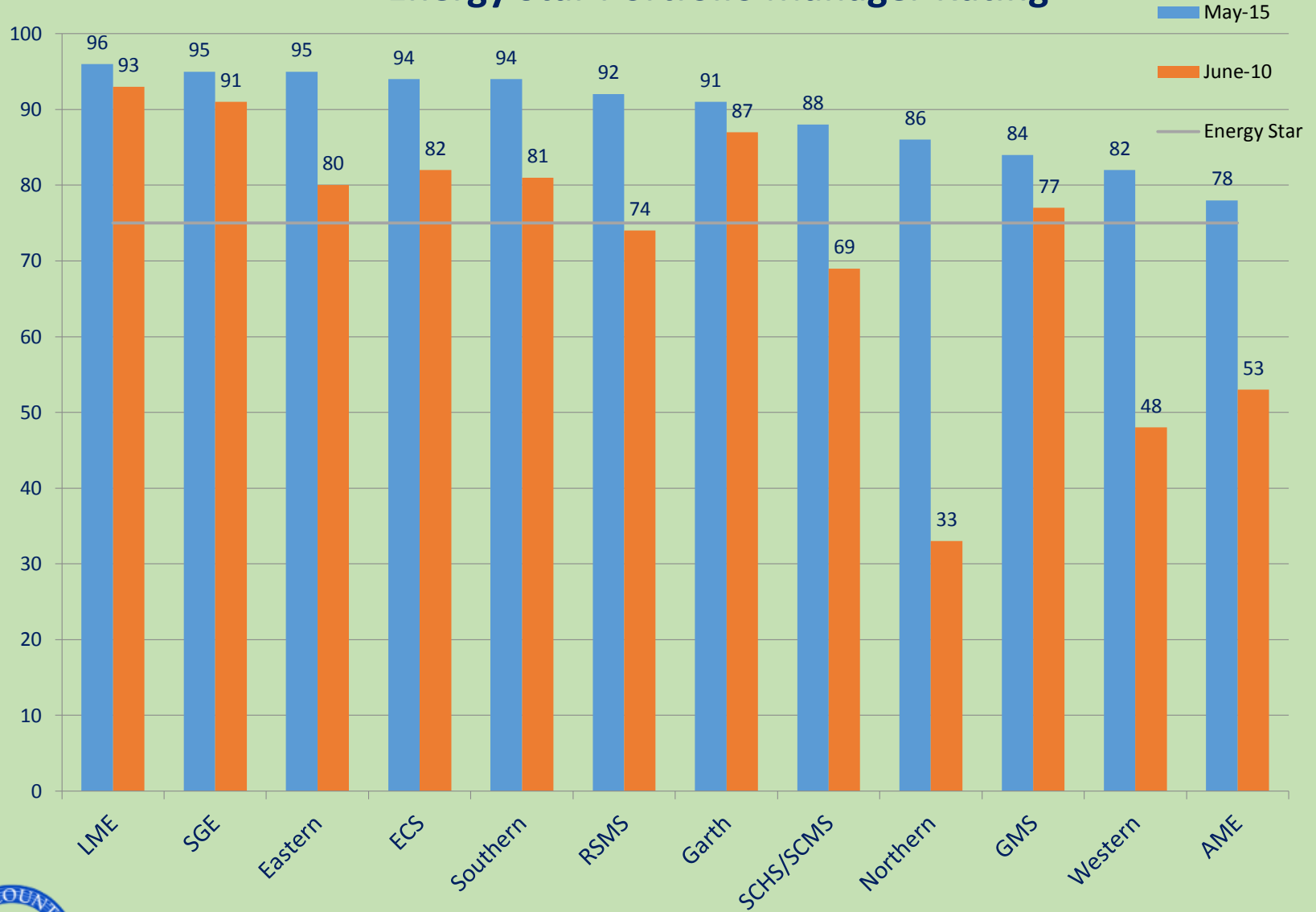
Scott County Successes

- ENERGY STAR Partner of the Year (2013 & 2015)
- Largest District with 100% ENERGY STAR Schools
- #25 to #5 Statewide Energy Utilization Index (EUI)
- \$2,200,000 Cumulative Cost Avoided



SCOTT COUNTY SCHOOLS

Energy Star Portfolio Manager Rating



Our ENERGY STAR Schools Old to New

Garth (1928)



Lemons Mill (2013)



Woodford County Energy Management

- FY2010 – FY2012
 - Shared Energy Manager with funding from KSBA-SEMP
 - Performance Contract for Major Improvements in HVAC systems and Controls, Lighting, Etc.
- FY2013 - No Energy Manager
- FY2014 –FY2015 Shared Energy Manager from Scott County Schools
 - Initiated Scott County Plan and Process
 - Head Custodian in training to be district “Energy Manager”



Woodford County Successes

- National Building Competition 2015
- ENERGY STAR Labeled Schools
- Energy Utilization Index (EUI)
- \$470,000 Cumulative Cost Avoided



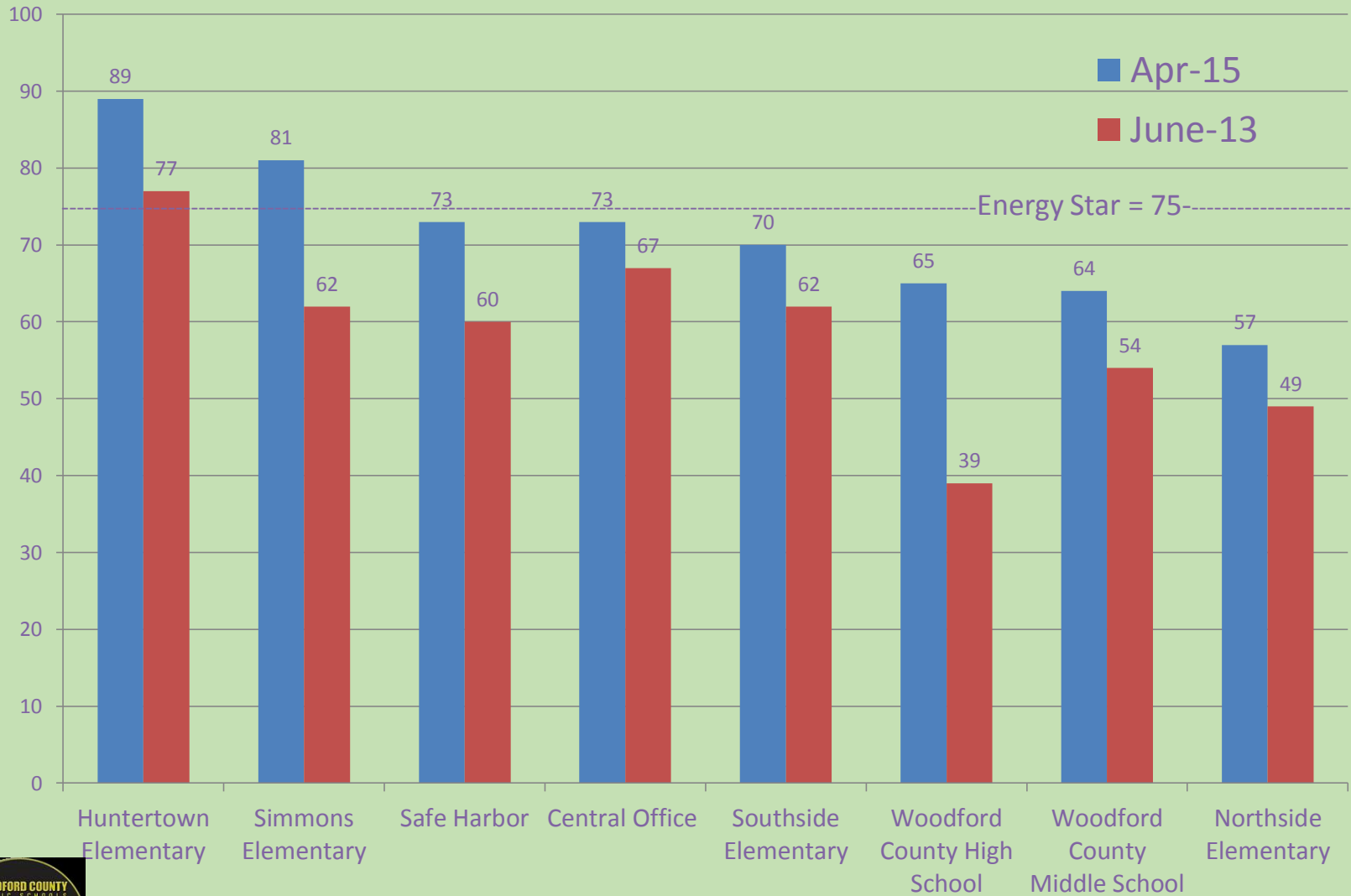
National Building Competition

Facility Name	2013	2014	2014	Rank for Kentucky Buildings
	Source Energy Use	Source Energy Use	Change From 2013(%)	
Simmons Elementary	155.5	128.8	-17.2%	1
Woodford County High School	163.9	141.6	-13.6%	2
Woodford County Central Office	138.2	122.5	-11.4%	3
Southside Elementary	150.6	137.2	-8.9%	6
Huntertown Elementary	125.5	115.3	-8.1%	9
Northside Elementary	169.8	159.1	-6.3%	13
Woodford County Middle School	145.2	137.3	-5.4%	16
Total			-10.2%	8
Woodford County Schools Ranked 8th in the Nation for Teams				*



Woodford County Schools

Energy Star Portfolio Manager Rating





Woodford County Schools Energy Management Report May 2015

School Facility	May					2014 - 2015 YTD Results				
	2014 Actual Kwh	2015 Actual Kwh	% Reduction	Position	\$ Cost Change	2013-14 Actual Kwh	2014-15 Actual Kwh	% Reduction	Overall Position	YTD \$ Cost Change
WCHS	155,227	141,018	9.2%	6	-\$1,238	1,888,984	1,610,965	14.7%	3	-\$23,770
WCMS	137,760	134,400	2.4%	8	-\$293	1,545,840	1,501,440	2.9%	9	-\$3,796
Huntertown	70,400	56,200	20.2%	3	-\$1,237	726,200	625,600	13.9%	5	-\$8,601
Northside	68,000	62,800	7.6%	7	-\$453	769,200	694,600	9.7%	7	-\$6,378
Simmons	62,640	53,400	14.8%	5	-\$805	737,437	634,080	14.0%	4	-\$8,837
Southside	68,086	71,832	-5.5%	9	\$326	805,049	735,286	8.7%	8	-\$5,965
Central Office	15,840	11,340	28.4%	2	-\$392	237,420	213,120	10.2%	6	-\$2,078
Bus Garage	11,692	7,868	32.7%	1	-\$333	224,326	136,375	39.2%	1	-\$7,520
Safe Harbor	7,670	6,204	19.1%	4	-\$128	147,883	122,050	17.5%	2	-\$2,209
Total	597,315	545,062	8.7%		-\$4,552	7,082,339	6,273,516	11.4%		-\$69,153



Key Factors for Successful Energy Management Program

- Support from School Board & Superintendent
- Buy in by all Principals - the building leaders
- Buy in from all faculty and staff
- Educate students on saving energy
- Provide weekly and monthly report for competition
- Identify Energy Conservation Measures (ECM's)
- Implement ECM's
- Recognize achievements



Ralph Slone

Energy Efficiency Practitioner

Head Custodian

Woodford County Schools



WCHS Head Custodian Comments

- At first I didn't see the benefits in the Energy Management Program as I saw it as extra work
- Our new Energy Manager came in with such a passion that I begin to listen to him and it made sense
- Then I started to implement the low hanging fruit
- I started changing my habits such as:
 - Turning off lights when I left the room
 - Making sure outside doors & windows were shut
 - Setting back HVAC units when school was not in session
- Then the Energy Manager showed me the results
- Now I am on board with the Energy Management Program



It's Important to Keep This Going

- Energy Costs will increase
- Capitalize on Momentum
- Funding and Training

ANNUAL SAVINGS POTENTIAL

LEVEL	EUI	INCREMENTAL SAVINGS	ANNUAL SAVINGS
CURRENT	60		\$13,000,000
ENERGY STAR	50	\$26,000,000	\$39,00,000
BEST PERFORMER	40	\$23,000,000	\$62,000,000

UTILITY FUNDING

LGE-KU

- FY2016 - \$475,000
 - Energy Managers
- FY2017/18 -\$2,425,000
 - \$1,425,000 Energy Managers
 - \$1,000,000 Energy Projects

KPC

- FY2016 - \$200,000
 - Energy Managers
- FY2017 - \$200,000
 - Energy Managers
 - Energy Projects

KSBA SEMP Oversight

- Funding Sources for Energy Manager
- Professional Development
- Analytical & Engineering Support
- Outreach & Partner Collaboration
- Data Consolidation
- KRS160.325 Reporting

We Need Your Help

- Approve Energy Cabinet budget expansion of \$750,000 next biennium to fund continuation of KSBA - SEMP Core Leadership Group
- Emphasize importance of an Energy Manager and need for funding support
- Consider creating a mechanism to fund energy improvement projects up to \$1,000,000.