



# ENERGY UPDATE – Q1 FY18

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Auriane Koster, Ph.D. – Sustainability Manager  
Gabriel Sanchez – Data Manager



1

# Q1 FY2018 District Summary

## Based on Fusebox™ Data Management and Reporting:

- **59,592 kWh increase** from Q1 FY18 compared to Q1 FY17.
- Spent **\$16,911 less** on electricity from Q1 FY18 compared to Q1 FY17.
- Unisource provided summer credit to account for winter increase



# Unisource Summer Credit

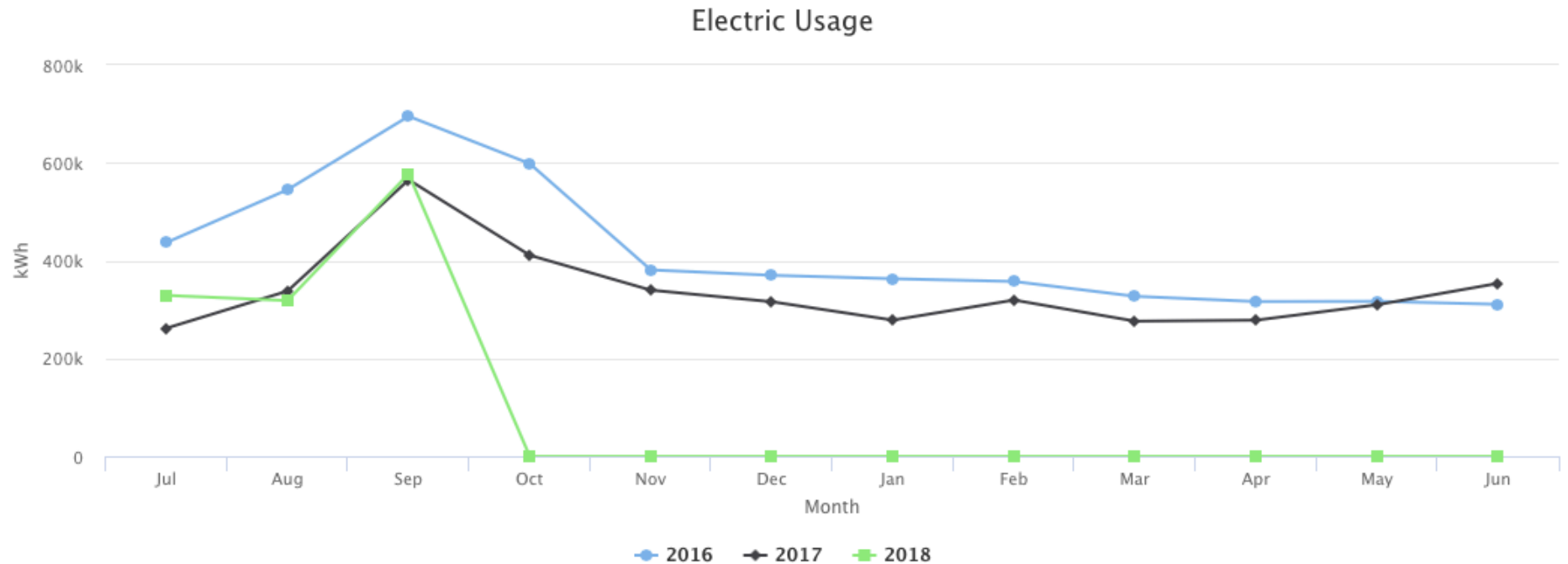
- Unisource added PPFAC credits onto all summer bills dated June 1st-October 31<sup>st</sup>
- Each customer was receiving a credit on each summer bill based off of their usage, and customers with higher usage received larger credits
- NUSD has been seeing decreases in electricity cost because of the added credits, even when usage (kWh) had increased
- The credits will stop October 31<sup>st</sup>
- NUSD should be extra cautious of their energy usage now that there will be no credits lowering the district's cost of electricity
- More information can be found at <https://www.uesaz.com/news/ppfac/>



# Annual Electric (kWh) Compared

- Overall, the district is starting to creep up in their usage compared to last year

FY2018



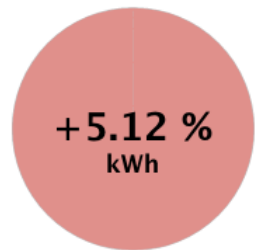
# Q1 FY18 Electric (kWh) and Cost (\$) Compared – District Total

- Increased usage by 5%
- Decreased cost by 8%
- September 2017 was 3.2 degrees warmer than September 2016
- Demand is a significant contributor to electricity costs; efforts to reduce demand can increase the cost savings NUSD can achieve.

FY2018 Data

Organizational YTD Energy Change		
	Jul-2017 to Sept-2017	Jul-2016 to Sept-2016
<b>Total Usage (kWh)</b>	1,224,591	1,164,999
<b>Total Cost (\$)</b>	187,490.53	204,401.70
<b>% Change Usage</b>	5.12% ↑	
<b>% Change Cost</b>	8.27% ↓	

Percentage Change Usage



Percentage Change Cost



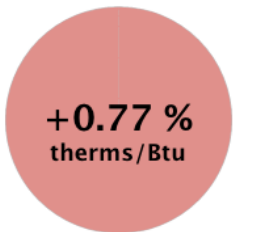
# Q1 FY18 Gas (Therms) and Cost (\$) Compared – District Total

- Increased usage by 1%
- Increased cost by 2%

FY2018 Data

Organizational YTD Energy Change		
	Jul-2017 to Sept-2017	Jul-2016 to Sept-2016
Total Usage (therms/Btu)	4,476	4,442
Total Cost (\$)	5,666.67	5,537.99
% Change Usage	0.77% ↑	
% Change Cost	2.32% ↑	

Percentage Change Usage



Percentage Change Cost



# Annual Electric/Gas Compared Detail – Q1 FY2018



# Q1 FY18 Electric (kWh) Compared

FY2018 Data

Location	Jul 2017 - Sep 2017		Jul 2016 - Sep 2016		Percentage Change	
	Usage (kWh)	Cost (\$)	Usage (kWh)	Cost (\$)	Usage	Cost
District Office	51,120	6,151.17	56,080	7,504.42	8.84↓	18.03↓
Francisco Vasquez de Coronado Elementary School	84,480	16,927.38	86,400	17,606.10	2.22↓	3.86↓
Nogales High School	416,439	56,799.93	423,762	65,968.53	1.73↓	13.90↓
A.J. Mitchell Elementary	64,900	14,629.84	63,739	14,445.39	1.82↑	1.28↑
District Support Services	21,942	2,541.30	21,231	2,799.31	3.35↑	9.22↓
Lincoln Elementary School	66,133	13,196.72	63,008	12,900.76	4.96↑	2.29↑
Challenger Elementary	100,120	14,482.72	94,120	16,160.05	6.37↑	10.38↓
Wade Carpenter Middle School	69,382	12,116.06	64,742	13,795.50	7.17↑	12.17↓
Mary Welty Elementary	66,915	9,714.85	59,657	9,658.63	12.17↑	0.58↑
Pierson Vocational High School	86,800	14,840.27	76,660	17,097.42	13.23↑	13.20↓
Desert Shadows Middle School	126,880	16,690.76	103,520	17,108.69	22.57↑	2.44↓
Robert M. Bracker Elementary School	69,480	9,399.53	52,080	9,356.90	33.41↑	0.46↑



This is not a measurement and verification document for the Midstate Energy project.

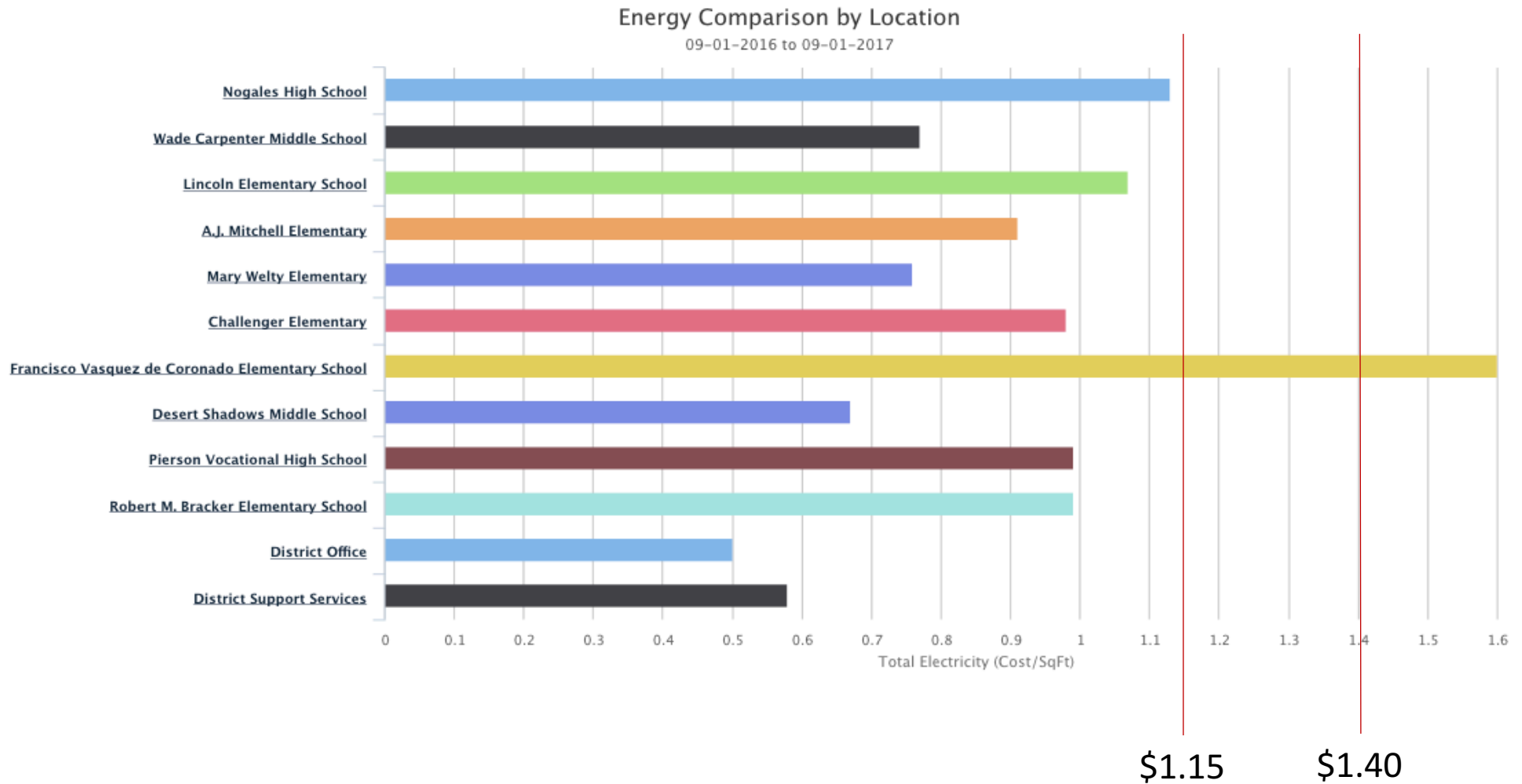
Tables in this report display data from all electric and natural gas utility bills showing usage for all meters and campuses.



# Cost/Sq. Ft.

FY2018 Data

\$1.15 & \$1.40 is the PEP recommended cost/sq. ft. for elementary and high schools, respectively



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# Q1 FY18 Gas (Therms) Compared

FY2018 Data

Location ↕	Jul 2017 - Sep 2017		Jul 2016 - Sep 2016		Percentage Change	
	Usage (therms/Btu) ↕	Cost (\$) ↕	Usage (therms/Btu) ↕	Cost (\$) ↕	Usage ↕	Cost ↕
Desert Shadows Middle School	159	254.54	901	831.80	82.35↓	69.40↓
A.J. Mitchell Elementary	72	392.82	93	408.59	22.58↓	3.86↓
Wade Carpenter Middle School	355	492.89	366	496.78	3.01↓	0.78↓
District Support Services	76	129.41	78	129.96	2.56↓	0.42↓
District Office	0	66.69	0	66.63	0.00	0.09↑
Lincoln Elementary School	153	392.99	152	389.88	0.66↑	0.80↑
Mary Welty Elementary	198	563.45	179	545.00	10.61↑	3.39↑
Robert M. Bracker Elementary School	430	405.46	377	358.42	14.06↑	13.12↑
Nogales High School	1,854	1,662.50	1,493	1,326.29	24.18↑	25.35↑
Francisco Vasquez de Coronado Elementary School	261	281.95	209	236.18	24.88↑	19.38↑
Challenger Elementary	332	407.26	263	346.56	26.24↑	17.52↑
Pierson Vocational High School	586	616.71	331	401.90	77.04↑	53.45↑

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# Maximum Monthly Demand – FY2017



# Maximum Monthly Demand

- Compared to FY2017, many schools are showing an increase in their demand (KW)
- Increases reset the ratchet for 12 months or until the next highest
- Strategies to lower demand include 15-20 minute **staggered start-up times on HVAC equipment, adjusted set-points, or scheduling shifts.**

FY2018 Data

CAMPUS NAME	SEPT (KW)		AUG (KW)		JUL (KW)	
	2017	2016	2017	2016	2017	2016
R.M. Bracker Elementary K-5	131	114	128	116	62	117
Challenger K-5	194	199	159	164	131	134
Coronado Elementary K-5	159	154	165	165	214	61
Lincoln Elementary K-5	128	64	63	52	64	11
A.J. Mitchell Elementary K-5	160	139	101	112	145	60
Mary Welty Elementary K-5	88	88	99	77	65	41
Desert Shadows MS 6-8	244	215	231	210	91	106
Wade Carpenter MS 6-8	101	113	48	80	48	93
Nogales High School	488	499	492	424	317	324
Pierson Voc. High School	74	81	58	59	55	51
District Office	65	71	55	63	61	59
District Support Services	/	/	/	/	/	0

**Note: KW higher than last year**

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# Energy Conservation Strategies



# Energy Saving Opportunities

## Energy Tips

- Make sure all extraneous appliances are removed.
- Unplug electronics, and turn off power strips when not in-use.
- Turn off computers on weekends and holidays.
- Make sure all doors and windows remain closed.
- Open window blinds, when possible, to use natural lighting and reduce overhead lighting, and in summer months, close blinds when not in classroom to lower excess heating due to sunlight.
- Ensure consistent set-points and HVAC schedules throughout all schools in the district.
- Formalize Green Teams at each school for SY 2017-2018

***What else can you do??***



# THANK YOU!

Auriane Koster, Ph.D.  
auriane@energyplanning.org  
(401) 742-9873

Gabriel Sanchez  
gabriel@energyplanning.org  
(928) 919-4998

