

ENERGY EFFICIENCY CHALLENGE



DECEMBER 2017

- EEC Cumulative results
January – December
2017 (Q1 – Q4)
- 61 Facilities
- Total cumulative EUI
reduction = 4.23%
- Reduction of 239.75
kBtu/sf



YEAR 3 FINAL RESULTS

Final results of the Year 3 Energy Efficiency Challenge are in! An overall reduction in energy use intensity of 4.23% has been achieved. 51% of participating facilities are meeting or exceeding the reduction goal of 3% or greater, and an additional 17% have shown improvement from their 2016 energy consumption. This equates to a collective reduction of approximately 239.75 kBtu/sqft. Total cost savings accumulated from participants in the EEC from Y1 to Y3 is \$546,626. All who have participated should be commended for putting forth a great and meaningful effort.

Congratulations to this year's three winners! Appleton TACC (training facilities) with an exceptional EUI reduction of -19.76%, AHATS FMS (maintenance facilities) with a reduction of -18.04%, and FMO (support facilities) achieving a reduction of -9.98%. Since the EEC is facilitated by staff from the FMO environmental office, the FMO is ineligible to receive a cash award. The next greatest reduction is 2-272 Roads Maintenance, with an overall EUI of -9.88%. Winners will all receive \$6,000 to be used toward energy infrastructure improvements. Each facility that achieved the 3% reduction goal will be eligible to receive an incentive award upon submission of a Final Closeout Report (pg. 6). Year 4 EEC has already begun, and will span from 01 Jan 18 to 31 Dec 18. The Y4 structure will be expanding to include water use reduction. This will continue to emphasize MNARNG's commitment to environmental performance of its facilities, as well as reflect

energy and water reduction goals in state and federal executive orders.

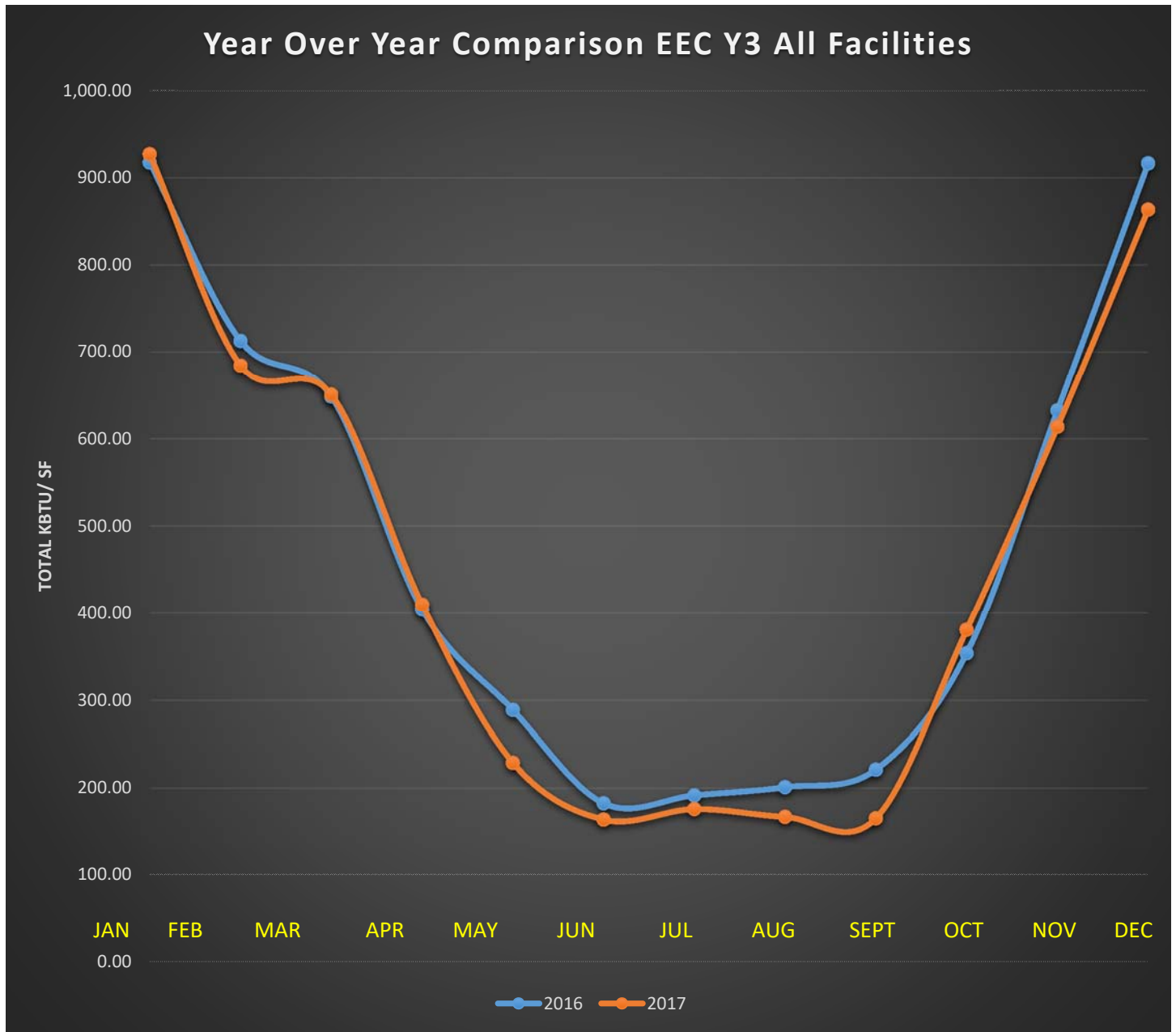
"Example is not the main thing in influencing others.

It is the only thing." - Albert Schweitzer

The Minnesota National Guard's commitment to reducing energy consumption aims to achieve maximum facility operational efficiency. The impact of an inefficient building has a direct effect on indoor environmental quality. Inept building envelopes and HVAC systems will cause an unnecessary increase in utility bills and maintenance. Buildings that are energy hogs often experience indoor environmental quality issues as well. Problems with cold drafts, stuffiness, temperature variability, bad lighting, and mold or condensation are just a few of the issues that can be addressed by examining energy usage.

One of the biggest challenges in encouraging best practices when it comes to energy savings is influencing others to make small changes in their daily habits. Individuals may believe that adopting energy efficient practices at their facility won't make a big difference, however the combined effort of many makes the effort real and tangible. Even simple practices such as being aware of plug loads or shutting off office equipment when not in use will reduce energy waste, utility costs, and save money on the bottom line.

Y3 CUMULATIVE RESULTS



Average kBtu/ SF	2016	2017	Reduction
Training Facilities	76.29	73.01	-3.28
Support Facilities	123.39	119.95	-3.44
Maintenance Facilities	194.77	185.32	-5.32

Y3 CUMULATIVE RESULTS BREAKDOWN BY CATEGORY



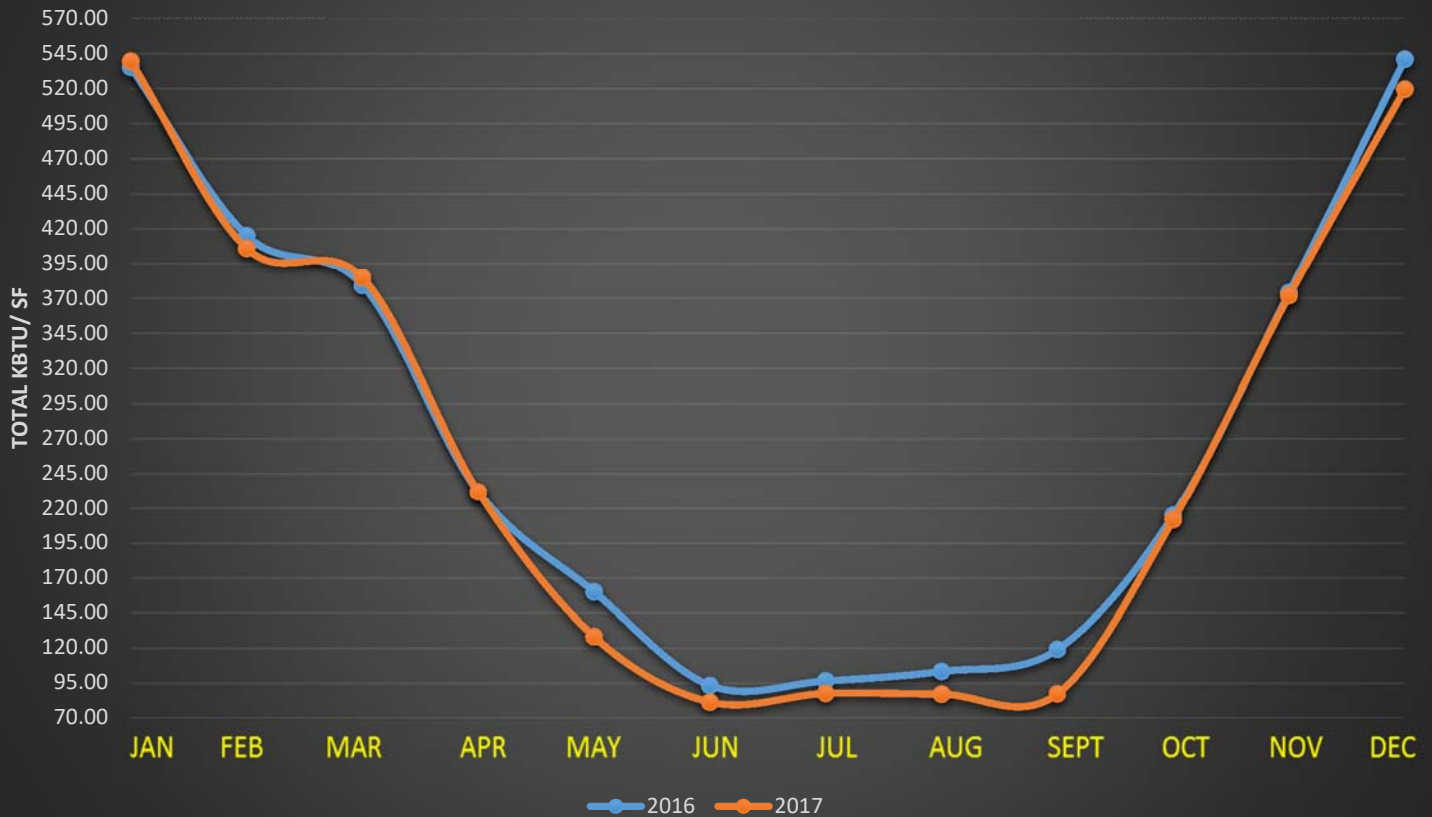
Training Facilities	Y3 EUI	Training Facilities	Y3 EUI
Appleton TACC	-19.76%	West St. Paul TACC	-1.92%
Duluth TACC	-16.82%	Red Wing TACC	-1.78%
Grand Rapids TACC	-14.59%	Rosemount TACC	-1.51%
New Ulm TACC	-13.81%	Luverne TACC	-0.87%
Redwood Falls TACC	-13.11%	Bloomington TACC	-0.77%
Jackson TACC	-12.57%	St. Cloud TACC	-0.40%
Cedar Street TACC	-11.54%	Hastings TACC	0.45%
Alexandria TACC	-10.76%	Hibbing TACC	0.58%
Thief River TACC	-10.25%	Pipestone TACC	1.00%
Cloquet TACC	-9.68%	St. James TACC	1.75%
Mankato TACC	-8.42%	(AHATS) Hamline RC	2.03%
Marshall TACC	-8.10%	Faribault RC	2.70%
Ortonville TACC	-7.49%	Fairmont TACC	3.27%
Fergus Falls TACC	-7.38%	Brainerd TACC	3.54%
Morris TACC	-4.88%	Austin TACC	3.90%
Anoka TACC	-4.77%	Sauk Centre	4.31%
Winona TACC	-4.69%	Hutchinson TACC	5.74%
Crookston TACC	-4.22%	Cambridge RC	6.86%
Pine City TACC	-3.36%	Inver Grove Heights TACC	7.18%
NE Minneapolis TACC	-3.36%	(AHATS) Ben Franklin RC	7.49%
Cottage Grove TACC	-2.41%		

Training Facilities Overview

41 facilities
 4.30% cumulative EUI decrease from 2016

-EUI = Facilities meeting or exceeding EUI -3% goal
-EUI = Facilities with EUI reduction below -3% goal
+EUI = Facilities with increasing EUI

Year Over Year Monthly EUI Usage Y3 Training Facilities





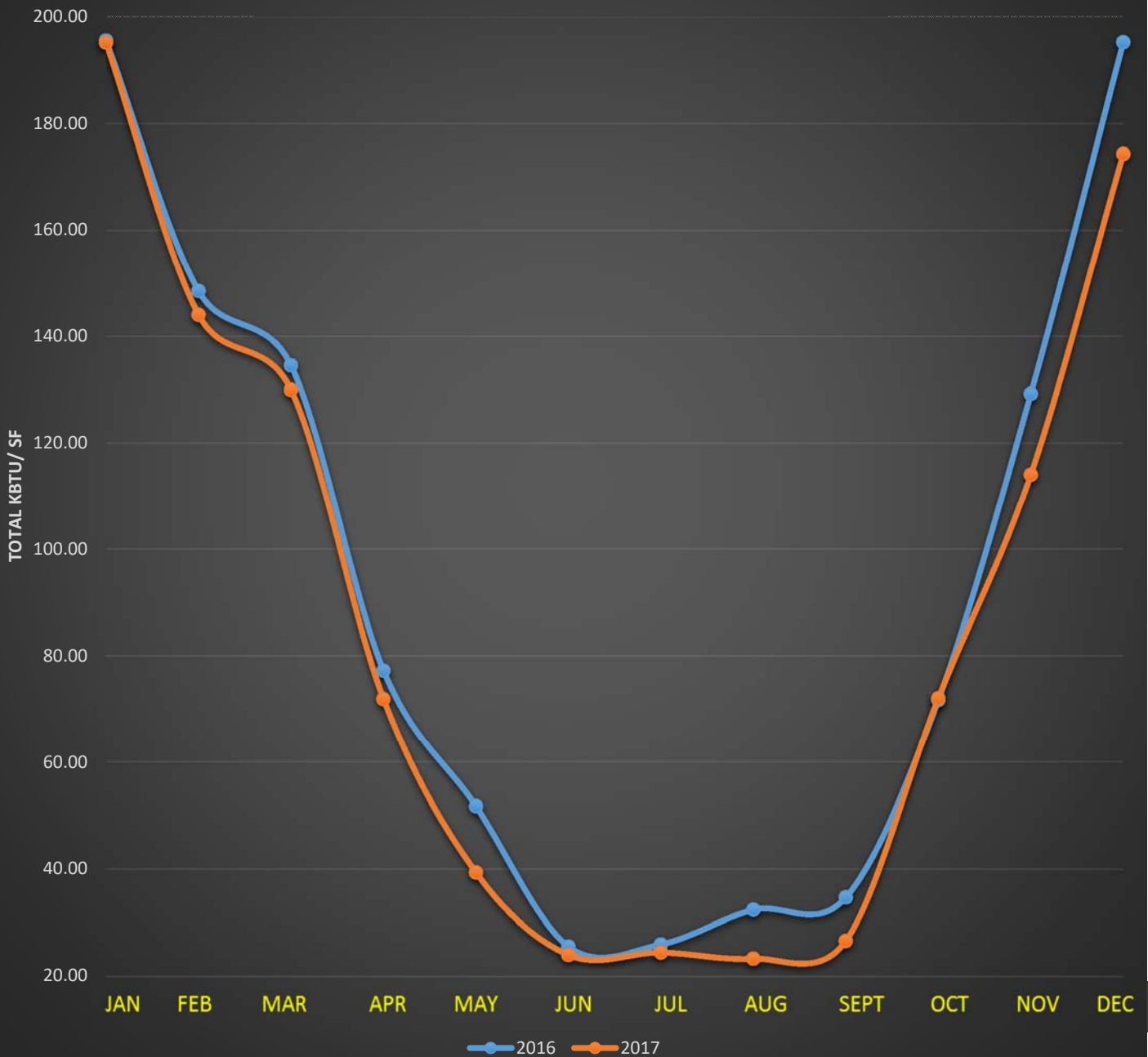
Maintenance Facilities	Y3 EUI
Arden Hills Army Training Site (AHATS) FMS	-18.04%
St. Paul AASF (Holman Field)	-11.02%
New Ulm FMS	-8.83%
Rochester FMS	-8.39%
CMA-North/MATES (17-1)	-7.97%
Rosemount FMS	-6.67%
St. Cloud AASF	-2.12%
CMA-South/CSMS (11-169)	+26.87%

Maintenance Facilities Overview

- 8 facilities
- 4.86% cumulative EUI decrease from 2016

-EUI = Facilities meeting or exceeding EUI -3% goal
-EUI = Facilities with EUI reduction below -3% goal
+EUI = Facilities with increasing EUI

Year Over Year Monthly EUI Usage Y3 Maintenance Facilities





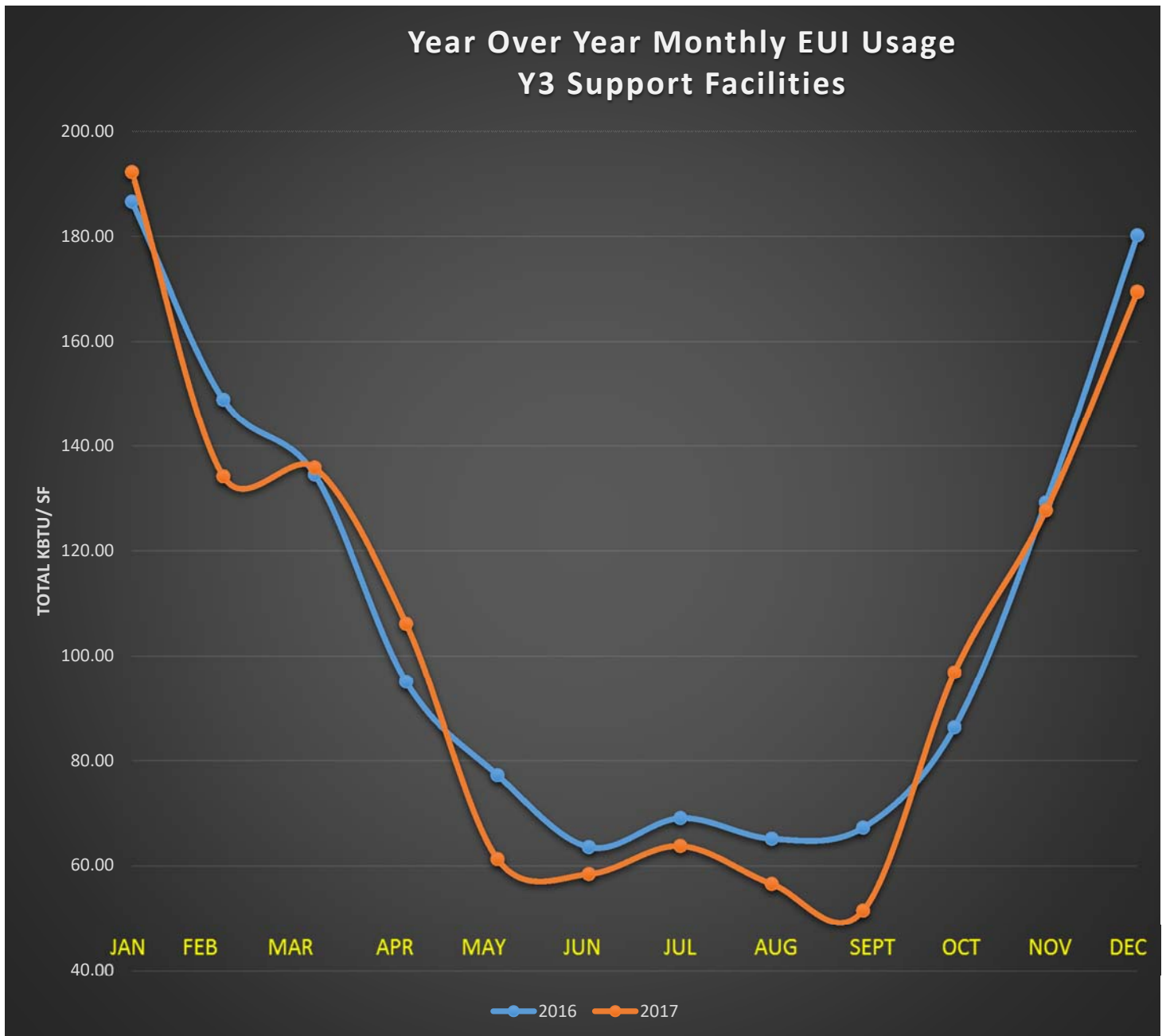
Support Facilities	Y3 EUI
2-1 FMO Office	-9.98%
2-272 Roads Maintenance	-9.88%
2-207 Supply & Services (S&SD) Building	-4.85%
15-2 (USPFO)	-3.88%
6-78 (EMTC)	-1.77%
11-62 USPFO Warehouse	-1.21%
11-63 Central Issue Facility (CIF) Warehouse	-0.88%
8-81 (TMC)/ (MUTF)	0.67%
15-1 (MOB/DEMOB) Facility	7.98%
11-159 USPFO Property Management	11.35%
2-99 (RFMSS) Office	13.80%
2-219 Housing Warehouse	19.70%

Support Facilities Overview

12 facilities

0.98% EUI cumulative decrease from 2016

-EUI = Facilities meeting or exceeding EUI -3% goal
-EUI = Facilities with EUI reduction below -3% goal
+EUI = Facilities with increasing EUI or not meeting -3% reduction



THE FUTURE IS NOW

According to the MN Dept. of Commerce, Minnesota's Renewable Energy Standard is one of the strongest in the nation, requiring utilities to provide 25 percent of their electrical generation from renewable sources like wind and solar power by the year 2025. Last year 22% of MN electricity came from renewables, nearly achieving the goal of 25% to be met by 2025.

One pathway to reaching Minnesota's renewable energy goals is through clean energy technologies. Minnesota National Guard is at the forefront of evaluating and installing efficient and cleaner energy systems at its facilities. FMO sustainability staff have been conducting solar site surveys as well as life cycle cost analysis to determine suitable locations for future solar PV placement.

LOOKING FORWARD – FINAL CLOSEOUT REPORT

With the close of Y3 and beginning of EEC Y4, it is important to use this challenge as a tool to provide insight on the performance of your facility in relation to its peers. The Final Closeout Report at the conclusion of the EEC assists FMO sustainability staff in identifying energy saving strategies specific to your facility, and also gives you the opportunity to provide your insights. Facilities that met the 3% reduction goal are eligible for an incentive award after submission of the report. This report records yes or no responses to energy related questions. The Final Closeout Report will be made available as a separate document to accompany the Y3 final newsletter. All facilities engaged in this year's challenge should submit responses to Lori Ruff lori.a.ruff.nfg@mail.mil

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