

# Five Star Sustainable

Adams 12 Five Star Schools // Sustainability Report

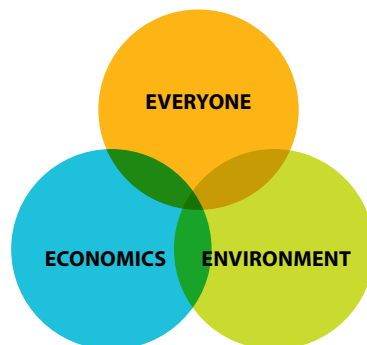
Fall 2019

## Sustainability 2.0 – Developing the Next District SMP

The Sustainability Management Plan (SMP) for the district is a compass directing sustainability and environmental stewardship efforts for district operations and the communities we serve. As the 2019-2020 school year wraps up in June 2020, so does the current SMP. In order to continue district stewardship to the local, regional and global community, a team of district personnel have been selected to participate in a Continuous Improvement project to develop the future SMP framework. Continuous Improvement is an ongoing effort to improve products, services or processes through incremental adjustments. Since the current SMP was the first effort of the district to develop a sustainability compass, the Safe & Sustainable Environments department plans to expand on these efforts. A more comprehensive and targeted approach will be developed to enhance the triple bottom line for the district to reduce the environmental impact of district operations, minimize certain economic needs and provide everyone the opportunity to do their part.

Once the Continuous Improvement process wraps up, there will be targeted working sessions with individuals involved in specific focus areas where goals and strategies need to be developed. There will also be opportunity to vote and have input on these goals and strategies, without needing to commit time to their development. If you would be interested in participating in these targeted groups on topics such as energy, water, waste, student engagement/education, or would like to be invited to vote on goals and strategies, please email [shannon.t.oliver@adams12.org](mailto:shannon.t.oliver@adams12.org).

*The Triple Bottom Line framework is the basis for many sustainability programs, covering the needs and resources of an organization.*



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Energy and Sustainability is responsible for managing utility use and for promoting social, economic and environmental sustainability for the district. Efforts include installing more energy efficient equipment, managing our water consumption, tracking our bus fleet fuel use and engaging our students to be better stewards of the environment.

We're taking steps to "go green." That means our schools and district departments are working to be wise stewards of our resources. Learn how we are being sustainably smart – and how you can do your part.

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Adams 12   
Five Star Schools

[www.adams12.org/sustainability](http://www.adams12.org/sustainability)










## Fiscal Year 2018-2019 Utilities & Sustainability Benchmark

The process of benchmarking involves establishing a baseline for something you are interested in tracking over time and then comparing recent performance to that historic baseline. For the utilities and sustainability metrics established by the district, a three-year baseline was set for Fiscal Years (FY) 2014-2016. We are then able to compare our performance for each following fiscal year to that baseline period. A few exceptions to this exist:

- Total water use is compared on a calendar year basis, due to the watering season falling within fiscal years during the months of May-September. So while the baseline is still the three-year average, the current benchmark is for the 2018 calendar year.
- No historic data was available for student engagement or waste diversion rate during the three-year baseline period, so those baselines are a one-year period of FY 2016-2017. The current benchmark is the same as the other metrics, FY 2018-2019.

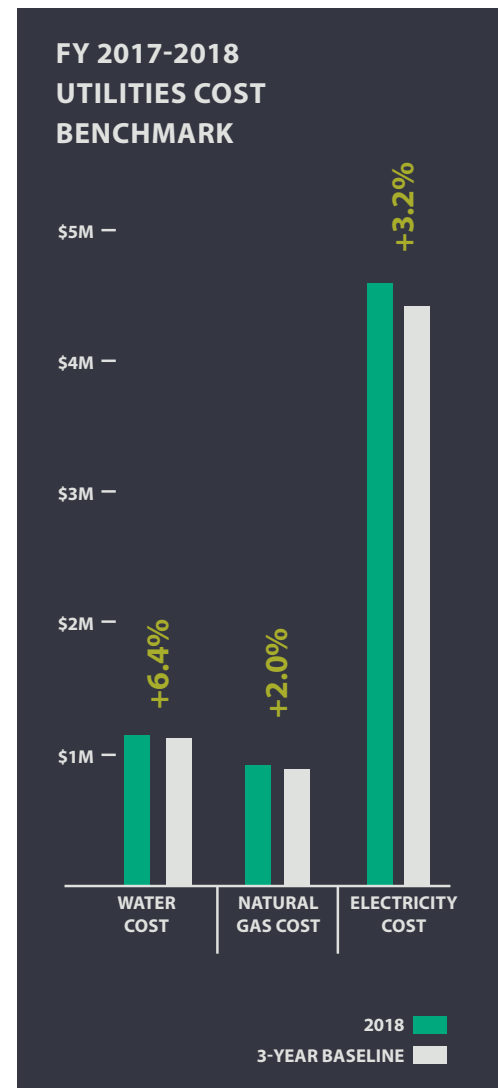
Below is the fiscal year 2018-2019 benchmark data (2018 for total water use) on how the district performed, as well as the utilities cost benchmark for the same periods.

### FY 2018-2019 UTILITIES PERFORMANCE BENCHMARK

Parameter	Period	Performance	% Change
 Electricity Use (kWh/yr)	3-Year Baseline FY 2018-2019	38,131,315 41,362,538	<b>7.81%</b>
 Natural Gas Use (therm/yr)	3-Year Baseline FY 2018-2019	1,638,595 1,708,719	<b>4.10%</b>
 Energy Use Intensity (kBtu/sq. ft.) <sup>1</sup>	3-Year Baseline FY 2018-2019	65.2 68.7	<b>5.08%</b>
 Renewable Energy Offset (%)	3-Year Baseline FY 2018-2019	5.7% 6.4%	<b>12.28%</b>
 Bus Fleet Fuel Efficiency (gal/VMT)	3-Year Baseline FY 2018-2019	5.4 5.3	<b>-2.06%</b>
 Indoor Water Use <sup>2</sup> (kGal/yr)	3-Year Baseline 2018	39,758.1 40,530.4	<b>1.91%</b>
 Total Water Use <sup>2</sup> (kGal/yr)	3-Year Baseline 2018	224,622 181,751	<b>-23.59%</b>
 Student Engagement (# Green Teams)	FY 2016-2017 FY 2018-2019	29 21	<b>-38.10%</b>
 Waste Diversion Rate (%)	FY 2016-2017 FY 2018-2019	16.9% 19.0%	<b>10.82%</b>

<sup>1</sup> Energy Use Intensity (EUI) is a method for comparing different building types by standardizing their total energy use by square feet of building space and weather normalizing that information. A lower EUI is a more efficient building.

<sup>2</sup> Total Water Use Benchmark based on calendar year due to watering season.



## Fiscal Year 2018-2019 Sustainability Management Plan Goals Progress

During the 2016-2017 Fiscal Year, a Sustainability Planning Committee was convened to produce the first sustainability plan for Adams 12 Five Star Schools. The outcome of this undertaking, the sustainability management plan (SMP), is guiding the Five Star District's development and integration of sustainable practices into the district's culture through fiscal year 2020. Throughout each year, several goals are being pursued that will help the district have a smaller environmental footprint in our communities while also fostering greater engagement on sustainability topics from our students and staff. The beginning of each school year will be an opportunity to look back on the prior year and see how well we progressed toward those goals. Below is a table capturing our sustainability efforts through June 2019.

There were also four goals set for the past fiscal year for which we were not able to make any progress. These were identified as being either infeasible with current resources, of low priority based on cost/benefit analysis, or simply too complex to address in one fiscal year. While these goals remain as desired targets for the district, additional personnel and/or resources will be needed for success on these items.

	% COMPLETE	GOAL
MET OR EXCEEDED GOAL	100%	<b>Electricity:</b> Develop electricity challenge open to all schools, to occur once per school year beginning with the 2017-2018 school year through the 2019-2020 school year.
	100%	<b>Engagement:</b> Survey all schools once per year regarding green teams/environmental clubs from 2017 through 2020.
	267%	<b>Transportation:</b> Retire and replace three diesel buses with propane buses per year beginning fiscal year 2018 through fiscal year 2020.
	100%	<b>Water:</b> Convert two athletic fields or playfields per year from bluegrass to artificial turf, beginning June 2018 and continuing through June 2020.
	118%	<b>Water:</b> Reduce districtwide water use by 20 percent from July 2013-June 2016 baseline by end of calendar year 2018.
IMPROVED, BUT STILL HAVE WORK TO DO	20%	<b>Engagement:</b> Get at least ten schools to host a zero-waste lunch once per school year beginning fall 2017 and continuing through spring 2020.
	44%	<b>Renewable Energy:</b> Offset 13 percent of districtwide electricity use (kWh/yr) with renewable energy by June 2019.
	63%	<b>Waste Management:</b> Increase districtwide waste diversion rate to 30 percent by June 2019.
	89%	<b>Waste Management:</b> Increase cafeteria recycling program participation by 20 percent from the summer 2016 audit baseline (16 schools) by June 2019.
	11%	<b>Water:</b> Convert 50 percent of current (April 2017) non-playfield, irrigated areas to non-irrigated native turf by June 2019.
DIDN'T MEET GOAL	0%	<b>Engagement:</b> Create sustainability report cards on a school-by-school basis to include electricity use, natural gas use, water use, waste diversion and green team metrics. Report cards will be released early each school year, covering data for the previous school year, beginning with the 2017-2018 school year through the 2019-2020 school year.
	0%	<b>Renewable Energy:</b> Create solar build-out program associated with the new Career and Technical Education (CTE) center to install one row of solar panels each school year as a learning opportunity through the CTE beginning with the fall 2019 class for the new school.
	0%	<b>Renewable Energy:</b> Construct solar PV canopy over transportation services bus parking by 2019.
	0%	<b>Water:</b> Decrease per occupant indoor water use by 10 percent from July 2013-June 2016 baseline by June 2019.

## A Contract for Efficiency

Beginning this fall semester, the district has contracted with McKinstry, LLC to conduct an Investment Grade Audit of eight elementary schools. This audit will inform the contractor and the district about energy and water efficiency upgrades that could save resources and money at those schools. Based on the options available for efficiency improvements, a selection process will occur to maximize our investment while also improving our buildings' operation. One unique aspect of this program is the contractor will guarantee the energy savings for a given building improvement, and we will be able to fund the cost of that improvement through that guaranteed energy or water savings. Essentially, we will shift the money we are paying to our utilities providers to paying for more efficient and up to date facilities. This program is call [Energy Performance Contracting](#) and the [Colorado Energy Office](#) provides oversight of the program to ensure guarantees are met and only upstanding companies are eligible to participate in the program. The EPC program may be a new model that can be used to fund efficiency improvements instead of paying for those with other sources of money such as bonds or COPs. This will allow those monies to be spent on other uses, which may not pay for themselves over time.



**COLORADO**  
Energy Office

### THE SUSTAINABILITY TEAM

#### Chris Wilderman

*Director of Safe and Sustainable Environments*

Chris worked previously for Adams 12 Five Star Schools as the Security Manager before moving to Boulder Valley School District for five years as the Director of Operations, Security and Environmental Services. Eager to return to Five Star Schools, Chris took on the role of Director of Safe and Sustainable Environments in July 2017. He leads the sustainability team, facilities, operations, community use, environmental and security.

#### Shannon Oliver

*Manager of Energy and Sustainability*

Shannon began with Five Star Schools in February 2016, with a passion for minimizing the impact we all have on our surrounding environment and protecting our health from the potential negative impacts of a contaminated environment. He has a Bachelor of Science in Environmental Health from Colorado State University and a Master in Public Health—Global Environmental Health from Emory University. Shannon is excited to work with district students and personnel to achieve meaningful reductions in energy and water use, and help improve waste reduction efforts.

#### Ed Jolly

*Energy Engineer*

Ed began with Five Star Schools in July 2018 and brings over 17 years of experience in energy management and building operation. He has a Bachelor of Science in Mathematics from Metropolitan State University in Denver. Ed is excited to apply his knowledge and expertise to district operations for energy and cost savings.

#### Justin Price

*Water Resource Specialist*

Justin came to the district with prior grounds experience, military service and landscape design experience. He will focus on managing one of Colorado's most precious resources by ensuring our irrigation systems are watering adequately without over watering, as well as by moving toward more sustainable and low-water use landscapes.