



### Agenda Item Details

Meeting	Sep 19, 2017 - REGULAR SCHOOL BOARD MEETING RESCHEDULED FROM SEPTEMBER 12, 2017
Category	T. Operational Services - Action
Subject	1. Request for Acceptance of the Energy Conservation Program Quarterly Status Report September 2017
Access	Public
Type	Action
Recommended Action	Acceptance of the Energy Conservation Program Quarterly Status Report September 2017
Goals	GO-3 Energy Consumption Strategies

### Public Content

#### Background Information:

The School District, through an agreement with Cenergistic – The Energy Conservation Company, implemented an Energy Conservation Program in 2008. Principals, Maintenance Coordinators, and the District Energy Manager work together to monitor and conserve energy consumption at each school site and facility. Quarterly Energy Program Status Reports have been presented to the School Board since April 2009.

The September 2017 Energy Program Status Report summarizes the performance results of the Energy Conservation Program for the quarterly period April 2017 – June 2017. The report reveals data on energy consumption by the District during this period. Also provided is cost avoidance data for each district facility. The information is presented to show actual energy consumed and cost avoidance to the District as a result of the implementation of energy conservation strategies.

#### Educational Impact:

The program is intended to reduce operational costs related to utilities, therefore increasing dollars available for other District related operational expenses.

#### Strategic Plan Impact:

Supports the District's Mission by providing appropriate facilities to help inspire good character and a passion for lifelong learning in all students, creating educated and caring contributors to the world.

#### Fiscal Impact:

During the quarterly period April 2017 – June 2017 the Energy Savings Program has resulted in additional cost avoidance for the School District of \$947,622. The current rate of energy savings significantly exceeds the projected performance of the program. Since inception, the District has realized a total cumulative cost avoidance of \$43,346,224.

**Recommendation:**

Acceptance of the Energy Conservation Program Quarterly Status Report September 2017.

**Action Required:**

Approval of the Superintendent's recommendation.

**Drafted, reviewed and submitted by:**

Al Crutchfield, Energy Manager

Paul Rose, Executive Director for Facilities & Operations

Cathy Mittelstadt, Deputy Superintendent for Operations

**Sincerely,**

**Tim Forson**

**Superintendent of Schools**

Energy Conservation Program Quarterly Status Report September 2017.pdf (725 KB)

**Administrative Content****Workflow**

Workflow

Aug 28, 2017 7:03 AM :: Submitted by Cara Pacetti. Routed to Cara Pacetti for approval.

Aug 28, 2017 7:03 AM :: Approved by Cara Pacetti. Routed to Paul Rose for approval.

Aug 28, 2017 7:26 AM :: Approved by Paul Rose. Routed to Vicki Davenport for approval.

Aug 28, 2017 10:47 AM :: Approved by Vicki Davenport. Routed to Cathy Mittelstadt for approval.

Aug 28, 2017 1:07 PM :: Approved by Cathy Mittelstadt. Routed to Vicki Moody for approval.

Aug 29, 2017 8:15 AM :: Approved by Vicki Moody. Routed to Tim Forson for approval.

Sep 1, 2017 8:56 AM :: Final approval by Tim Forson

Last Modified by Tim Forson on September 1, 2017

**ENERGY CONSERVATION PROGRAM  
QUARTERLY STATUS REPORT  
April 2017 – June 2017**

**EXECUTIVE SUMMARY**

The September 2017 Energy Conservation Program Quarterly Status Report summarizes the performance results for the quarterly period of April 2017 – June 2017 and is comprised of the following:

- **Cost Avoidance Summary by Site (April 2017 – June 2017):** The District realized a total cost avoidance for this quarterly period of \$947,622 (or a 45.3% cost avoidance from the baseline period).
- **Greenhouse Gas Reduction:** Greenhouse Gas Reduction for this quarterly period reduced CO<sup>2</sup> by 5,157 metric tons.
- **Year to Date Monthly Cost Avoidance Summary (January 2017 – June 2017):** This reflects the monthly summary of total cost avoidance for the period January 2017 – June 2017.
- **Energy Consumption Summary (Cumulative Year to date):** Summary breakdown for electricity, water & sewer, and irrigation for January 2017 – June 2017.
- **Total cost avoidance for the district from program inception (July 2008 – June 2017):** This reflects the total cost avoidance since the implementation of the program. Total cumulative cost avoidance of \$43,346,224.

The implementation of a stringent summer program requires the district to shut down by 3:30pm every afternoon during the summer months. This program includes a reduction of HVAC and lighting runtimes by eliminating system use during the peak demand period of 3:00pm – 6:00pm each day. When compared to standard operating procedures, the effort put forth by all district staff to comply with the summer program has been proven effective; resulting in a projected \$300,000.00 cost savings for May and June 2017.

During the period of April 2017 – June 2017 there were 150 energy audits performed at District facilities. The results of these audits demonstrate continued efforts by employees to reduce energy use.

Our district continues to show a high regard in reducing the overall energy consumption. Many thanks to principals and our facilities staff district-wide for a very successful summer for the Energy Conservation Program.

**St. Johns County School Board**

**Cost Avoidance Summary By Building CAP - 01B**

Place	BATCC Cost	Actual Cost	Cost Avoidance	Cost Avoidance %
[AD] Administrative Complex	\$24,426	\$14,440	\$9,986	40.9
[BH] Bartram High School	\$140,768	\$58,981	\$81,787	58.1
[CE] Cunningham Creek Elementary School	\$51,267	\$21,232	\$30,035	58.6
[CLN] CLINIC - RAY ROAD	\$865	\$1,085	(\$221)	-25.5
[CRO] Crookshank Elementary School	\$27,832	\$18,894	\$8,938	32.1
[CS] Creekside High School	\$110,835	\$74,990	\$35,845	32.3
[DCE_1] Durbin Creek Elementary	\$113,665	\$38,341	\$75,324	66.3
[FCS_1] Fruit Cove Middle School	\$61,883	\$11,707	\$50,176	81.1
[FCTC] First Coast Tech College	\$78,659	\$72,441	\$6,218	7.9
[FU] FULLERWOOD	\$8,139	\$5,431	\$2,708	33.3
[GAS_1] Gaines Alternative School	\$11,756	\$7,222	\$4,534	38.6
[GRM_1] Gamble Rogers Middle School	\$49,390	\$22,493	\$26,897	54.5
[HCE_1] Hickory Creek Elementary School	\$60,203	\$25,005	\$35,198	58.5
[JCE_1] Julington Creek Elementary School	\$72,580	\$32,382	\$40,198	55.4
[KES_1] Ketterlinus Elementary School	\$19,686	\$11,082	\$8,604	43.7
[LMS_1] Alice B. Landrum Middle School	\$85,558	\$43,048	\$42,510	49.7
[LPA_1] Liberty Pines Academy k-8	\$79,810	\$51,712	\$28,098	35.2
[MCE_1] Mill Creek Elementary School	\$33,964	\$21,756	\$12,207	35.9
[MES_1] Otis Mason Elementary School	\$23,255	\$12,589	\$10,666	45.9
[MMS_1] RJ Murray Middle School	\$44,119	\$19,755	\$24,364	55.2
[MT] Maintenance	\$882	\$670	\$212	24.1
[NHS_1] Allen D. Nease High School	\$95,707	\$45,425	\$50,282	52.5
[OES_1] Osceola Elementary School	\$43,936	\$16,567	\$27,369	62.3
[OL] OCONNELL CENTER	\$1,306	\$939	\$366	28.1
[OPE_1] Ocean Palms Elementary School	\$58,019	\$30,850	\$27,169	46.8
[PBM_1] Pacetti Bay Middle School	\$49,680	\$38,572	\$11,108	22.4
[PES_1] PALENCIA ELEMENTARY	\$15,741	\$14,599	\$1,143	7.3
[PMH_1] Pedro Menendez High School	\$79,768	\$35,249	\$44,518	55.8
[POA] PATRIOT OAKS ACADEMY	\$36,140	\$42,544	(\$6,404)	-17.7
[PVH_1] Ponte Vedra High School	\$68,648	\$58,082	\$10,566	15.4
[PVP_1] PV-PV Elementary	\$34,424	\$13,057	\$21,367	62.1
[RBH_1] RB Hunt Elementary School	\$29,141	\$13,299	\$15,841	54.4
[RES_1] Rawlings Elementary School	\$38,009	\$21,794	\$16,215	42.7
[SAH_1] ST Augustine High School	\$63,901	\$39,133	\$24,769	38.8
[SJT_1] ST Johns Technical High School	\$10,593	\$11,085	(\$492)	-4.6
[SMS_1] Sebastian Middle School	\$34,805	\$18,067	\$16,739	48.1
[SPM_1] Switzerland Point Middle School	\$43,553	\$24,407	\$19,146	44.0
[SWE_1] South Woods Elementary School	\$55,070	\$30,240	\$24,830	45.1
[TCE_1] Timberlin Creek Elementary School	\$62,296	\$29,082	\$33,214	53.3
[VRA] VALLEY RIDGE ACADEMY	\$30,000	\$38,182	(\$8,182)	-27.3
[WCE_1] Wards Creek Elementary School	\$67,132	\$23,749	\$43,383	64.6
[WDH_1] WD Hartley Elementary School	\$33,928	\$16,483	\$17,444	51.4
[WSE_1] Webster School Elementary	\$40,473	\$17,526	\$22,947	56.7

**Cost Avoidance Summary By Building CAP - 01B**

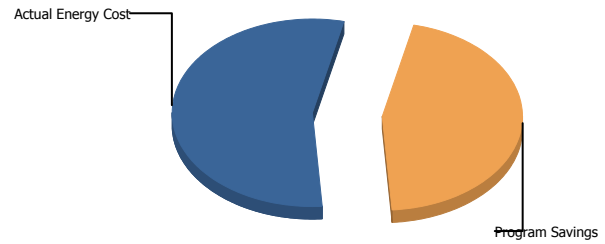
<b>Totals:</b>	<b>\$2,091,808</b>	<b>\$1,144,185</b>	<b>\$947,622</b>	<b>45.3</b>
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**Cumulative Cost Savings**

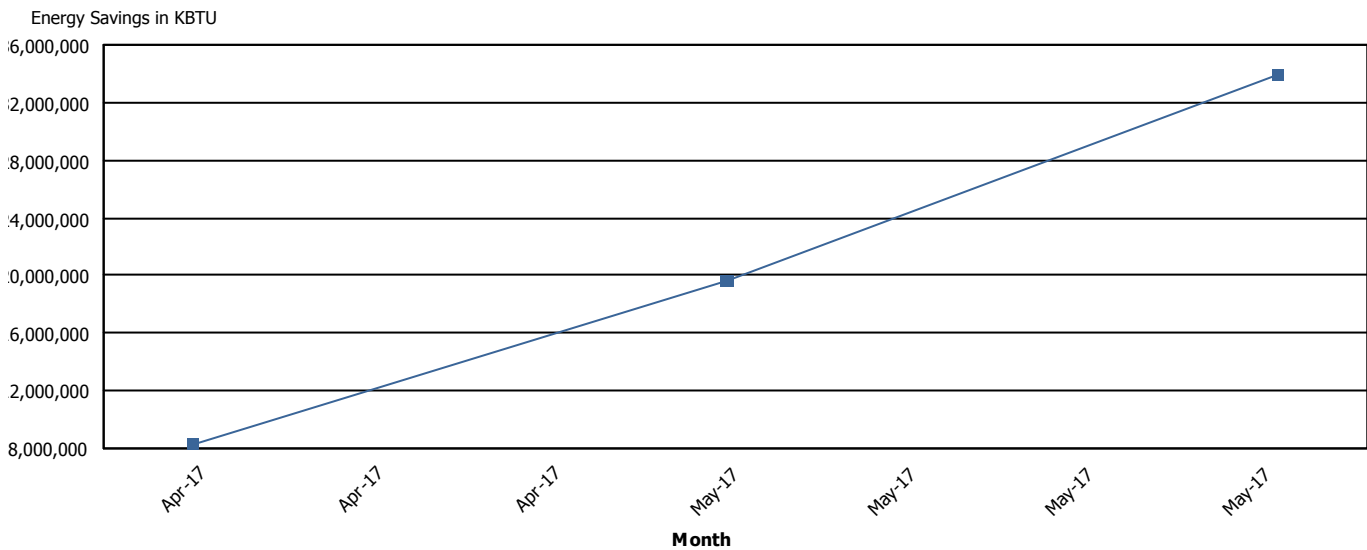
June 2017

Expected Energy Cost	\$2,091,808
Actual Energy Cost	\$1,144,185
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Program Savings	\$947,622
Percent Savings	45.3%
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Other Savings	\$0
Total Savings	\$947,622



Expected Energy Cost	Actual Energy Cost	Program Savings
Anticipated expense without energy management.	Actual utility costs for electricity, gas, water, sewer, etc. obtained directly from bills.	The difference between Expected and Actual Cost, calculated in accordance with the International Performance Measurement & Verification Protocol. Does not include savings attributable to reduced equipment maintenance and replacement costs and other collateral benefits. These savings can increase the program savings up to 20%.
Base year usage after adjustments for such variables as changes in weather, equipment, schedules, occupancy and prices.	<b>Other Savings</b> Additional documented savings attributable to Program activities but not the direct result of usage reductions, such as rebates, refunds, tariff changes, etc.	

**Cumulative Energy Savings**



**Cumulative Greenhouse Gas Reduction**

<b>Energy Reduction Impact:</b>	33,933,643 KBTU	5,157 equiv. metric tons of CO2
This is equivalent to the following:		
Passenger cars not driven for one year:	1,074	
Tree seedlings grown for 10 years:	132,219	

**Requested by:** acrutchfield

**Version:**

**Report Version:** 16

**Filters:** Billing Period Between 201704;201706;Commodity Code Equals ELECTRIC;One Page per Building (Y/N) Equals 0;Bill Account is Active Equals 1;Bill is From a Vendor Equals 1

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**Monthly Summary**

	2017		
	Cost Avoid \$	Cost Avoid %	* Total \$
Jan	<b>363,741</b>	<b>41.9</b>	<b>363,741</b>
Feb	<b>349,327</b>	<b>41.5</b>	<b>349,327</b>
Mar	<b>418,555</b>	<b>45.9</b>	<b>418,555</b>
Apr	<b>280,337</b>	<b>34.1</b>	<b>280,337</b>
May	<b>327,347</b>	<b>46.1</b>	<b>327,347</b>
Jun	<b>365,771</b>	<b>52.6</b>	<b>365,771</b>
Total	<b>2,105,079</b>	<b>43.4</b>	<b>2,105,079</b>

\* The Total \$ column is the sum of Cost Avoidance Savings and Other Savings.

**Energy Summary**

	Use				Cost				
	BATCC	Actual	Avoid	Avoid %	BATCC	Actual	Avoid	Avoid %	Total Savings \$
Electric (KWH)	42,753,649	23,736,250	19,017,399	44.5	4,576,025	2,517,679	2,058,346	45.0	2,058,346
Water & Sewer (KGAL)	15,008	11,604	3,404	22.7	237,977	187,370	50,607	21.3	50,607
Irrigation (KGAL)	6,960	7,806	-846	-12.2	33,699	37,572	-3,874	-11.5	-3,874
Total (MMBTU)	145,918,204	81,011,821	64,906,383	44.5	4,847,700	2,742,621	2,105,079	43.4	2,105,079

**Requested by:** acrutchfield**Version:****Report Version:** 7**Filters:** Billing Period Between Jan 2017 and Jun 2017; Commodity Code Between ELECTRIC|WATERSEWER; ; ; Bill Account is Active Equals 1; ; Bill is From a Vendor Equals 1



Commodity		BATCC Cost	BATCC Use	Actual Cost	Actual Use	Cost Avoidance	Cost Avoidance %	Use Avoidance	Use Avoidance %
Electric	kWh	\$87,719,014	754,585,850	\$46,403,612	405,856,392	\$41,315,402	47.1%	348,729,458	46.2%
Irrigation	Kgal	\$558,099	124,534	\$463,717	110,334	\$94,382	16.9%	14,200	11.4%
Water	Kgal	\$26,676	4,171	\$15,620	2,069	\$11,057	41.4%	2,102	50.4%
Water & Sewer	Kgal	\$6,298,116	478,275	\$4,372,733	342,842	\$1,925,383	30.6%	135,433	28.3%
<b>Totals:</b>		<b>\$94,601,906</b>		<b>\$51,255,682</b>		<b>\$43,346,224</b>	<b>45.8%</b>		

Commodity	BATCC Cost	BATCC Use	Actual Cost	Actual Use	Cost Avoidance	Cost Avoidance %	Use Avoidance	Use Avoidance %
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