



Energy Management

Franklin County Schools
District Energy Management Committee Meeting
November 8, 2017

Agenda

- Introduce Members of District Energy Management Team
- Key Factors for a Successful Energy Management Program
- Where is Energy Used in Schools
- Policy 5.23 – Energy Management
- Energy Management Plan
- Energy Management Strategy
- Monthly Energy Management Measurement Package
- Energy Star Awards Status
- Possible Energy Management Goals
- Ranking of Franklin County Schools in State
- Key Accomplishments
- Future Projects

District Energy Management Team

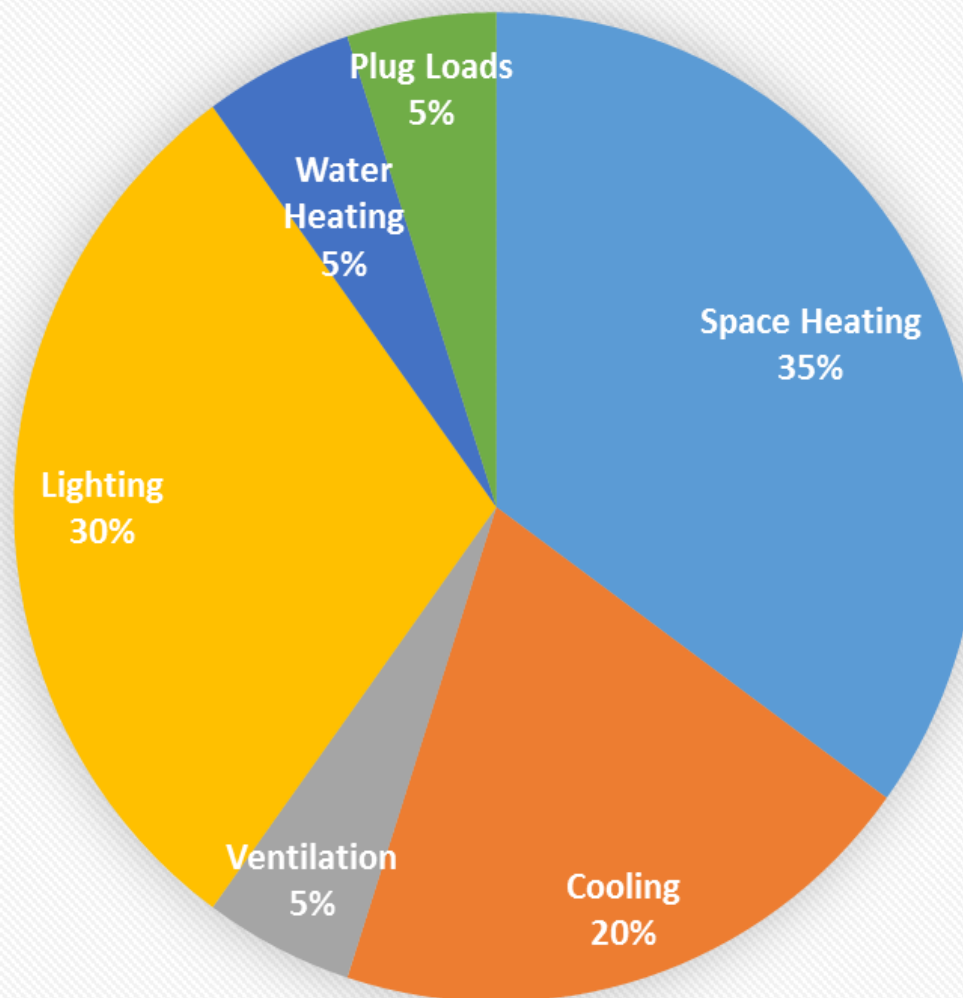
- David Raleigh – Chairperson, Assistant Superintendent
- Mark Kopp – Superintendent
- Trampus Penn – Maintenance Director
- Jimmy Pack – CIO
- Adam Nicholson – Teacher, BMS
- Wendy Greenwell – Food Service Director
- Casey Sparrow – Principal, BMS
- Chris Tracy – Assistant Principal, FCHS
- Rebecca Logan – Teacher, EES
- Isaac Andrews – Elementary Student, EES
- Garrett Foster – Middle School Student, BMS
- Rachael Coleman – High School Student, FCHS
- Dawson McCoun – High School Student, WHHS
- Jason Staples – LHI Lighting as Community Partner
- Jim McClanahan – Energy Engineer
- Chuck Fletcher – School Board Member



Key Factors for a 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 monthly reports for competition
- Identify Energy Conservation Measures (ECM's)
- Implement ECM's
- Recognize achievements

Typical School Energy Use



■ Space Heating ■ Cooling ■ Ventilation ■ Lighting ■ Water Heating ■ Plug Loads

School Board Policy 05.23 - Energy Management

- It is the intent of the Board that the District use energy resources in a safe and efficient manner with an on-going focus on identifying and implementing cost saving measures and developing staff and student commitment to identified energy management practices.
- To promote this effort, the Superintendent/designee shall direct the development of an energy management plan (EMP) for Board approval and oversee the implementation and maintenance of that plan, which shall address the following components:
 1. A District level committee shall be appointed by the Superintendent/designee to develop and implement the energy management plan (EMP).
 2. The District level committee shall track and monitor the EMP to determine progress toward managing and reducing energy costs.
 3. Effective with the 2011-2012 school year, the Superintendent/designee shall report the EMP results for each fiscal year, including annual District energy usage, costs and anticipated savings to KPPC - the Kentucky Pollution Prevention Center – by October 1st annually through the Kentucky Energy Efficiency Program for Schools (KEEPS).
- A status report on implementation of the plan in Board-owned and Board-operated facilities shall be provided to the Board following the end of each fiscal year.



Energy Management Plan

Franklin County Schools

Energy Management
Plan

Approved by BOE June 5, 2017

Energy Management Strategy

- Students Come First in All Decisions
 - Any Change Must be to Improve Student Learning
- Develop Monthly Energy Management Measurement Package
- Benchmark Each School using Energy Star Portfolio Manager
- Certify all schools with Rating above 75 if criteria is met
- District Energy Management Team Established
- District Energy Management Plan/Procedure Established
- Work to Change Culture in District
- Obtain Support from each School Principal
- Establish Student Energy Teams at Each School
- Energy Management Web Page Established

Energy Management Avoided Costs Summary

Project Description	Refunds/Rebates Received	Avoided Costs	Total Avoided Costs
Rate Change Savings Prior Years		\$69,581	\$69,581
Rate Change Savings Current Year		\$34,790	\$34,790
Consumption Savings Prior Years		\$2,162,658	\$2,162,658
Consumption Savings Current Year		\$184,547	\$184,547
Energy Projects Prior Years	\$0		\$0
Energy Projects Current Year	\$1,977		\$1,977
Total	\$1,977	\$2,451,576	\$2,453,553

Franklin County Schools

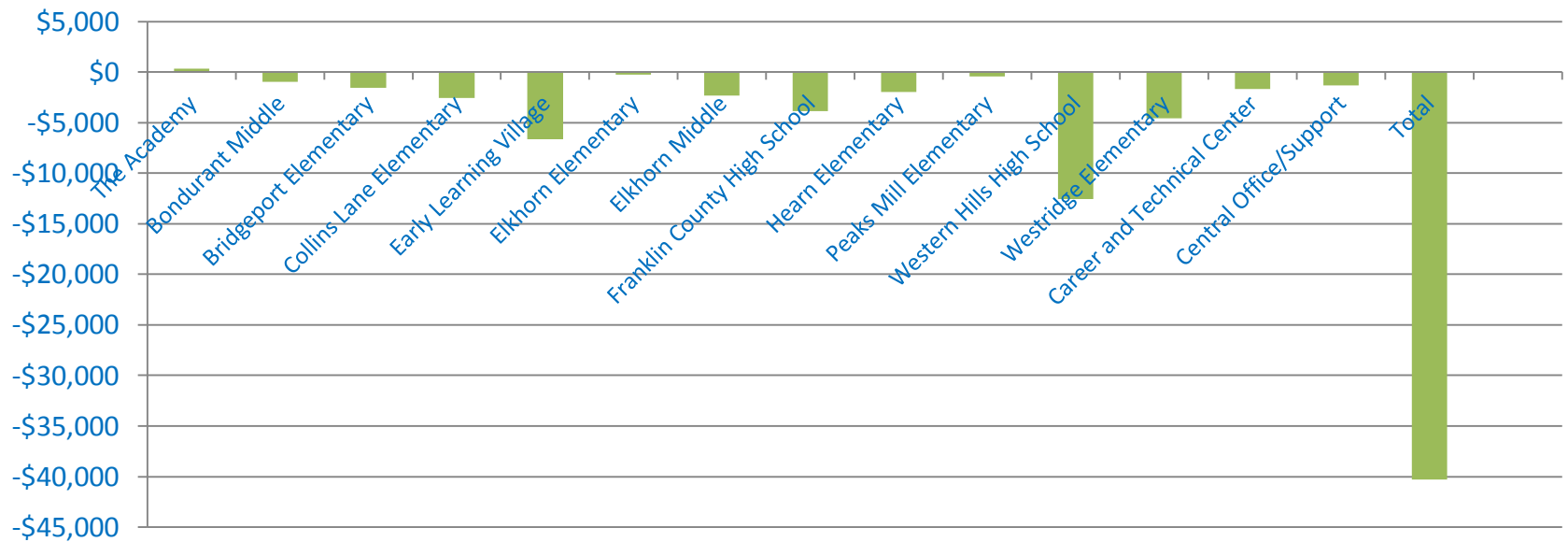
Energy Management Report

October 2017

	October					2017 - 2018 YTD Results				
School Facility	2016 Actual Kwh	2017 Actual Kwh	% Reduction	Position	\$ Cost Change	2016-17 Actual Kwh	2017-18 Actual Kwh	% Reduction	Overall Position	YTD \$ Cost Change
The Academy	8,262	7,135	13.6%	4	-\$107	26,979	30,707	-13.8%	14	\$326
Bondurant Middle	82,550	81,915	0.8%	11	-\$60	327,660	316,865	3.3%	11	-\$944
Bridgeport Elementary	66,080	65,760	0.5%	12	-\$30	264,000	246,080	6.8%	8	-\$1,567
Collins Lane Elementary	81,540	80,340	1.5%	10	-\$114	351,470	322,470	8.3%	7	-\$2,536
Early Learning Village	84,000	68,960	17.9%	2	-\$1,432	362,960	286,960	20.9%	1	-\$6,646
Elkhorn Elementary	37,200	37,920	-1.9%	13	\$69	152,880	150,160	1.8%	13	-\$238
Elkhorn Middle	113,400	106,200	6.3%	8	-\$686	464,700	438,000	5.7%	10	-\$2,335
Franklin County High School	178,299	167,439	6.1%	9	-\$1,034	749,497	705,274	5.9%	9	-\$3,867
Hearn Elementary	64,000	56,800	11.3%	6	-\$686	220,000	197,200	10.4%	5	-\$1,994
Peaks Mill Elementary	51,600	55,200	-7.0%	14	\$343	241,600	236,800	2.0%	12	-\$420
Western Hills High School	220,269	180,160	18.2%	1	-\$3,819	874,822	731,269	16.4%	3	-\$12,554
Westridge Elementary	78,960	66,240	16.1%	3	-\$1,211	285,360	233,280	18.3%	2	-\$4,554
Career and Technical Center	44,800	40,640	9.3%	7	-\$396	177,360	158,400	10.7%	4	-\$1,658
Central Office/Support	35,139	30,618	12.9%	5	-\$430	154,293	139,251	9.7%	6	-\$1,315
Total	1,146,099	1,045,327	8.8%		-\$9,594	4,653,581	4,192,716	9.9%		-\$40,303

Electrical Energy Cost Comparison to Last Year

July 2017 - October 2017 \$ Cost Change

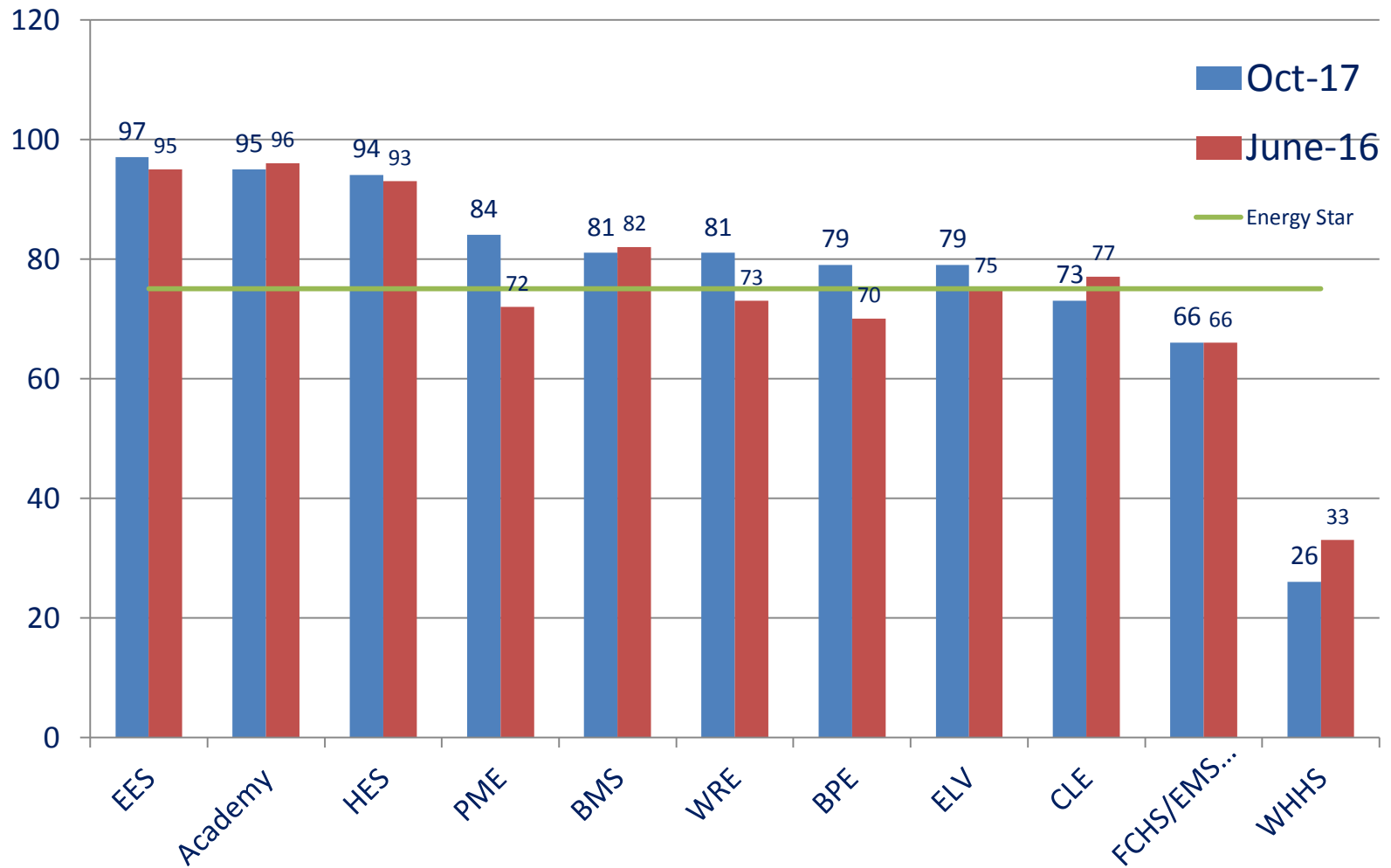


Note: The Schools with the Lowest Bars are doing the Best Job in Reducing Costs

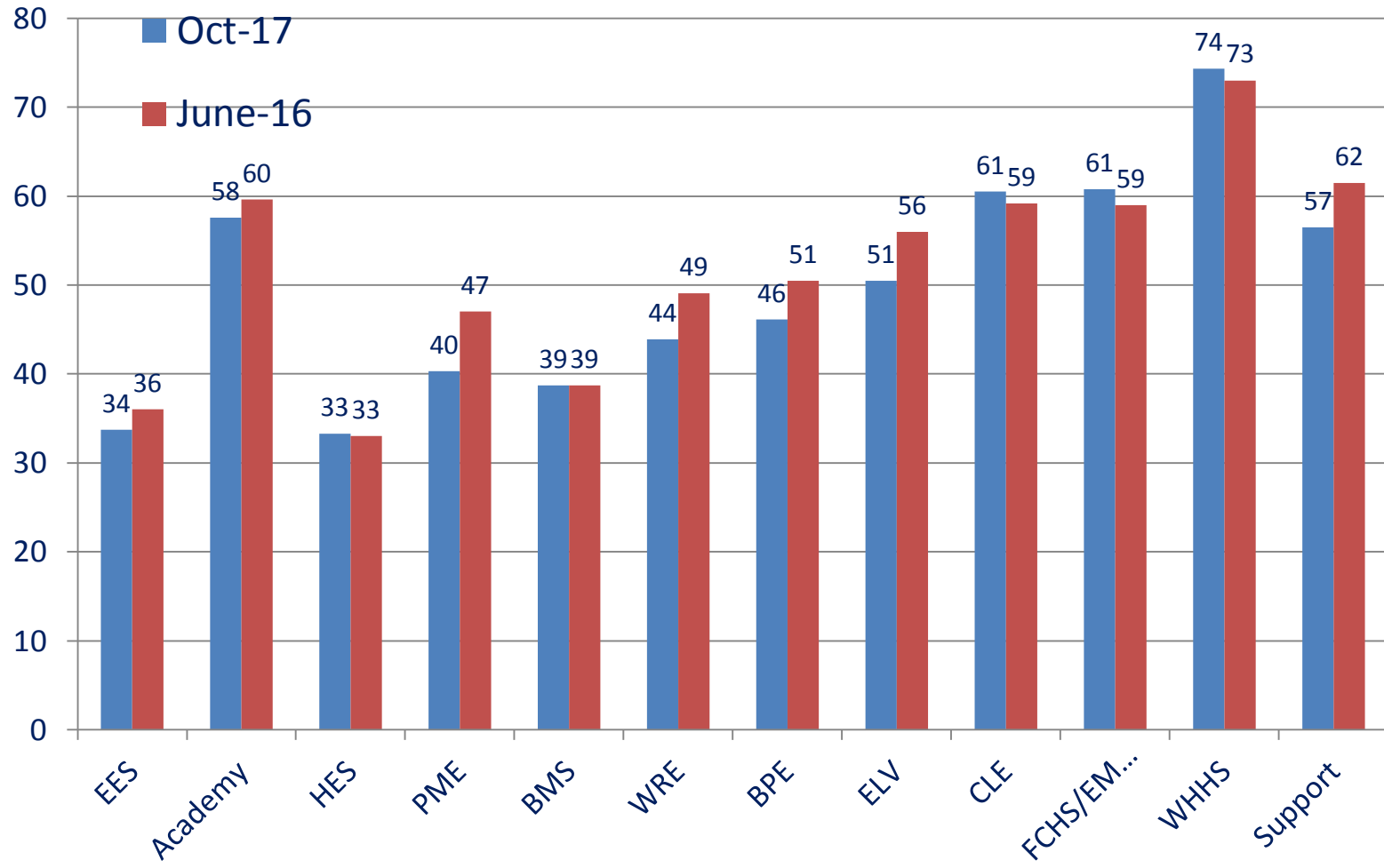
Energy Star Portfolio Manager Ratings

Facility Name	Rating (1-100) Oct-17	Rating (1-100) June-16	Change From Baseline(%)	Energy Use kbtu/sq ft Oct-17	Energy Star
Elkhorn Elementary School	97	95	-6.4%	33.7	Yes
The Academy	95	96	-3.4%	57.6	Yes
Hearn Elementary School	94	93	0.9%	33.3	Yes
Peaks Mill Elementary School	84	72	-14.3%	40.3	Yes
Bondurant Middle School	81	82	0.0%	38.7	Yes
Westridge Elementary School	81	73	-10.6%	43.9	Yes
Bridgeport Elementary School	79	70	-8.7%	46.1	Yes
Early Learning Village	79	75	-9.8%	50.5	Yes
Collins Lane Elementary School	73	77	2.2%	60.5	No
FCHS/EMS/CTC Campus	66	66	3.1%	60.8	No
Western Hills High School	26	33	1.8%	74.3	No
Franklin County School Support	N/A	N/A	-8.1%	56.5	N/A
				-	
Group Total	67	67	-2.1%	53.0	

Energy Star Portfolio Manager Rating



EUI (kbtu/sq.ft/)



Energy Star Awards

- Hearn Elementary – 2009/2016/2017
- Peaks Mill Elementary – 2016/2017
- Elkhorn Elementary – 2016/2017
- Bridgeport Elementary – 2016/2017
- Westridge Elementary – 2016/2017
- Bondurant Middle School – 2016/2017
- The Academy – 2016/2017
- Early Learning Village - 2017

Energy Star Awards and Ratings

School	2009	2016	2017	Current
Elkhorn Elementary School		96	97	97
The Academy		97	97	95
Hearn Elementary School	90	93	92	94
Peaks Mill Elementary School		75	84	84
Bondurant Middle School		80	82	81
Westridge Elementary School		75	80	81
Bridgeport Elementary School		75	78	79
Early Learning Village			77	79
Collins Lane Elementary School				73
FCHS/EMS/CTC Campus				66
Western Hills High School				26

Energy Management Goals

- Achieve over \$2.5 million in total avoided cost by FY2018
- Achieve 3% year to year reduction every year
- Achieve State Ranking in Top 50% (<86) for FY 2018
- All schools to earn Energy Star Award by FY 2020

Franklin County Schools State Ranking

Year	Ranking	EUI
2010	151	87.3
2014	109	63.1
2015	109	59.9
2016	116	54.4
2017	?	54.8

Key Accomplishments

- Obtained \$1944 Rebate from Kentucky Utilities for work done in 2012 at Peaks Mill Elementary School
- Changed rates from commercial to municipal rate with Frankfort Plant Board which will save \$100,000/year
- Organized District Energy Management Committee
- Avoided Cost is now \$2.4 Million
- Signed Fixed Price Natural Gas Contract for 2 Years
- Obtained Energy Star for 8 Schools

Monthly Energy Conservation Award



Future Projects

- Large Projects
 - New Collins Lane Elementary
 - Replace HVAC system and Controls at WHHS
 - Investigate Improvements in FCHS HVAC & Controls
- Other Potential Projects
 - Improve Energy Efficiency with Maintenance Projects
 - Replace Parking Lot Lights that fail with LED Bulbs
 - Replace Metal Halide Wall Packs that fail with LED Bulbs
 - Replace CFL Down Lights that fail with LED Bulbs
 - When Florescent Ballasts fail replace with LED Tubes/Strips