

Rock Hill Schools - Energy Management

District Energy Update

For the period of January 1, 2016 - June 30, 2016

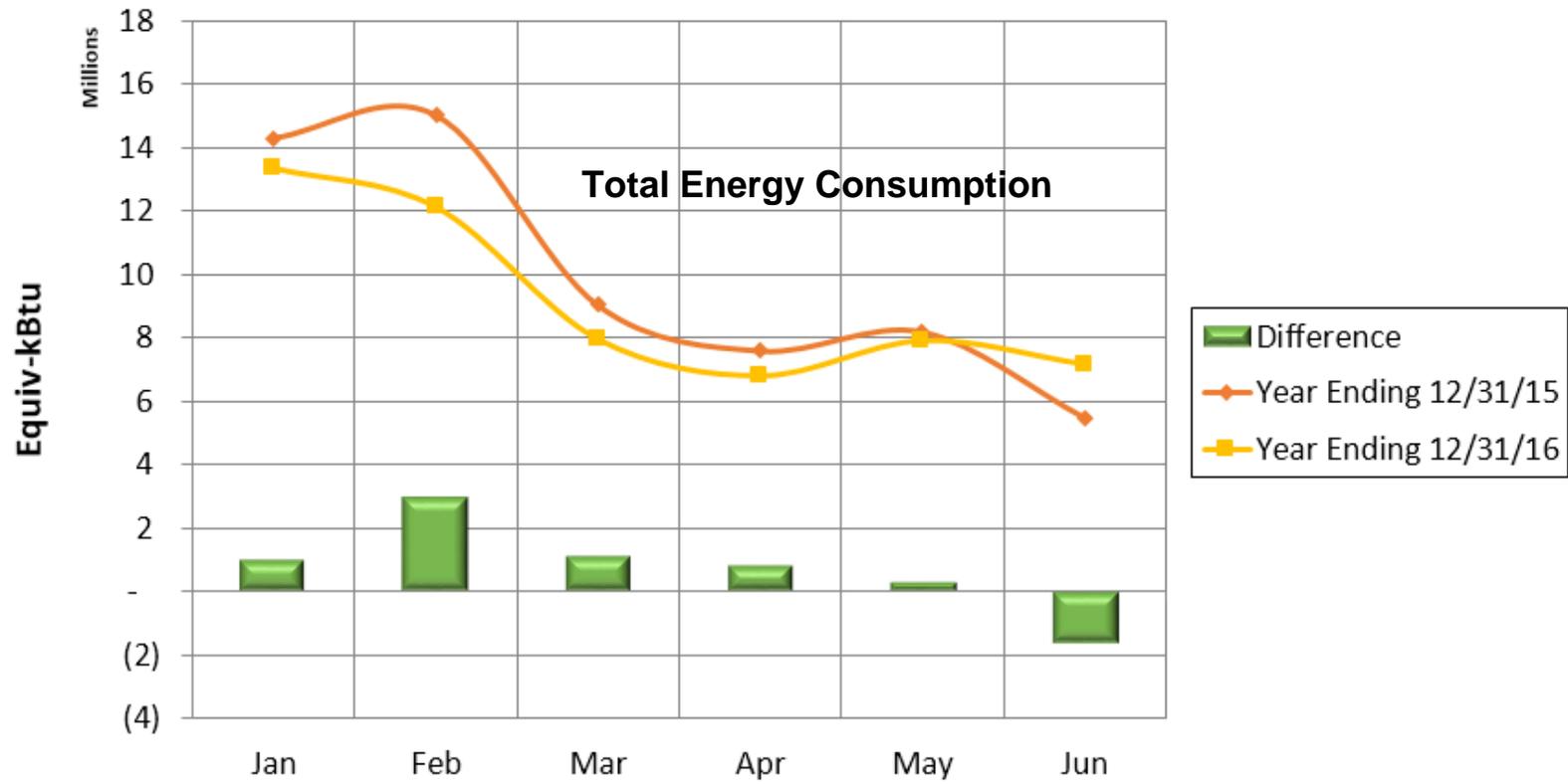
Presented by Kim Melander, Energy & Systems Manager

Phone: 803-981-1156 (direct)

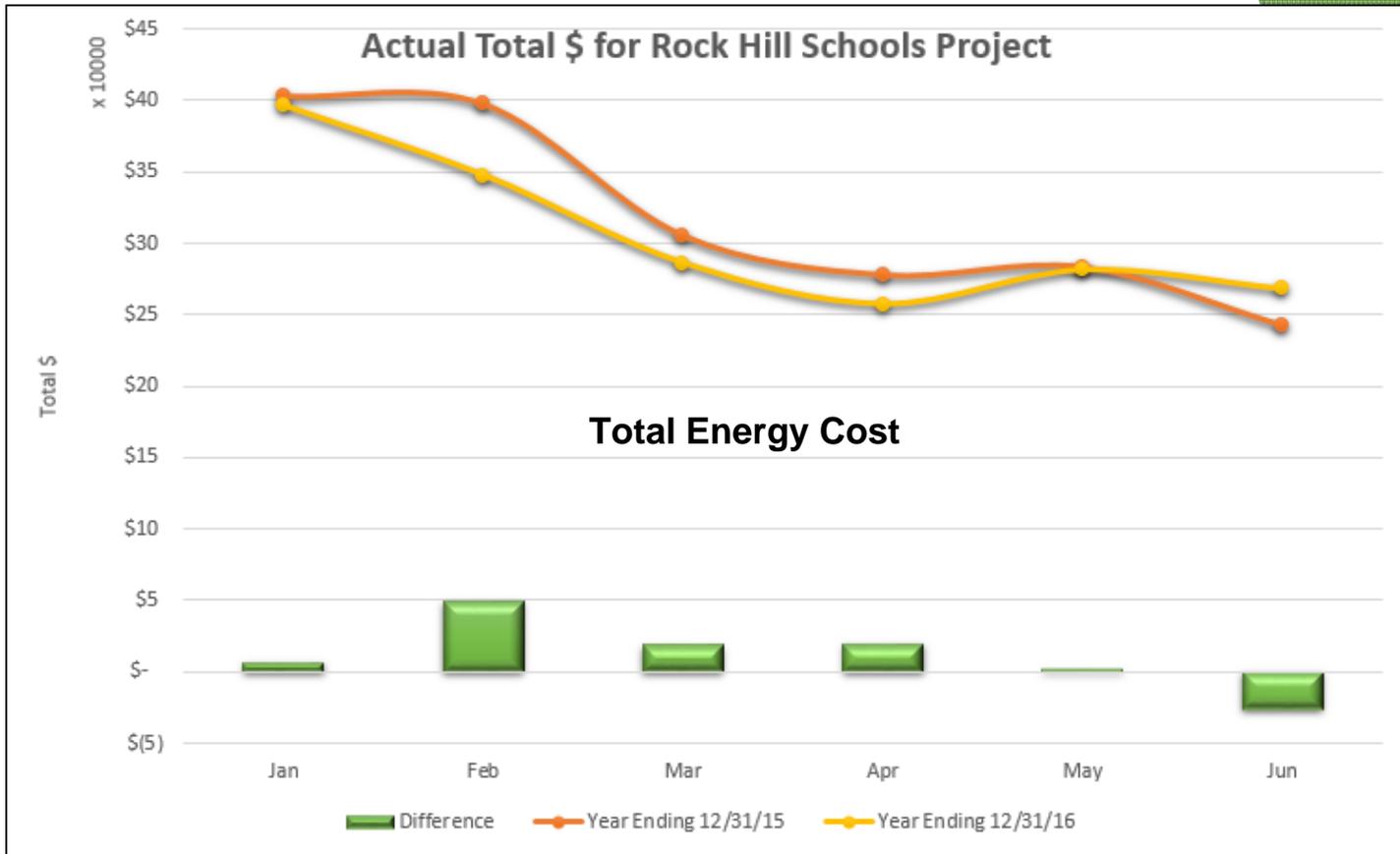
Email: kmelander@rhmail.org



Actual Equiv-kBtu for Rock Hill Schools Project

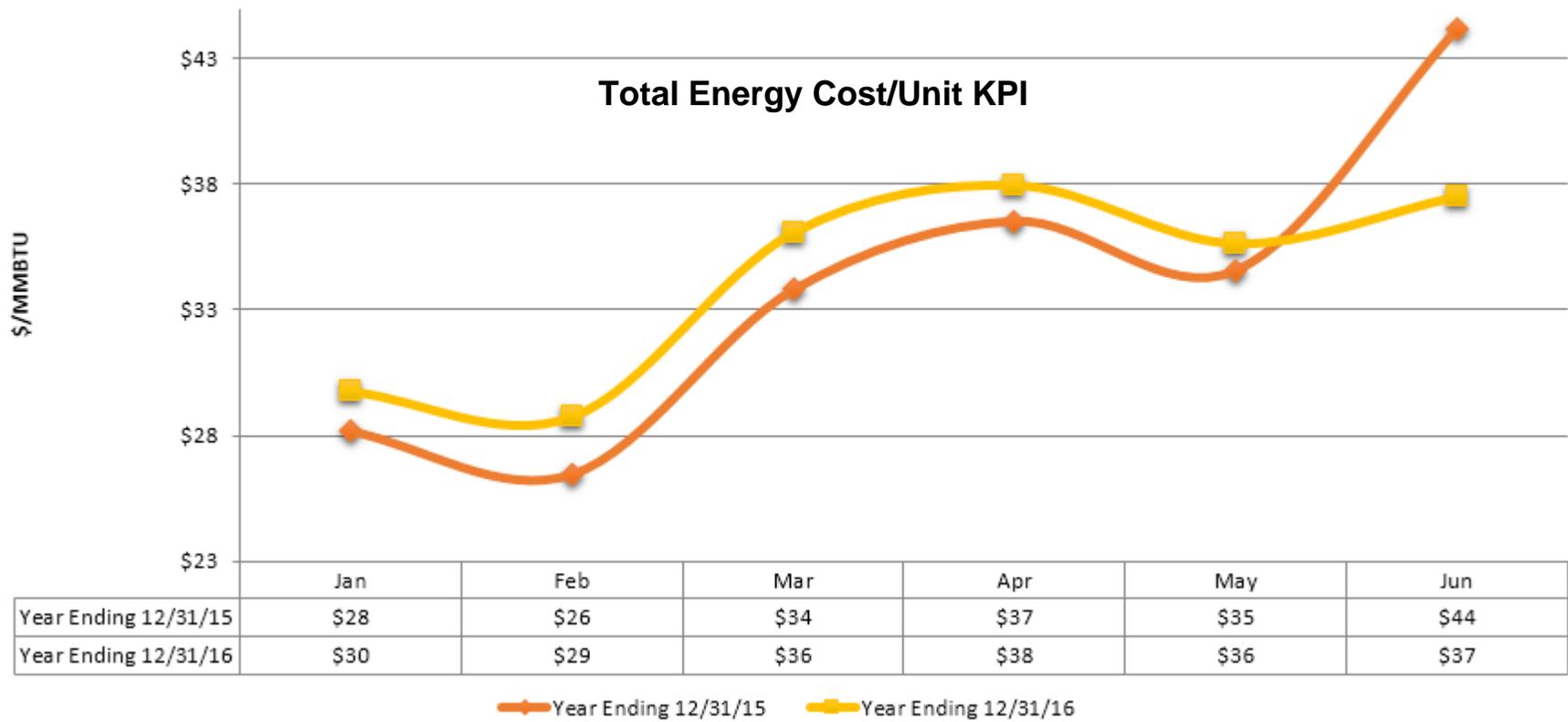


Date	Jan	Feb	Mar	Apr	May	Jun	Total
Year Ending 12/31/15	14,291,974	15,015,111	9,025,784	7,593,921	8,188,158	5,481,320	59,596,270
Year Ending 12/31/16	13,315,157	12,097,462	7,935,711	6,787,803	7,895,369	7,148,893	55,180,395
Difference	976,817	2,917,650	1,090,073	806,118	292,789	(1,667,572)	4,415,874



Date	Jan	Feb	Mar	Apr	May	Jun	Total
Year Ending 12/31/15	\$ 402,789	\$ 397,394	\$ 305,057	\$ 277,415	\$ 283,074	\$ 242,095	\$ 1,907,824
Year Ending 12/31/16	\$ 396,141	\$ 347,608	\$ 286,182	\$ 257,600	\$ 281,310	\$ 268,083	\$ 1,836,923
Difference	\$ 6,649	\$ 49,786	\$ 18,875	\$ 19,815	\$ 1,764	\$ (25,988)	\$ 70,901

Combined Energy Cost/Unit for Rock Hill Schools



Section 1

<i>Actual Use and Cost for Base Period (1/2009 through 6/2009)</i>				
<u>Energy Type</u>	<u>Base Use Recorded</u>	<u>Units</u>	<u>Avg Unit Cost</u>	<u>Energy Cost</u>
Electric	17,180,855	kWh	0.1043	\$1,792,325
Natural Gas	192,152	Therm	1.2626	\$242,618
Total Energy:	77,853,458	kBtu	Total Cost	\$2,034,943

Section 2

<i>Actual Use and Cost With Energy Management Program (1/2016 through 6/2016)</i>				
<u>Energy Type</u>	<u>Current Use Recorded</u>	<u>Units</u>	<u>Avg Unit Cost</u>	<u>Energy Cost</u>
Electric	12,377,071	kWh	0.1381	\$1,709,028
Natural Gas	129,375	Therm	0.9886	\$127,895
Total Energy:	55,180,443	kBtu	Total Cost	\$1,836,923

Section 3

<i>Energy Saved 2014 Compared to Base Period</i>				
<u>Energy Type</u>	<u>Base - Current</u>	<u>Units</u>	<u>Percent Saved</u>	<u>Total Cost</u>
Electricity	4,803,784	kWh	28%	\$83,297
Natural Gas	62,777	Therm	33%	\$114,723
Total Energy Saved:	22,673,015	kBtu	Gross Savings:	\$198,020
Percent Savings:	29%			10%

Section 4

Cost Avoidance - Without Our Energy Program:	
Rates: Base period consumption at current period rates would be an additional:	\$527,346
"Load Creep": Additional equipment, operating hours and efficiency lost due to age would cost:	\$23,723
Adjustments for weather, bill period differences & other deviations:	\$367,662
Total Cost Avoidance:	\$1,116,751
Adjusted Savings:	38%



Utilities Budget Update

2015-2016 Utilities

<u><i>Budget</i></u>	<u><i>Actual</i></u>	<u><i>Difference</i></u>
\$3,700,000	\$3,651,044	\$48,956

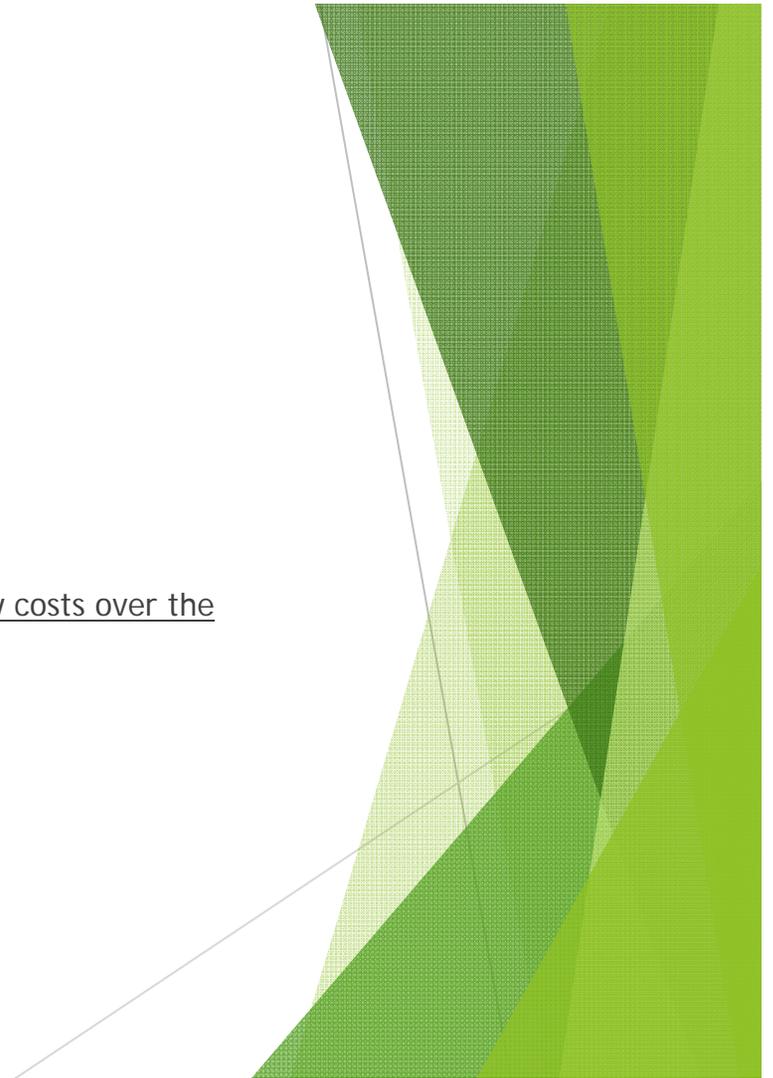
Utilities Budget Update

2016-2017 Utilities (10/17/2016)

<u><i>Budget</i></u>	<u><i>YTD</i></u>	<u><i>Balance</i></u>	<u><i>% Remaining</i></u>
\$4,090,000	\$889,228	\$3,200,772	78%

Energy Related Accomplishments

- ▶ Chiller replacement at Northwestern HS
 - ▶ Estimated to save about \$25k/year.
- ▶ Plant conversion at Rawlinson Road MS
 - ▶ Estimated to save about \$15k/year in heating costs.
- ▶ Large (230 kW) solar lease at Independence ES
 - ▶ Expected to produce 8000 Mwh and save more than \$500k in electricity costs over the next 20 years.
 - ▶ Installation scheduled to begin September, 2017.



Ongoing and planned Energy Projects

- ▶ York Electric Cooperative Solar Hosting Agreement at ATC. (pending)
 - ▶ Partnership with YEC to promote PV (photovoltaic) solar technology.
 - ▶ Land leasing revenues of \$36k over the next 20 years.
 - ▶ Solar data available to District.
- ▶ Large (200kW) Solar Installation study at Oakdale ES. (preliminary)
 - ▶ District owned system projects over \$600k saved over 20 year period.
- ▶ Ongoing and Future Bond Construction Projects.
 - ▶ HVAC, Building Automation & Lighting engineering and project management.



Questions?

Thank you for your support!

