

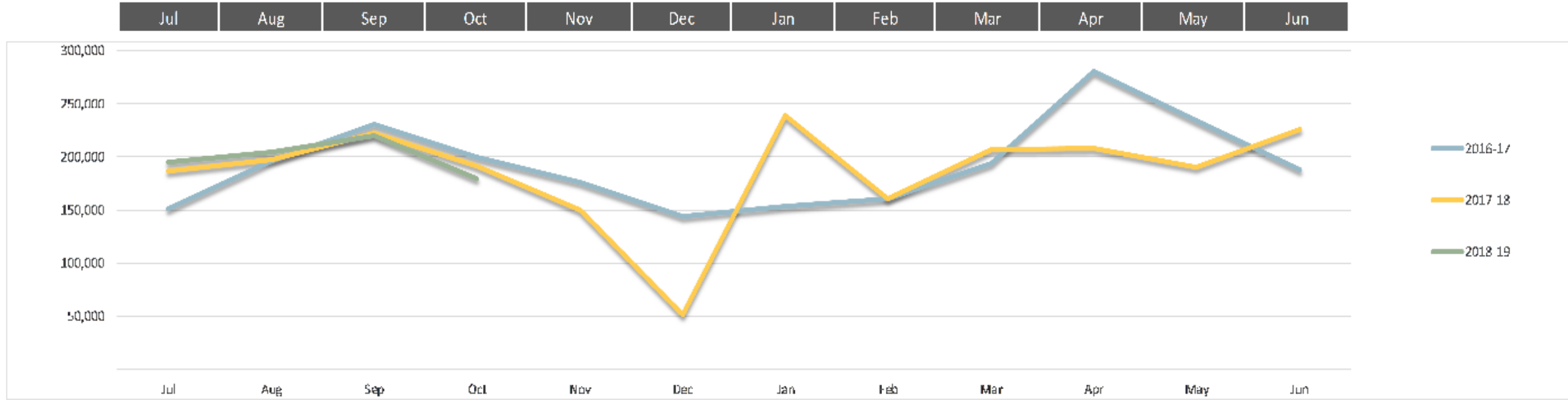
DeSoto ISD

December 2018

Energy Management Report



DISD UTILITY EXPENSE TRENDS



Expenses	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total	Trend
2016-17	\$150,923.19	\$196,104.23	\$230,957.20	\$199,908.74	\$176,082.16	\$144,358.55	\$153,334.66	\$160,315.96	\$193,595.31	\$280,465.83	\$234,029.52	\$188,006.76	\$2,308,082.11	
2017-18	\$186,733.11	\$198,100.37	\$222,448.76	\$191,070.83	\$150,485.46	\$51,282.84	\$238,748.83	\$160,384.07	\$207,226.08	\$208,724.97	\$189,877.54	\$226,341.06	\$2,231,423.92	
2018-19	\$194,765.70	\$205,233.20	\$220,695.67	\$180,091.92									\$800,786.49	
2017-18 2018-19 Cost % Difference	4.30%	3.60%	-0.78%	-5.74%										

DISD Energy Consumption Cost

- HVAC – 60%
- Lighting – 30%
- Behavior – 10%

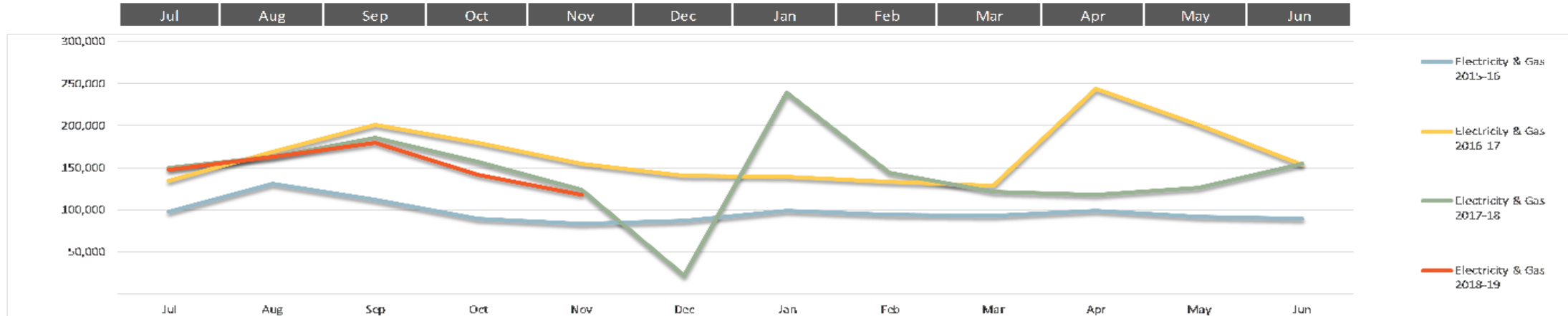
DISD Energy Accounts

- Electricity-49
- Gas-21
- Water-55
- Solar-5

E3 Baseline Summary (Jan 2016-Dec 2016)

Sq. Ft.	Elec. Cost (\$)	Elec. (kWh)	Elec. (kW)	LF	Gas Cost (\$)	Gas (CCF)	Total Cost	\$/sft	BTU/sft
1,761,396	\$1,660,134.00	15,613,882	72,052.49	29.70%	\$87,350.00	135,496	\$1,747,484.00	\$0.99	38,131

DISD Electricity & Gas EXPENSE TRENDS



Expenses	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total	Trend
Electricity & Gas 2015-16	\$98,414.07	\$131,201.51	\$111,606.68	\$90,203.21	\$83,577.74	\$87,099.87	\$99,272.35	\$93,799.88	\$92,796.52	\$99,132.77	\$92,000.05	\$89,440.34	\$1,168,544.99	
Electricity & Gas 2016-17	\$134,589.27	\$168,945.58	\$200,561.69	\$180,038.30	\$155,120.25	\$140,664.77	\$138,985.60	\$133,169.90	\$129,251.94	\$243,559.90	\$200,747.77	\$153,166.88	\$1,978,801.85	
Electricity & Gas 2017-18	\$150,687.86	\$163,129.45	\$186,150.84	\$157,408.05	\$124,520.84	\$22,051.32	\$239,505.75	\$144,262.78	\$121,892.19	\$118,248.43	\$126,231.16	\$155,144.75	\$1,709,233.42	
Electricity & Gas 2018-19	\$147,798.41	\$162,636.69	\$179,904.68	\$141,546.92	\$118,049.69								\$749,936.39	
2017-18 2018-19 Cost % Difference	-1.91%	-0.30%	-3.35%	-10.07%	-5.19%									

E3 Performance Guarantee Annual Savings

\$464,265.00

2017-18 Energy Savings

\$325,179.10

Short

\$139,085.90

The E3 project guaranteed to reduce DISD energy cost by replacing all lights to LED. They also added Capacitor Banks to reduce power factor charges. This is a low risk guarantee for E3 because there energy saving project is not affected by HVAC usage and weather.

E3 Elec Baseline Cost

\$1,747,484.00

2018-19 Energy Cost Goal

\$1,283,219.00

2018-19 Energy Savings Goal

\$464,265.00

To reach our goal we will need to keep Electricity and Gas cost below \$76,183.24 each month between December 2018 and June 2019. If the EMS/HVAC was managed properly at the start of this budget year these savings goal might be possible if the weather was similar to E3 Baseline data.

EMS Example: September 12th 2018

HS RTU-A112 Classroom Rm 1809

09/12/2018 06:15:36 AM

Occupied
 Warmup
 Cooldown
 Afterhours

Previous
Text
VLC

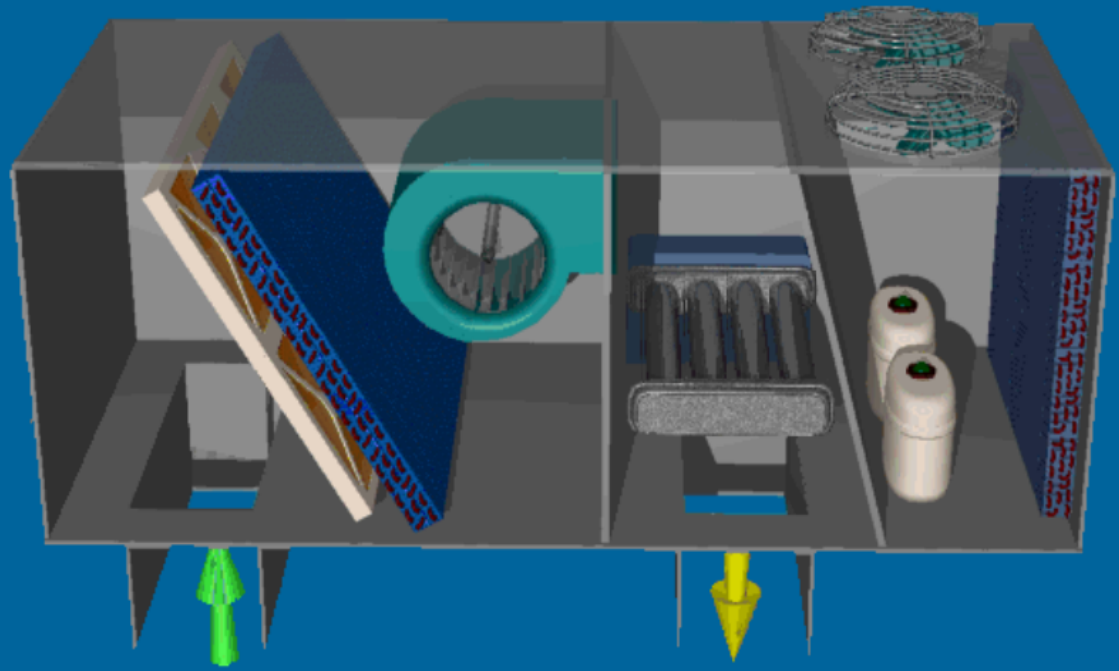
Fan Mode
1 -- Continuous
2 -- Cycle Htg Only
3 -- Cycle Htg && Clg

Htg
 Clg

OSA Temp.
71 °F

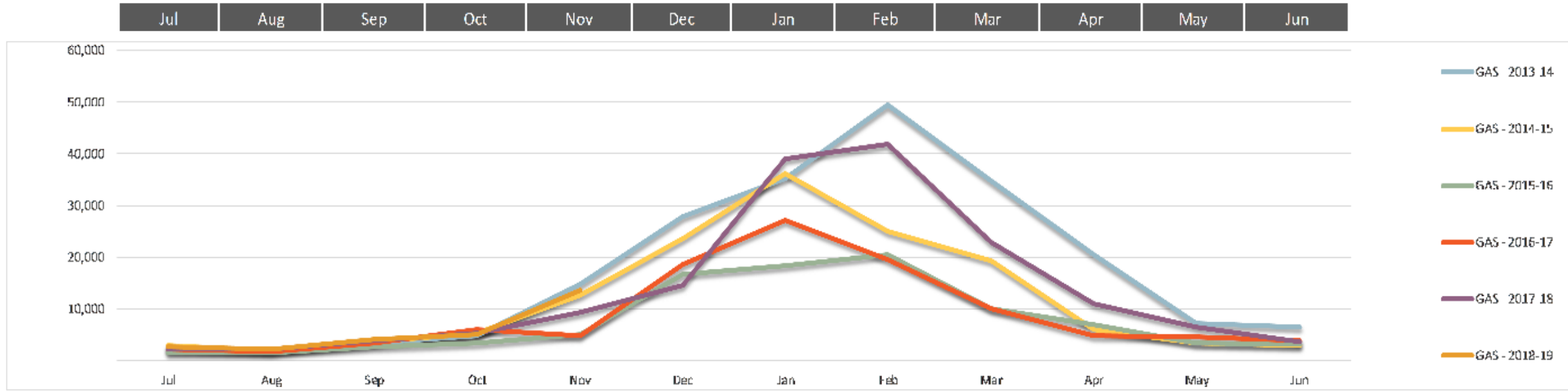
63.5 °F Space Temp.
 Occupied Setpoint
0.0 °F Current Microtouch Bias
 Microtouch Bias Limit
 Heating Offset
 Cooling Offset
44 Unoccupied Htg.
45 Unoccupied Clg.
100 % Heating
0 % Cooling Signal

Alarms
 Heating Attained 0.0 °F
 Cooling Attained 0.0 °F
 Low Supply
 Dirty Filter



Supply Temp.
65 °F

DISD GAS EXPENSE TRENDS

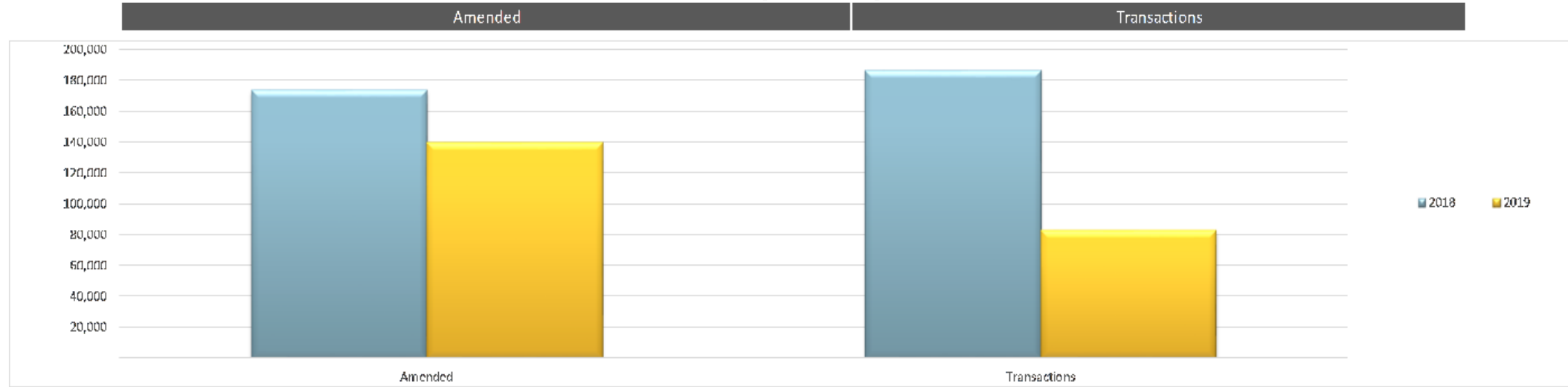


Expenses	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total	Trend
GAS - 2013-14	\$2,217.67	\$2,143.25	\$3,563.07	\$4,833.66	\$14,890.37	\$27,868.25	\$35,172.29	\$49,573.96	\$34,803.41	\$20,597.12	\$7,180.66	\$6,445.04	\$209,288.75	
GAS - 2014-15	\$2,869.30	\$2,029.76	\$3,650.79	\$5,393.99	\$12,596.80	\$23,646.28	\$36,150.87	\$24,963.63	\$19,307.60	\$6,114.86	\$3,364.99	\$3,019.58	\$143,108.45	
GAS - 2015-16	\$1,473.57	\$1,667.00	\$2,805.26	\$3,375.66	\$5,099.18	\$16,840.74	\$18,418.10	\$20,635.42	\$10,118.01	\$6,910.68	\$3,509.66	\$3,203.91	\$94,057.19	
GAS - 2016-17	\$2,189.80	\$1,907.05	\$3,553.70	\$5,976.16	\$4,840.44	\$18,745.35	\$27,149.78	\$19,598.44	\$10,172.18	\$4,783.42	\$4,533.14	\$3,848.87	\$107,298.33	
GAS - 2017-18	\$2,207.24	\$2,243.75	\$3,961.67	\$5,411.34	\$9,488.01	\$14,546.57	\$38,991.61	\$41,843.69	\$22,861.25	\$11,084.33	\$6,655.59	\$3,613.89	\$162,908.94	
GAS - 2018-19	\$2,642.32	\$2,367.29	\$4,167.72	\$5,090.73	\$13,577.47								\$27,845.53	

ATMOS-Mid-TEX Gas Cost Recovery (GCR)

Month/Year	Residential-CCF	Commercial-CCF
May-16	0.48703	0.37595
Jun-16	0.48657	0.37684
Jul-16	0.6115	0.5018
Aug-16	0.6616	0.5518
Sep-16	0.6616	0.5518
Oct-16	0.6619	0.5835
Nov-16	0.67131	0.58921
Dec-16	0.68251	0.59351
Jan-17	0.69231	0.59141
Feb-17	0.64481	0.53821
Mar-17	0.56021	0.42211
Apr-17	0.5908	0.4387
May-17	0.6006	0.4389
Jun-17	0.631	0.469
Jul-17	0.699	0.5429
Aug-17	0.7247	0.5593
Sep-17	0.7253	0.5604
Oct-17	0.7209	0.5767
Nov-17	0.7094	0.5648
Dec-17	0.7363	0.5813
Jan-18	0.6843	0.5402
Feb-18	0.7191	0.5658
Mar-18	0.6841	0.5544
Apr-18	0.6212	0.5153
May-18	0.5996	0.5024
Jun-18	0.588	0.4875
Jul-18	0.5857	0.4868
Aug-18	0.5666	0.4738
Sep-18	0.5686	0.4744
Oct-18	0.4918	0.4306
Nov-18	0.49201	0.43531

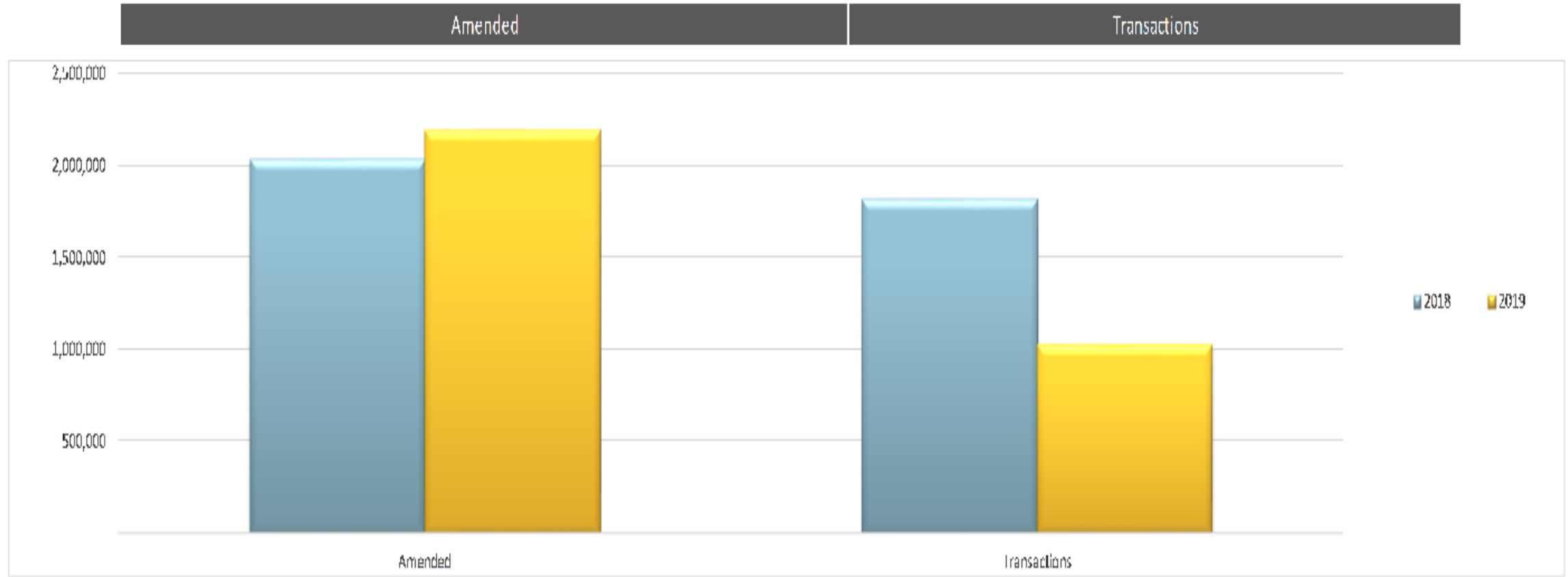
DISD Energy Budget Trends



Budget Year	Amended	Transactions	% Spent
2018	\$173,749.00	\$186,820.43	107.52%
2019	\$140,155.00	\$83,058.73	59.26%

Misc Cont Svcs - Facilities Rental - Energy Mgt
Maintenance Supplies - Energy Management
Furniture & Equipment - Energy Management
General Supplies - Energy Mgmt
Staff Travel - Energy Mgmt
Membership Dues - Energy Management
Misc Oper Cost - Energy Management
Credit Recovery

DISD Energy Utility Budget Trends



Budget Year	Amended	Transactions	% Spent
2018	\$2,039,109.00	\$1,822,681.82	89.38%
2019	\$2,199,722.00	\$1,032,205.86	46.92%

DeSoto ISD

BILL AUDIT RESULTS (as of 12/05/2018)

<u>Utility Company</u>	<u>Account #</u>	<u>DESCRIPTION</u>	<u>DATE OF REFUND OR CORRECTION</u>	<u>REFUND AMOUNT</u>	<u>PERIOD COVERED</u>	<u>PROJECTED ANNUAL SAVINGS</u>
City of Glenn Heights Water	22-00001-00	Double Billed Sewer Charges	11/1/2018	in progress		\$1,491.63
City of DeSoto Water	40008576000	Over Billed/Bad meter read	12/3/2018	\$21,222.83	June 2018 to October 2018	n/a
				\$21,222.83		\$1,491.63
					DISD REFUNDS:	\$21,222.83
					ANNUAL SAVINGS:	\$1,491.63

Improving DISD Energy Consumption & Budget

- Restart DISD Energy Incentive Program
(No incentives for staff during the 2017-18 school year)
- Restart Jr Energy Manager Program
(This program ended at the end of the 2016-17 school year)
- Audit campuses 2 times each month
(No audit data for the 2017-18 school year)
- Perform through holiday and summer time campus shutdowns
(Thanksgiving first time involving Maintenance Department)
- Start free alert system for power supply and for water utilities.
- Start a Energy Incentive Program for the Maintenance Department during the summer break.
(Extra eyes equals extra savings)
- Perform in house EMS maintenance
(\$71,766.86 spent with Climatec for EMS maintenance during the 2017-18 school year)
- Stopped monthly payments to Pemco
(Services unknown \$292,300.00 spent between January 2017 and August 2018)
- Revise DISD Energy Policy
- Charge personnel for Personal Appliances in the district.
(Permits for Personal Refrigerators, Space Heaters, Coffee Machines, Toaster Ovens, Microwaves, and Incandescent & CFL light bulbs)
- Update EnergyCAP software data to keep track of district usage and cost. This will help give more detailed reports in the future.
(Software purchased January 2016. Software has 28 months of data missing or 3,640 bills missing)