

Bullitt County Public Schools

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Memo

To: Jesse Bacon, Becky Sexton, Board Members *JB*
From: Andrea Rock, Energy Manager *AR*
Date: Monday, August 17, 2020
Re: Energy Management Report for August 2020 Board Meeting

Included for your information is the final energy data for the 2019/2020 school year. The report shows that our overall energy consumption was down 46% from our baseline year data. Specifically, electric consumption was down 48%, natural gas was down 46%, and propane is no longer used*. This translates to a savings/cost avoidance of approximately **\$1,240,552**.

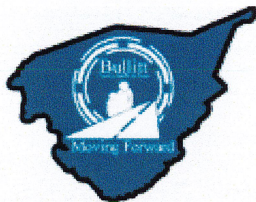
Compared to the previous year, energy use is down 17%.

The avoided energy costs/savings since the program began 14 years ago is approximately:
\$8,776,895

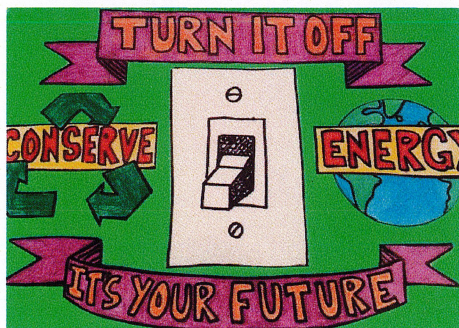
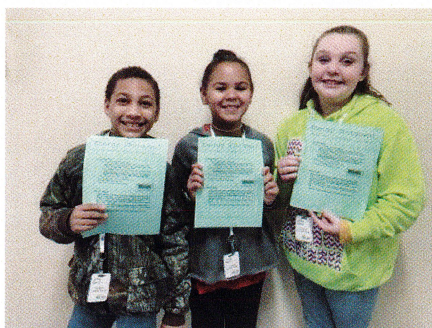
If you have any questions, please feel free to contact me.

*Propane continues to be purchased for the back-up generator at Hebron Middle School.

BSexton



BULLITT COUNTY PUBLIC SCHOOLS ENERGY MANAGEMENT PROGRAM: 2019/2020 YEAR END REPORT



History

- BCPS began the energy conservation program in November 2006 with KEEPS (Kentucky Energy Efficiency Program for Schools)
- Hired an energy manager, created an energy plan, promoted energy conservation, and made low cost/no-cost changes to reduce energy use
- 2008 Energy Savings Performance Contract (ESPC) to address capital lighting and HVAC needs
- 2018 Energy Savings Performance Contract (ESPC) to address LED lighting and additional HVAC needs

2019/2020 School Year

This report summarizes the energy usage for the 2019/2020 fiscal year. Actions used for energy savings are included, as well as goals for the upcoming year.

- Total district electric consumption (kWh) was **48% less** than the baseline usage. This resulted in a cost avoidance of approximately **\$853,522**
- The district is now tracking electric demand (kW) savings due to current rate structures. Total district electric demand (kW) cost avoidance was approximately **\$236,360**
- Total district natural gas consumption was **46% less** than the baseline usage. This resulted in a cost avoidance of approximately **\$93,948**
- Propane for heating and cooking has been eliminated across the district (replaced with electricity or natural gas). This continues to result in a cost avoidance of approximately **\$56,722**
- BCPS received rebates this year from LG&E for the LED lighting upgrade totaling **\$53,203**

*BCPS baseline data is typically an average of the 2004/2005 and the 2005/2006 data.

Had we not reduced our electric (consumption and demand), natural gas, and propane usage by these amounts, given the adjustment with today's utility rates, we would have spent approximately **\$1,240,552 more** on utility bills for the 2019/2020 school year.

Total savings since the BCPS energy management program began in 2006:

- Approximately **\$8,776,895** in savings/avoided utility costs

Projects

Energy saving measures that were in place during the 2019/2020 school year include:

- Energy manager tracking utility usage and costs monthly
- New energy dashboard in place and actively monitoring real time energy use (www.traneconnect.com)
- Utility rate review and evaluations
- Non-school hour energy conservation HVAC procedures including:
 - Shutdowns over long breaks
 - Additional HVAC reduction during NTI
 - Temperature setbacks
 - Outside air units only operating during occupied school hours
- Staff education and awareness such as:
 - Turning off lighting when leaving a room
 - Turning off computer monitors and ancillary equipment at the end of the day
- Student energy teams active in **16** schools during the 19/20 school year
- School walkthroughs to monitor energy use behaviors and equipment operation
- Daily monitoring of HVAC building automation systems to ensure proper equipment operation and scheduling
- Participating with the US Department of Energy in the Better Buildings Challenge
- Monitoring of indoor air quality (IAQ) – temperature, relative humidity, and CO₂
- Ongoing support of Preventative Maintenance assisting with filtration and water treatment programs.

Planned Projects for 2020/2021

- Add live meters to newly renovated schools and correct meters on existing schools that are no longer operational. Bring into new energy dashboard.
- Continuation of student energy team program and provide teams access to dashboard and utility data on ENERGY STAR® portfolio manager
- ENERGY STAR® re-certification for eligible buildings
- Participate in the Better Buildings Challenge to focus on water use reduction
- Continued participation in LG&E's Enel X Program which provides incentives if we can shed load when asked to by LG&E during times of high electric demand
- Continued monitoring of utility bills, utility rates, and building automation systems
- Continuation of building awareness throughout the district about energy efficiency and savings opportunities
- Continue working as part of the facilities and construction teams with input on the upcoming new building project

District Energy Management Program Success

Figure 1 on the following page illustrates how our district's energy use has decreased, while our growth in building space (square footage) has significantly increased since the 2004/2005 school year.

Since the start of the district's energy management program, the energy use (kBtu) is the lowest it has ever been – at a yearly total of 62,601,032 kBtu. FY20 was 49% lower in energy use than the highest use year of FY07. From just over 1.6 million square feet in 06/07, to the current square footage of just over 2.0 million square feet, the district is using 43% less electricity and 61% less natural gas. Comparisons like these, to the early years of our utility tracking, help to illustrate where the over \$8.7 million in cost savings/cost avoidance comes from. With utility rates continuing to increase year to year, the district is being fiscally responsible by participating and supporting an energy management program.

It should be noted that for the months of March through May, there was a significant reduction in energy use due to school closures in response to the pandemic. Efforts were made to ensure that temperatures were setback in areas that were vacant during this time.

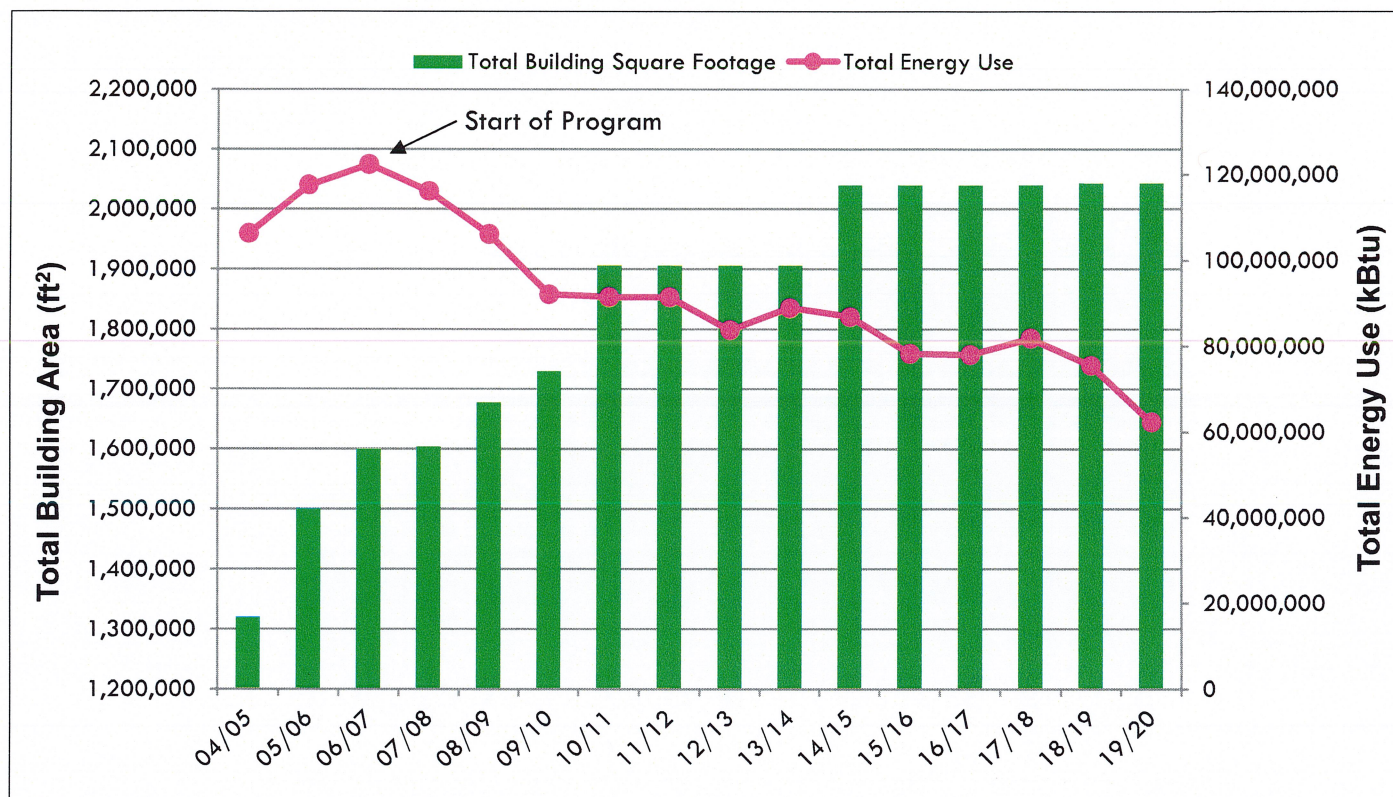
FIGURE 1—ENERGY USE COMPARED TO DISTRICT GROWTH

Table 1 provides a glimpse of the data that was used to create Figure 1. From 2004/2005 to 2006/2007, the district started its growth period, and the utility use was increasing with it. The first column is the 2006/2007 school year, which was the peak of the district's energy use. The second column, for comparison, has the 2018/2019 school year utility use and cost data and the third is the current year 2019/2020 data.

TABLE 1—COMPARING HEIGHT OF BCPS UTILITY USE TO THE 2018/2019 AND 2019/2020 SCHOOL YEAR

Utility Type – Usage	2006/2007	2018/2019	2019/2020
Electric (kWh)	25,286,477	17,815,291	14,476,119
Natural Gas (ccf)	328,762	142,069	128,238
Propane (Gal)	24,321	0	0
Total Energy (kBtu)	122,365,317	75,418,839	62,601,032
Water/Sewer (Gal)	28,696,410	21,201,337	17,976,635

Utility Type – Cost	2006/2007	2018/2019	2019/2020
Electric (kWh)	\$ 1,878,962	\$ 1,974,403	\$ 1,748,206
Natural Gas (ccf)	\$ 326,271	\$ 145,752	\$ 141,920
Propane (Gal)	\$ 40,337	\$ -	\$ -
Total Energy Cost	\$ 2,245,570	\$ 2,120,155	\$ 1,890,126
Water/Sewer Cost	\$ 166,568	\$ 240,834	\$ 198,854

Total Building Area (ft²)	1,600,859	2,042,691	2,042,691
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Figure 2 ranks our facilities by total annual energy use per square foot (kBtu/ft²). Bullitt Lick, Eastside and Zoneton are currently the most efficient schools in the district. Most schools are operating well below the state average of 49 kBtu/ft².

Figure 2 – BCPS Building Energy Use Profile

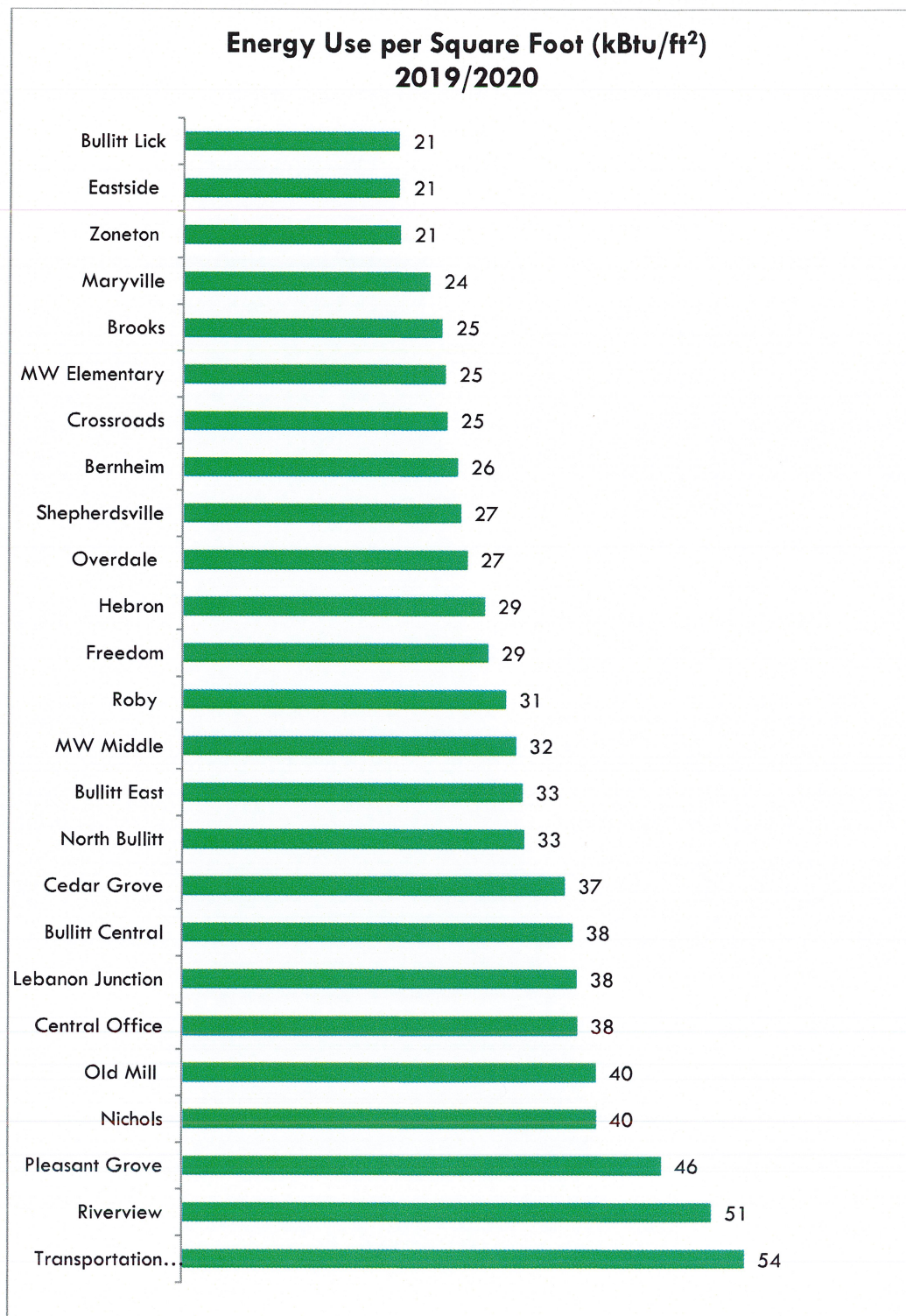
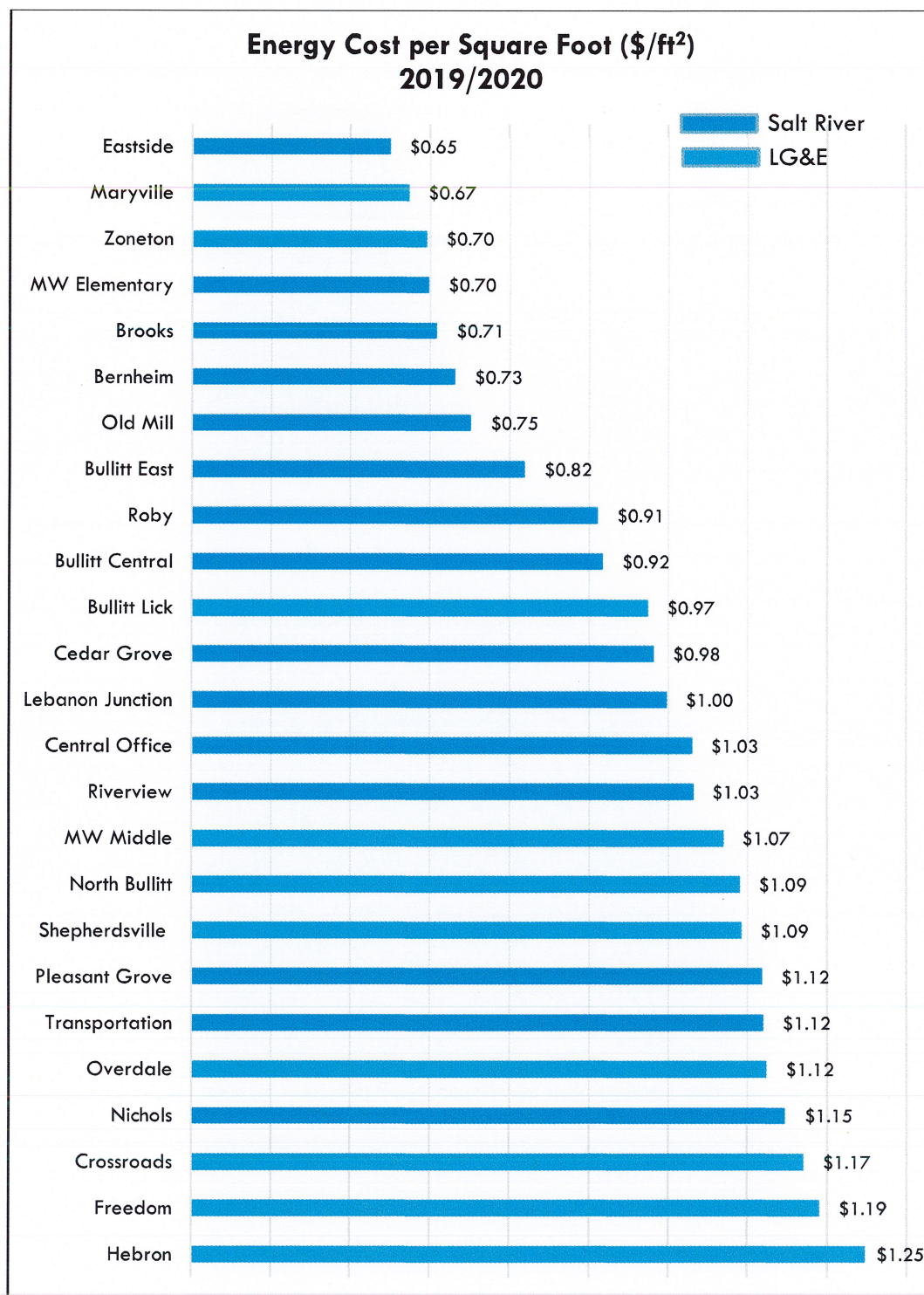


Figure 3 ranks our facilities by total annual energy cost per square foot (\$/ft²). Factors that affect cost are not only building efficiency but also utility provider and rate structure. Fuel source also plays a role as electric, on average, cost three times as much per btu than gas.

Figure 3 – BCPS Building Energy Cost Profile



*Maryville and Zoneton are served by LG&E but were grandfathered in on a General Service/All Electric School rate. Therefore, they do not have demand charges which significantly reduces their cost per square foot.

ENERGY STAR®

As of the 2019/2020 school year, using ENERGY STAR's benchmarking tool (Portfolio Manager), the district has 20 schools eligible for ENERGY STAR® certification.

The EPA's energy performance rating system, based on source energy, accounts for the impact of weather variations as well as changes in key physical and operating characteristics of each building. A building must score at least 75 to be ENERGY STAR certified. A building score of 75 means that (from an energy consumption standpoint), the building performs better than 75% of all similar buildings nationwide.

TABLE 2—BCPS ENERGY STAR SCORES

Property Name	ENERGY STAR Certification - Year(s) Certified	Current Score
Brooks Elementary School	2019, 2018, 2017, 2016, 2015, 2014, 2013, 2011	94
Bullitt Central High School	2019, 2018	89
Bullitt East High School	2018	90
Bullitt Lick Middle School	2017, 2016, 2015, 2014, 2012, 2010	97
Cedar Grove Elementary	2017, 2016, 2015, 2014, 2013, 2012	82
Crossroads Elementary School	2019, 2018, 2017, 2016, 2015, 2014, 2012, 2011	95
Eastside Middle School	2019, 2018, 2017, 2016, 2015, 2014, 2009	97
Freedom Elementary School	2019, 2018, 2017, 2016, 2015, 2014, 2012, 2009	84
Hebron Middle School	2019, 2018, 2017, 2016, 2015, 2014	89
Lebanon Junction Elementary	2017, 2016, 2015, 2014, 2013, 2012	80
Maryville Elementary School	2019, 2018, 2017, 2015, 2014, 2013, 2010	95
Mt. Washington Elementary	2019, 2018, 2017	89
Mt. Washington Middle School	2019, 2017, 2016, 2015, 2014, 2013	89
North Bullitt High School	2019, 2018, 2017, 2016, 2015, 2014, 2013	96
Old Mill Elementary School	2019	91
Overdale Elementary School	2019, 2018, 2017, 2016, 2015, 2014, 2013, 2011	95
Pleasant Grove Elementary School	2019, 2018, 2017, 2016, 2015, 2014, 2013	86
Roby Elementary School	2019, 2018, 2017, 2016, 2015, 2014, 2013, 2012, 2010	86
Shepherdsville Elementary	2019, 2018, 2017, 2016, 2015, 2014, 2012, 2009	95
Zoneton Middle School	2019, 2018, 2017, 2016, 2015, 2014, 2013, 2009	97

The tables on the following pages provide additional data on energy consumption and savings. Table 3 shows the district's utility use and cost for each year since 2004/2005. Tables 4 and 5 illustrate the energy usage per school, compared to their respective baseline. Energy savings and cost avoidance calculations account for current costs (rates) and heating or cooling degree days (weather corrections). Figures 3 through 5 illustrate the schools' non-adjusted energy profile per month, as compared to weather trends.

A huge impact to the reduction in our electric use can be attributed to the LED lighting project throughout the district, as well as the replacement of HVAC controls/equipment as part of the 2018 energy savings performance contract. Also, further savings were realized due to the NTI days in March through May.

Table 3 – Yearly Utility Use and Cost

Utility Type - Usage	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020
Electric (kWh)	20,238,383	23,968,514	25,286,477	23,731,788	21,368,945	20,188,729	21,702,211	20,684,107	20,056,854	20,498,172	20,437,868	19,513,015	19,791,690	19,750,114	17,815,291	14,476,119
Natural Gas (ccf)	344,412	324,933	328,762	317,432	301,614	223,715	168,058	124,929	148,647	183,984	165,613	113,805	101,675	139,892	142,069	124,622
Propane (Gal)	18,307	24,547	24,321	26,067	22,637	738	726	264	0	0	0	0	0	0	0	0
Total Energy (kBtu)	106,202,889	117,494,719	122,365,317	116,053,487	106,048,368	91,994,115	91,424,347	91,423,984	83,744,627	88,890,115	86,792,145	78,300,322	78,001,771	81,775,665	75,418,839	62,228,584
Water/Sewer (Gal)	31,983,000	30,180,000	28,696,410	27,645,360	22,885,080	18,335,600	19,310,020	19,069,729	19,650,014	18,547,260	19,983,830	20,808,890	22,058,630	20,159,630	21,201,337	17,976,635
Utility Type - Cost	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020
Electric (kWh)	\$ 1,347,257	\$ 1,731,618	\$ 1,878,962	\$ 1,874,410	\$ 1,888,880	\$ 1,841,316	\$ 2,052,474	\$ 2,052,474	\$ 2,131,190	\$ 2,225,301	\$ 2,282,901	\$ 2,183,273	\$ 2,199,326	\$ 2,205,925	\$ 1,974,403	\$ 1,751,532
Natural Gas (ccf)	\$ 361,814	\$ 500,245	\$ 326,271	\$ 359,626	\$ 413,207	\$ 182,260	\$ 155,724	\$ 155,724	\$ 131,426	\$ 170,870	\$ 159,694	\$ 106,868	\$ 111,118	\$ 147,034	\$ 145,752	\$ 138,594
Propane (Gal)	\$ 22,543	\$ 36,697	\$ 40,337	\$ 63,841	\$ 52,343	\$ 1,497	\$ 1,405	\$ 1,405	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Energy Cost	1,731,614	2,268,560	2,245,570	2,297,877	2,354,430	2,025,073	2,209,602	2,209,602	2,262,616	2,396,171	2,442,595	2,290,141	2,310,444	2,352,959	2,120,155	1,890,126
Water/Sewer Cost	174,520	161,663	166,568	177,149	159,270	131,292	159,127	185,462	198,366	198,647	200,611	223,406	232,918	219,438	240,834	198,854
Total Building Area (ft ²)	1,319,733	1,501,305	1,600,859	1,604,359	1,677,440	1,729,599	1,906,093	1,906,093	1,906,093	1,906,093	2,039,528	2,039,528	2,039,528	2,039,528	2,042,691	2,042,691

*The only propane purchases that Bullitt County Public Schools continues to make are for the generator at Hebron Middle School.

Table 4 – Electric Cost Avoidance Report

Cost Avoidance Report									
Electric Consumption: 2019/2020 Compared to Baseline									
Building	Base Year Actual (kWh)	Base Year Weather Adjusted (kWh)	Evaluation Year Actual (kWh)	Use Avoidance Non-Adjusted (kWh)	Use Avoidance Weather Adjusted (kWh)	Change - Non Adjusted %	Change - Weather Adjusted %	kWh Cost Avoidance Weather Adjusted \$	Demand Cost Avoidance
Bernheim	968,378	1,004,182	393,920	-574,458	-610,262	-59%	-61%	\$ (35,634)	\$ (8,924)
Brooks	840,640	862,729	602,400	-238,240	-260,329	-28%	-30%	\$ (15,225)	\$ (6,536)
Bullitt Central	1,749,023	1,894,452	979,159	-769,864	-915,293	-44%	-48%	\$ (53,501)	\$ (1,496)
Bullitt East	2,058,205	2,178,814	1,125,955	-932,250	-1,052,859	-45%	-48%	\$ (61,517)	\$ (9,752)
Bullitt Lick	1,199,102	1,239,632	467,400	-731,702	-772,232	-61%	-62%	\$ (26,573)	\$ (26,944)
Cedar Grove	862,445	897,323	596,880	-265,565	-300,443	-31%	-33%	\$ (28,221)	\$ 5,606
Central Office	438,922	438,785	269,840	-169,082	-168,945	-39%	-39%	\$ (10,519)	\$ (3,168)
Crossroads	828,036	807,097	538,500	-289,536	-268,597	-35%	-33%	\$ (7,556)	\$ (12,453)
Eastside	1,677,878	1,674,416	606,912	-1,070,966	-1,067,504	-64%	-64%	\$ (62,441)	\$ (12,792)
Freedom	1,196,862	1,224,996	490,400	-706,462	-734,596	-59%	-60%	\$ (25,277)	\$ (21,080)
Hebron	1,364,982	1,407,350	595,200	-769,782	-812,150	-56%	-58%	\$ (27,946)	\$ (32,526)
Lebanon Junction	474,697	485,378	466,080	-8,617	-19,298	-2%	-4%	\$ (1,171)	\$ 3,892
Maintenance	70,569	75,178	106,623	36,054	31,445	51%	42%	\$ 2,732	
Maryville	847,754	925,105	369,000	-478,754	-556,105	-56%	-60%	\$ (58,533)	
MW Elementary	1,293,255	1,366,725	395,360	-897,895	-971,365	-69%	-71%	\$ (56,826)	\$ (20,332)
MW Middle	1,357,261	1,425,712	623,800	-733,461	-801,912	-54%	-56%	\$ (27,594)	\$ (41,040)
Nichols	212,232	227,356	10,440	-201,792	-216,915	-95%	-95%	\$ 10,440	
North Bullitt	2,494,791	2,653,128	1,017,438	-1,477,353	-1,635,690	-59%	-62%	\$ (137,479)	\$ 23,352
Old Mill	625,863	657,304	295,800	-330,063	-361,504	-53%	-55%	\$ (21,108)	\$ (10,848)
Overdale	616,080	605,460	515,520	-100,560	-89,940	-16%	-15%	\$ (3,095)	\$ (7,659)
Pleasant Grove	1,173,670	1,251,782	552,384	-621,286	-699,398	-53%	-56%	\$ (43,542)	\$ (7,332)
BAC/ROC	391,633	413,097	239,680	-151,953	-173,417	-39%	-42%	\$ (10,132)	\$ (1,012)
Roby	877,360	907,713	657,680	-219,680	-250,033	-25%	-28%	\$ (15,586)	\$ (7,033)
Shepherdsville	1,067,200	1,111,720	496,391	-570,809	-615,329	-53%	-55%	\$ (21,173)	\$ (37,938)
Transportation	197,383	207,357	141,480	-55,903	-65,877	-28%	-32%	\$ (4,102)	\$ (343)
Zoneton	1,678,209	1,674,102	610,600	-1,067,609	-1,063,502	-64%	-64%	\$ (111,945)	
TOTAL	26,562,430	27,616,895	13,164,842	-13,397,588	-14,452,052	-50%	-52%	\$ (853,522)	\$ (236,360)

*Maintenance, Maryville, Nichols and Zoneton are not charged for demand.

Special note should be made about the electricity use at Cedar Grove, Lebanon Junction and Nichols Elementary. Due to their previous renovations, the schools had a major change in energy use – shifting from propane to electricity. These buildings have increased efficiency since their renovations, and the absence of propane clearly offsets the increased electricity consumption. Also, North Bullitt went from two meters (one of which had no demand charges) to one in 2007. This increased demand charges but additional savings were seen in electric kWh charges.

Table 5 – Natural Gas and Propane Cost Avoidance Report

Cost Avoidance Report								
Natural Gas Consumption: 2019/2020 Compared to Baseline								
Building	Base Year Actual (ccf)	Base Year Weather Adjusted (ccf)	Evaluation Year Actual (ccf)	Use Avoidance Non-Adjusted (ccf)	Use Avoidance Weather Adjusted (ccf)	Change Non-Adjusted %	Change Weather Adjusted %	Cost Avoidance Weather Adjusted \$
Bernheim	19,203	19,787	3,926	-15,277	-15,861	-80%	-80%	\$ (10,534)
Brooks								
Bullitt Central	41,767	40,087	24,038	-17,729	-16,049	-42%	-40%	\$ (12,011)
Bullitt East	35,419	36,305	10,006	-25,413	-26,299	-72%	-72%	\$ (17,157)
Bullitt Lick	9,001	9,238	1,823	-7,178	-7,415	-80%	-80%	\$ (5,099)
Cedar Grove	22,476	22,357	4,435	-18,041	-17,922	-80%	-80%	\$ (12,338)
Central Office	244	248	58	-186	-190	-76%	-77%	\$ (132)
Crossroads								
Eastside								
Freedom	11,448	11,492	3,520	-7,928	-7,972	-69%	-69%	\$ (5,189)
Hebron	19,885	19,850	0	-19,885	-19,850	-100%	-100%	\$ (13,651)
Lebanon Junction	25,234	25,100	5,236	-19,998	-19,864	-79%	-79%	\$ (13,674)
Maintenance	3,165	3,713	8,680	5,515	4,967	174%	134%	\$ 3,690
Maryville	3,894	3,853	3,616	-278	-237	-7%	-6%	\$ (119)
MW Elementary	7,831	7,758	2,803	-5,028	-4,955	-64%	-64%	\$ (3,475)
MW Middle	13,549	13,519	7,188	-6,361	-6,331	-47%	-47%	\$ (4,410)
Nichols								
North Bullitt	12,371	13,107	15,736	3,365	2,629	27%	20%	\$ 1,788
Old Mill	10,468	10,676	12,601	2,133	1,925	20%	18%	\$ 1,504
Overdale	3,114	3,114	1,665	-1,449	-1,449	-47%	-47%	\$ (1,027)
Pleasant Grove	8,412	8,414	7,634	-778	-780	-9%	-9%	\$ (512)
Riverview/DT	8,784	8,741	7,392	-1,392	-1,349	-16%	-15%	\$ (933)
Roby	51	51	41	-10	-10	-20%	-20%	\$ (7)
Shepherdsville	3,201	3,165	1,760	-1,441	-1,405	-45%	-44%	\$ (948)
Transportation	3,159	3,141	3,574	415	433	13%	14%	\$ 285
Zoneton								
TOTAL	262,676	263,715	125,732	-136,944	-137,983	-52%	-52%	\$ (93,948)

Cost Avoidance Report								
Propane Consumption: 2019/2020 Compared to Baseline								
Building	Base Year Actual (Gal)	Base Year Weather Adjusted (Gal)	Evaluation Year Actual (Gal)	Use Avoidance Non-Adjusted (Gal)	Use Avoidance Weather Adjusted (Gal)	Change Non-Adjusted %	Change Weather Adjusted %	Cost Avoidance Weather Adjusted \$
Cedar Grove	1,180	1,180	0	-1,180	-1,180	-100%	-100%	\$ (2,242)
Lebanon Junction	841	841	0	-841	-841	-100%	-100%	\$ (1,597)
Nichols	19,421	18,754	0	-19,421	-18,754	-100%	-100%	\$ (36,900)
Roby	8,412	8,412	0	-8,412	-8,412	-100%	-100%	\$ (15,982)
TOTAL	29,853	29,186	0	-29,853	-29,186	-100%	-100%	\$ (56,722)

Baseline Explanation

The baseline for the majority of the facilities is the average use of fiscal years 2004/2005 and 2005/2006, which are two years prior to the start of the energy management program. Schools such as Eastside, Zoneton, and Shepherdsville Elementary were constructed in mid-2005; therefore the 2006/2007 was used as their baseline. Old Mill Elementary had a building addition in 2005, so only the 2005/2006 year is used for their baseline. The Central Office added numerous computer servers, as well as a new air conditioning unit for the server room in 2006, therefore the 2006/2007 year is used for their baseline. With newly constructed buildings such as Roby, Brooks, Overdale, and Crossroads, their respective baselines have now been set as their first full year of energy use after opening.

The baseline has also been revised for schools that went under major renovation in the past five to six years: Cedar Grove (baseline 2011/2012), Hebron (2012/2013), Lebanon Junction (2011/2012), Nichols (2010/2011). These renovations had major changes made to their mechanical, electrical, and plumbing systems – causing significant changes in energy consumption. The district is still tracking and accounting for the significant change in energy usage since the original energy management baseline, and those changes are reflected in the cost savings/cost avoidance metrics.

Figure 3 –Non-Adjusted School Energy Use (Electric, Gas, and Propane)

Month	Total Energy Usage (kBtu)				Weather Data			
	Baseline	2018/2019	2019/2020	% Change from Baseline	2019/2020		Baseline	
					CDD	HDD	CDD	HDD
Jul	7,842,724	4,986,947	4,172,497	-47%	497	0	429	0
Aug	9,163,947	6,839,779	5,962,906	-35%	453	1	389	5
Sep	9,724,941	6,341,120	5,705,895	-41%	435	5	218	17
Oct	8,119,551	5,616,913	4,578,114	-44%	103	198	47	167
Nov	8,785,461	6,443,200	5,992,332	-32%	0	664	4	436
Dec	11,421,630	7,054,510	6,288,612	-45%	1	661	0	910
Jan	11,009,598	8,436,580	6,680,410	-39%	1	727	0	725
Feb	10,839,871	7,322,009	6,844,310	-37%	2	711	0	702
Mar	9,523,164	6,425,324	5,130,263	-46%	32	394	0	595
Apr	7,649,624	4,551,802	2,948,782	-61%	35	301	45	171
May	8,102,269	5,087,021	2,658,487	-67%	141	138	93	97
Jun	7,672,321	3,386,211	2,844,540	-63%	366	5	317	0
Total YTD	109,855,102	72,491,414	59,807,148	-46%	2066	3805	1540	3824
Change from Last Year				-17%				

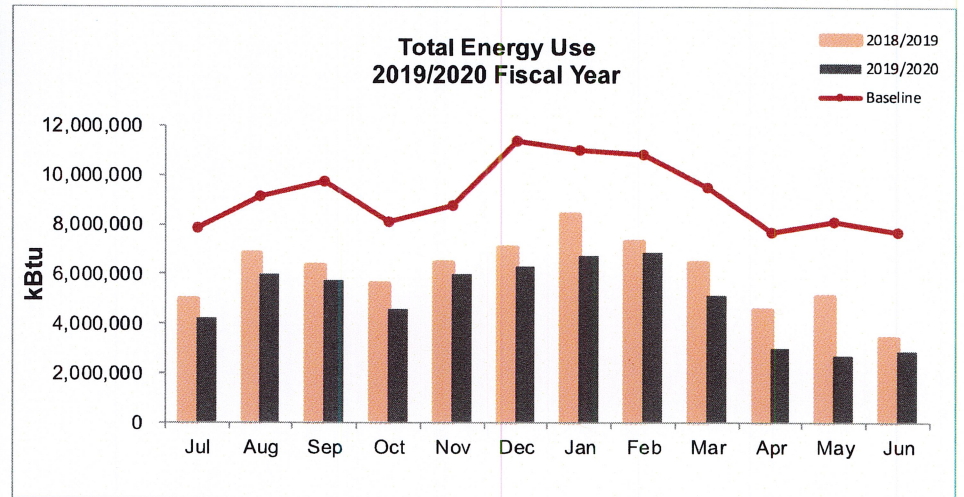


Figure 4 – Non-Adjusted School Electric Use

Month	Total Electric Usage (kWh)				Weather Data			
	Baseline	2018/2019	2019/2020	% Change from Baseline	2019/2020		Baseline	
					CDD	HDD	CDD	HDD
Jul	2,223,084	1,421,592	1,181,079	-47%	497	0	429	0
Aug	2,599,889	1,944,340	1,672,672	-36%	453	1	389	5
Sep	2,746,156	1,782,343	1,591,973	-42%	435	5	218	17
Oct	2,207,277	1,488,674	1,226,965	-44%	103	198	47	167
Nov	2,155,313	1,391,446	1,233,675	-43%	0	664	4	436
Dec	2,133,395	1,384,776	1,234,475	-42%	1	661	0	910
Jan	2,262,714	1,613,663	1,310,574	-42%	1	727	0	725
Feb	2,206,859	1,433,169	1,308,710	-41%	2	711	0	702
Mar	2,101,676	1,338,752	1,086,734	-48%	32	394	0	595
Apr	1,978,164	1,170,742	684,200	-65%	35	301	45	171
May	2,185,178	1,398,305	673,441	-69%	141	138	93	97
Jun	2,133,352	943,900	784,904	-63%	366	5	317	0
Total YTD	26,933,055	17,311,702	13,989,402	-48%	2066	3805	1540	3824
Change from Last Year				-19%				

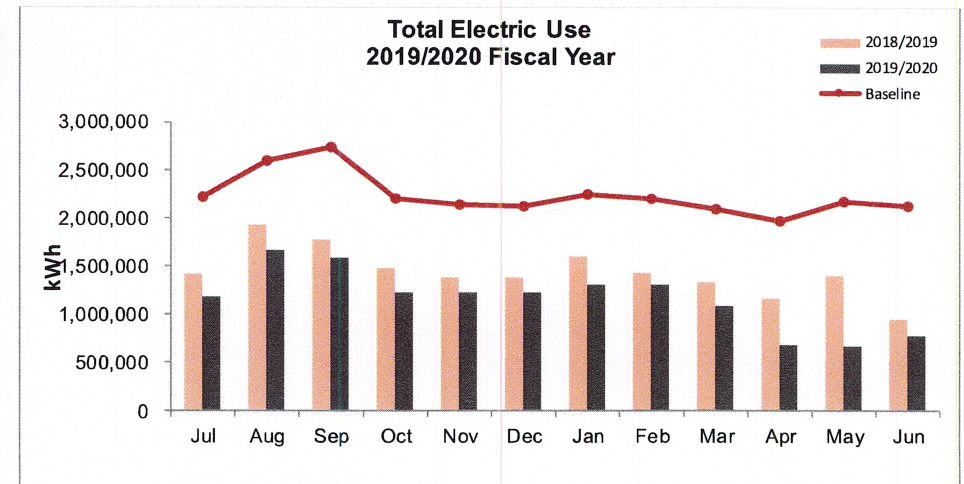


Figure 5 – Non-Adjusted School Natural Gas Use

Month	Total Natural Gas Usage (CCF)				Weather Data			
	Baseline	2018/2019	2019/2020	% Change from Baseline	2019/2020		Baseline	
					CDD	HDD	CDD	HDD
Jul	4,621	1,325	1,385	-70%	497	0	429	0
Aug	5,811	1,997	2,483	-57%	453	1	389	5
Sep	6,417	2,522	2,661	-59%	435	5	218	17
Oct	8,363	5,219	3,803	-55%	103	198	47	167
Nov	18,053	16,462	17,311	-4%	0	664	4	436
Dec	45,479	22,618	20,161	-56%	1	661	0	910
Jan	37,859	28,454	21,444	-43%	1	727	0	725
Feb	37,649	23,612	23,097	-39%	2	711	0	702
Mar	26,774	18,034	13,809	-48%	32	394	0	595
Apr	11,774	5,410	5,964	-49%	35	301	45	171
May	9,139	3,068	3,502	-62%	141	138	93	97
Jun	5,827	1,608	1,616	-72%	366	5	317	0
Total YTD	217,763	130,329	117,236	-46%	2066	3805	1540	3824
Change from Last Year				-10%				

