



U.S. Army Medical Command Sustainability Report

2021





SUSTAINABILITY IN A PANDEMIC

The COVID-19 pandemic stressed the healthcare industry throughout the United States and within the military medical community. Our Medical Treatment Facilities (MTFs) were focused on meeting the crisis and understandably shifted priorities during this time. Even under these uniquely stressful conditions, MEDCOM MTFs continued their sustainability journeys and participated in the annual data call. As we review our sustainability metrics for Calendar Year 2020 (CY20), it is difficult to draw conclusions across the enterprise as the COVID-19 impact to our MTFs varied greatly, just as the operational footprint of our MTFs varies greatly. Sustainability is a marathon, not a sprint, and each year presents its own unique challenges. CY20 was truly a year like no other. MTFs cancelled elective surgeries, closed dining facilities, modified cleaning practices, changed facility air flow, and increased telework, amongst other strategies, to reduce COVID-19 risk and meet the needs of their patients. Our MTFs proactively addressed supply concerns within existing military supply channels, with existing vendors, and through collaboration with regional health systems. As a result, even under supply constraints, they were not short of needed personnel protective equipment (PPE), cleaning products or other medical supplies. It is with this lens we present our CY20 sustainability data.



MEDCOM Sustainability Mission
Enhance Army Medical readiness and resiliency by safeguarding human health and the environment through the efficient use of resources and on-going process improvement.

MEDCOM Sustainability Vision
We are leaders in delivering world-class healthcare solutions with a minimal environmental footprint to support those who serve in the defense of our country. We focus on securing a sustainable and resilient future for all.

COVID IMPACTS TO MTF OPERATIONS

All MEDCOM MTFs with operating rooms (ORs) canceled or postponed elective surgeries due to COVID-19. In CY20, nearly 6,000 surgeries were postponed or cancelled. Changes to surgical procedures included altered turn-over times; increased air exchanges; COVID-19 testing every surgical patient; dedicating ORs for emergent COVID-19 patients or as COVID-19 Intensive Care Units; increased use of PPE; creation of COVID-19-specific surgical carts; and purchasing of ultraviolet light disinfecting machines.

All MEDCOM MTFs providing food service modified their protocols in CY20 and many closed areas of food service completely for a period of time. None had returned to full operations as of June 2021. Self-service was discontinued and most converted to all disposable dishware. Along with social-distancing protocols, the dining facilities increased the provision of single serve items, reduced menu options and switched to pre-packaged items.



MEDCOM MTFs altered cleaning practices during the pandemic to include multiple disinfection “wipe downs” throughout each work day in common areas such as patient waiting rooms, lobby seating, break rooms, and restrooms. High-touch surfaces such as hand rails, door handles/knobs, and digital kiosks also received increased disinfection.

Many MTFs made changes to air handling protocols to adapt to the pandemic. This included increased use of outside air; increased number of air changes; discontinued use of heating, ventilation and air conditioning (HVAC) setbacks; and implementation of negative pressure isolation rooms. Other energy-intensive actions included providing power for computers, lighting, heaters and fans in temporary drive-through testing tents.

In order to protect high-risk individuals and implement social distancing, many MTFs leveraged telework and telemedicine to the fullest extent reasonable and practical. All community hospitals and medical centers were able to have non-clinical, administrative or ancillary staff telework for a period of time during the pandemic.











The water use intensity (gallons of water per square foot) for MEDCOM facilities reporting in CY20 decreased significantly, most likely a result of decreased surgeries and less personnel in facilities. Similarly, overall mileage reported for fleet vehicles was down in CY20. We also recorded significantly less tons of regulated medical waste (RMW) in CY20 compared to CY19.

- Elective Surgeries
- Pre-packaged To-go Dining Services
- Air Handling
- Personnel Protective Equipment
- Cleaning Practices
- Telework & Telemedicine
- Water Use
- Fleet Vehicle Mileage
- Regulated Medical Waste

U.S. Army Medical Command (MEDCOM)

A YEAR AT A GLANCE

For the 28 MTFs that reported sustainability metrics, the following services were provided in 2020:

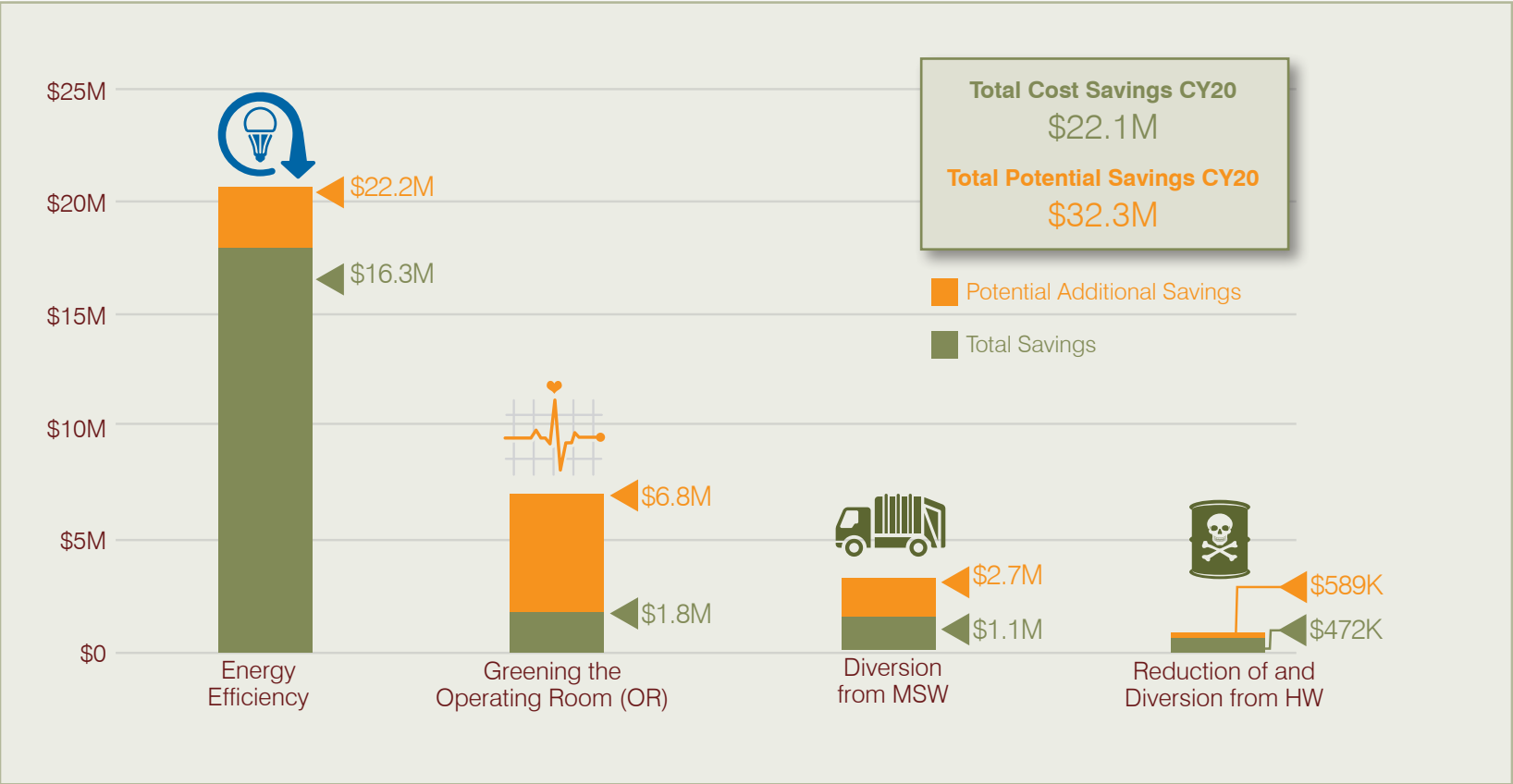
 9,488,309 Laboratory Services	 11,971,645 Prescriptions	 722,269 Immunizations
 208,313 Occupied Beds	 68,795 Inpatient Care Discharges	 13,552 Births
 1,049,936 COVID Testing Services	 2,615,367 Dental Services	 15,331,026 Outpatient Care Encounters
		 13,781,813 Radiology Services

These services required:

 2,945M kBTUs of Energy at \$46.7M	 9.5K tons of Municipal Solid Waste (MSW) at \$2.4M	 486.2M gallons of Water at \$2.9M
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COST SAVINGS

Part of the analysis we perform using our sustainability data is to estimate the cost avoidance and cost savings associated with operating more efficiently with a focus on a smaller environmental footprint. In CY20, MEDCOM realized over \$22.1 million (M) in savings, summarized by the green bars in the graph below, showing sustainability is smart business practice. We also extrapolate potential additional savings if all 28 MTFs perform as well as their peers within the Command, summarized by the gold bars on the chart. MEDCOM has the potential to avoid up to \$32.3M annually if we improve our sustainability practices at individual MTFs. (Refer to the last page for a description of the methods applied for these calculations.)

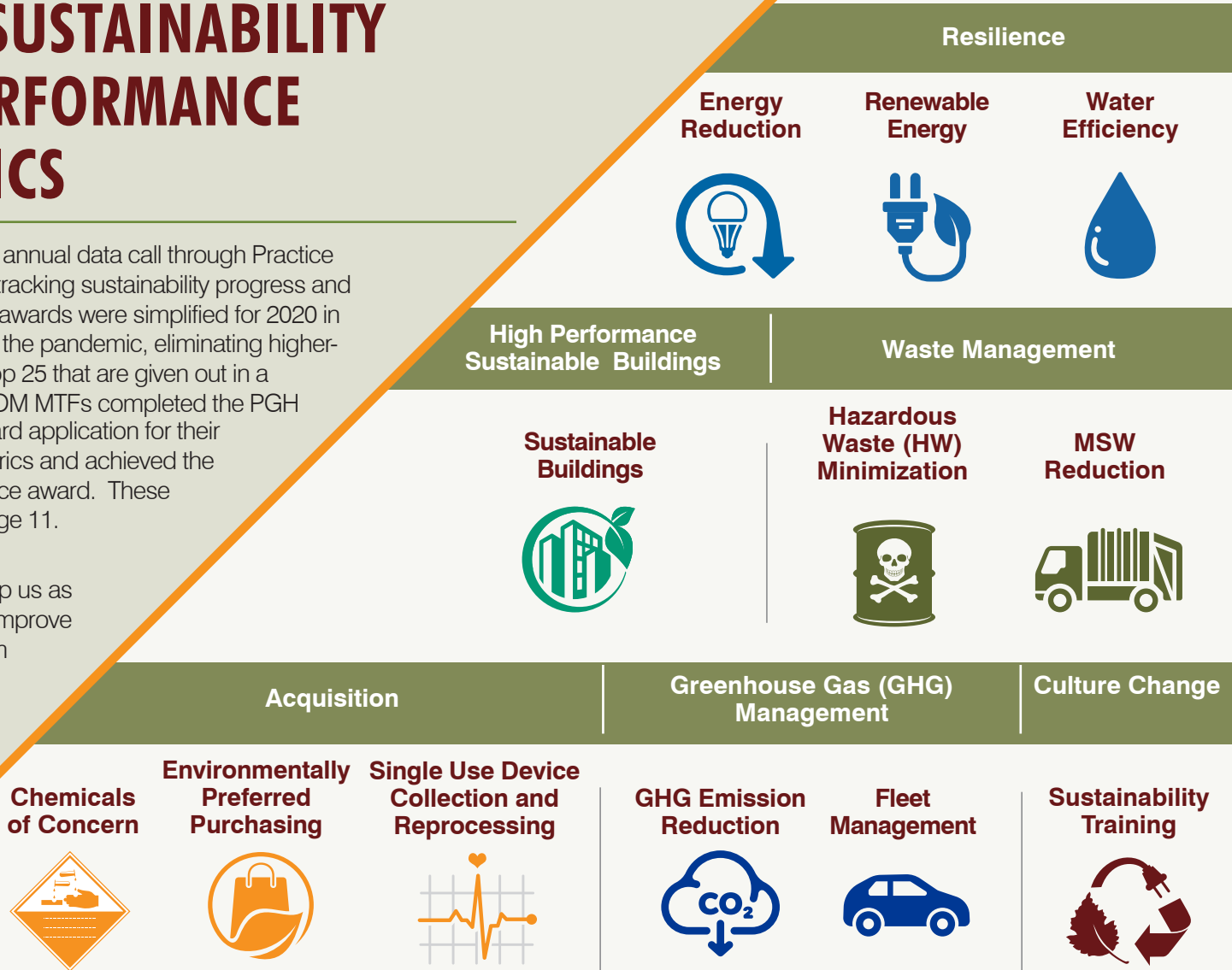


SUSTAINABILITY PERFORMANCE METRICS

MEDCOM performs an annual data call through Practice Greenhealth (PGH) for tracking sustainability progress and compliance. The PGH awards were simplified for 2020 in order to accommodate the pandemic, eliminating higher-level awards such as Top 25 that are given out in a typical year. 28 MEDCOM MTFs completed the PGH Partner for Change award application for their CY20 performance metrics and achieved the Environmental Excellence award. These MTFs are shown on page 11.

Quantitative metrics help us as we seek to continually improve performance and inform decision-making. The following pages depict our Focus Areas and the metrics we track with results for CY20.

FOCUS AREAS



METRICS

Sustainability Metrics for the 28 MTFs Reporting in FY20

Total Cost Savings



22.1M

Fleet Management



52%

of MEDCOM fleet is comprised of alternative fuel vehicles

Energy Reduction



73%

of facilities more energy-efficient than PGH median

Water Efficiency



64%

of facilities more water-efficient than PGH median

GHG Emission Reduction



3.7%

reduction in Scope 2 GHG emissions from renewable energy consumption

MSW Reduction



2,946 tons

diverted from municipal solid waste

HW Minimization



68 tons

diverted from hazardous waste

Single Use Device Collection and Reprocessing



47.8 tons

Single Use Devices diverted from waste stream

For the MEDCOM Enterprise Level

Sustainability Training



1,413

training attendees

Sustainable Buildings



3.29M
Square Feet

27

LEED Certified Buildings

13.1%

of Qualifying Square Feet

SUSTAINABILITY INITIATIVES

In CY20, many MEDCOM MTFs demonstrated continuity and dedication to sustainability in spite of the pandemic by making progress on existing initiatives or implementing entirely new ones. Here are just a few examples of the great work done by MEDCOM MTFs in CY20 in furtherance of sustainability.

- Reynolds Army Health Clinic (AHC) experienced an overall increase of recycling in their single stream co-mingled program. They have increased in three areas since 2019: corrugated cardboard (8%), plastics 1 & 2 (58%), and office waste-mixed paper (46%).
- Evans Army Community Hospital (ACH) used a disinfection process developed by Battelle to clean and reuse N95 masks. This process ensured both the hospital and the dental clinics retained adequate protection for staff during the long months of COVID-19 while reducing waste.



Reynolds Army Health Clinic

Evans Army Community Hospital

SUSTAINABILITY INITIATIVES

- At Madigan Army Medical Center (AMC), the Nutrition Care Department's project improvement team created a special menu to recognize Earth Day, offering sustainable and healthy choices to mark the occasion.
- Brooke AMC reached 100% for total percent green spend on 5 target cleaning chemicals: general purpose cleaners, window/glass cleaners, bathroom/restroom cleaners, carpet cleaners, and floor cleaners.



- At Fox Army Health Center, the laboratory changed the staining process to remove hazardous waste generation. Hema 3 Fixative used in the manual staining process is wasted through evaporative measures in a bio-safety cabinet. The hazardous material is now consumed during the process.



- Irwin ACH participated in the Association of periOperative Registered Nurses (AORN) Go Clear project in an effort to limit the effects of surgical smoke in 2020 and improve air quality in the MTF. The hospital purchased needed equipment to prevent surgical smoke in the operating room and achieved the Go Clear award.

Additionally, the Irwin ACH campus is entirely irrigated using a stormwater capture and reuse system. Stormwater is collected from across the campus and stored in a retention pond, featured at the entrance to the campus. The water is then pumped to the irrigation system, for use in the spring and summer. Irwin ACH currently utilizes 0 gallons of potable drinking water for irrigation.



- Even though MEDCOM as a whole purchased 21.8% fewer Single Use Devices (SUDs) in CY20, the percentage of overall reprocessed SUDs purchased rose to 53.1% from 46.9%, which represents a 6.2% increase in sustainable reprocessing purchases.



EARTH DAY THEME MEAL

APRIL 30TH 2020

Come get delicious food that is sustainable, affordable, and healthy @ the Madigan Dining Facility during lunch 1130-1230!

Special meal items included are:

Entrées:

Tofu-fried rice ✓

Orange Garlic Shrimp ✓

Sides:

Broccoli and Cauliflower Casserole

Sticky White Rice ✓

Stir Fry Vegetables ✓

Dessert:

Dirt pudding



MAMC Earth Day Menu

SUSTAINABILITY INITIATIVES

- MEDCOM MTFs are on the leading edge of electric vehicle (EV) adoption. Martin ACH and Weed ACH installed two (2) and twenty-six (26) EV charging ports, respectively. William Beaumont AMC added EV charging stations to their new facility and Raymond W. Bliss AHC is reviewing plans to install solar charging stations for employees to use, at no cost. Other transportation initiatives include reduction of ambulance idling time through implemented policies, signage posted around the facility, and supervisory guidance at Brooke AMC, Carl R. Darnall AMC, Weed ACH, and Madigan AMC. Multiple MTFs promoted shared transportation options such as vanpools, shuttles, and public transport to reduce emissions from single occupancy vehicle commuting.



Switching from Original Equipment Manufacturer products to reprocessed SUDs doesn't just yield cost savings – the reprocessed SUDs are actually safer as well!*

- Carl R. Darnall AMC has re-established the reprocessed SUDs program, which will likely save the MTF many thousands of dollars. And switching from Original Equipment Manufacturer products to reprocessed SUDs doesn't just yield cost savings – the reprocessed SUDs are actually safer as well. Carl R. Darnall AMC teamed up with their Stryker representative in August 2020 to host an in-service event to educate staff on the procurement, use, and efficacy of reprocessed SUDs.



*Terrence J. Loftus, 2015, "A Comparison of the Defect Rate Between Original Equipment Manufacturer and Reprocessed Single-Use Bipolar and Ultrasound Diathermy Devices," Journal of Medical Devices

▲ Charging electric car

2021 PRACTICE GREENHEALTH AWARDS



United States Army
Medical Command (MEDCOM)



Bassett Army Community Hospital
Bayne-Jones Army Community Hospital
BG Crawford F. Sams
U.S. Army Health Clinic
Blanchfield Army Community Hospital
Brooke Army Medical Center
Carl R. Darnall Army Medical Center
Dwight D. Eisenhower Army Medical Center
Evans Army Community Hospital
Fort Belvoir Community Hospital*
Fox Army Health Center
General Leonard Wood
Army Community Hospital
Guthrie Army Health Center
Ireland Army Community Hospital
Irwin Army Community Hospital

Keller Army Community Hospital
Kenner Army Health Clinic
Kimbrough Ambulatory Care Center
Landstuhl Regional Medical Center
Lyster Army Health Clinic
Madigan Army Medical Center
Martin Army Community Hospital
McDonald Army Health Center
Medical Department Activity Bavaria
Moncrief Army Health Clinic
Raymond W. Bliss Army Health Center
Reynolds Army Health Clinic
Tripler Army Medical Center
Weed Army Community Hospital
William Beaumont Army Medical Center
Womack Army Medical Center*

* DHA MTFs, not included in metrics calculations for this report

Calculation Details **Actual and Potential**

Diversion from MSW. Actual - Cost savings are based on average cost of disposal per ton across the Command. The Command achieved \$1.1M savings from diversion of waste from landfills + \$15.9K savings from food waste diversion in CY20.

Potential - If all MTFs adjusted their solid waste removal Installation Service Support Agreement (ISSAs) to “right-fit” their needs, the Command could achieve \$996K savings. If all MTFs with dining facilities diverted food waste at the medial rate of those that reported, the Command could achieve \$149K savings from food diversion.

Diversion from HW. Actual - HW diversion = Universal waste (UW) cost savings (Command saved \$472K in CY20). UW savings = Cost difference between disposal as HW and disposal as UW.

Potential - UW: Estimated the savings (delta) of disposing of the UW as recycled UW versus HW, and extrapolated to MTFs that recycled UW but did not report UW costs.

Greening the OR and Diversion of Regulated Medical Waste (RMW). Actual - Greening the OR Savings = SUDs diversion from RMW (Command saved \$54K in CY20) + purchasing of reprocessed SUDs vs new SUDs (Command saved \$1.4M in CY20) + reformulating OR kits (Command saved \$15K in CY20) + reusable sterilization containers (Command saved \$122K in CY20). Note: “Reformulating OR kits” is the process of customizing the kits to only include items needed, saving the purchase and disposal cost of unneeded equipment and supplies.

Potential - All extrapolated savings based on MTFs with ORs that did not report these savings in PGH applications in 2020. 1. SUDs diversion from RMW: Extrapolated data on average weight of SUDs returned for reprocessing per OR procedure and applied facility RMW cost per ton. 2. Cost savings for purchases of reprocessed vs new SUDs based on cost difference between reprocessed vs new SUDs and current procurement quantities. 3. Reformulating OR kits: Divided total dollars saved reformulating OR kits by total OR procedures for facilities that reported savings to calculate average savings per OR procedure. Extrapolated based on number of OR procedures. 4. Reusable sterilization containers: Calculated average dollars saved based on tons of avoided waste per number of instrument trays used in reusable sterilization containers as reported by MTFs that use reusable sterilization containers instead of bluewrap; extrapolated based on total number of instrument trays used.

Energy Efficiency. Actual - By operating more efficiently than the PGH median energy use intensity (EUI), MTFs save utility dollars. Savings = Difference in energy consumption costs for the 19 MTFs with lower EUIs than the PGH median EUI vs energy consumption costs at the PGH median EUI.

Potential - By operating less efficiently than the PGH median EUI, MTFs have the potential for savings if they reduce their EUIs. Potential Savings = Difference in energy consumption costs for the 9 MTFs with higher EUIs than the PGH median EUI vs energy consumption costs at the PGH median EUI. This assumes that these facilities would be capable of reducing their EUIs to match the PGH median EUI.

Water Efficiency. Actual - By operating more efficiently than the PGH median water use intensity (WUI), MTFs save utility dollars. Savings = Difference in water consumption costs for the 16 MTFs with lower WUIs than the PGH median WUI vs water consumption costs at the PGH median WUI.

Potential - By operating less efficiently than the PGH median WUI, MTFs have the potential for savings if they reduce their WUIs. Potential Savings = Difference in water consumption costs for the 9 MTFs with higher WUIs than the PGH median WUI vs water consumption costs at the PGH median WUI. This assumes that these facilities would be capable of reducing their WUIs to match the PGH median WUI.

Definitions

Alternative Fuel Vehicles: Alternative Fuel Vehicles (AFVs) consist of low-emitting and fuel-efficient vehicles and alternate fuel vehicles as defined by Section 301 of the Energy Policy Act of 1992, as amended (4 U.S.C. 13211). Please see the following links for a list of AFVs and alternative fuels, respectively: https://practicegreenhealth.org/sites/default/files/upload-files/transportation_toolkit_definitions_0.pdf and <https://afdc.energy.gov/fuels/>

Qualifying Square Feet: All facilities operated by MEDCOM in CY20 greater than 5000 square feet and defined as ‘medical’ or ‘utility’ in the real property database.

Scope 2 GHG Emissions: Scope 2 GHG Emissions are indirect GHG emissions resulting from the generation of electricity, heating and cooling, or steam generated off site but purchased by the entity, and the transmission and distribution losses associated with purchased utilities (e.g., chilled water, steam, and high temperature hot water).