



SANTA MONICA-MALIBU UNIFIED SCHOOL DISTRICT

2023-24 Sustainability Update

December 19th, 2024



Austin Toyama, SMMUSD Sustainability Manager

Districtwide Plan for Sustainability

Adopted March 21, 2019

- Reduce the District's environmental footprint
- Generate Cost savings
- Support student achievement
- Develop the next generation of environmental stewards



Sustainability Focus Areas



Climate



Education + Engagement



**Energy Efficiency
+ Renewables**



Water



Solid Waste



Transportation



**Food, Nutrition
+ Wellness**



**Green Building
+ Operations**

Education + Engagement

WILL ROGERS REGENERATIVE FARM



- Garden education
- Generating compost from school food waste
 - Farm Fall Festival & Earth Day Festival

Education + Engagement



MALIBU ELEMENTARY



- Students introduced to hydroponics growing method
- Produce incorporated into cafeteria menu

Education + Engagement

JOHN ADAMS MIDDLE SCHOOL



- Upgraded garden beds
- Compost education & recycling of cafeteria food waste



Education + Engagement Green Bldg. + Operations



SAMOHI DISCOVERY BUILDING

ROOFTOP HYDROPONICS & AQUAPONICS GARDEN

- 3 Innovative systems
 - Hanging wall garden, standing tower garden & rows of trays
- Weather station
- Unique STEM-related project-based learning opportunities
- Industry professionals consulting and teaching students

Education + Engagement Green Bldg. + Operations



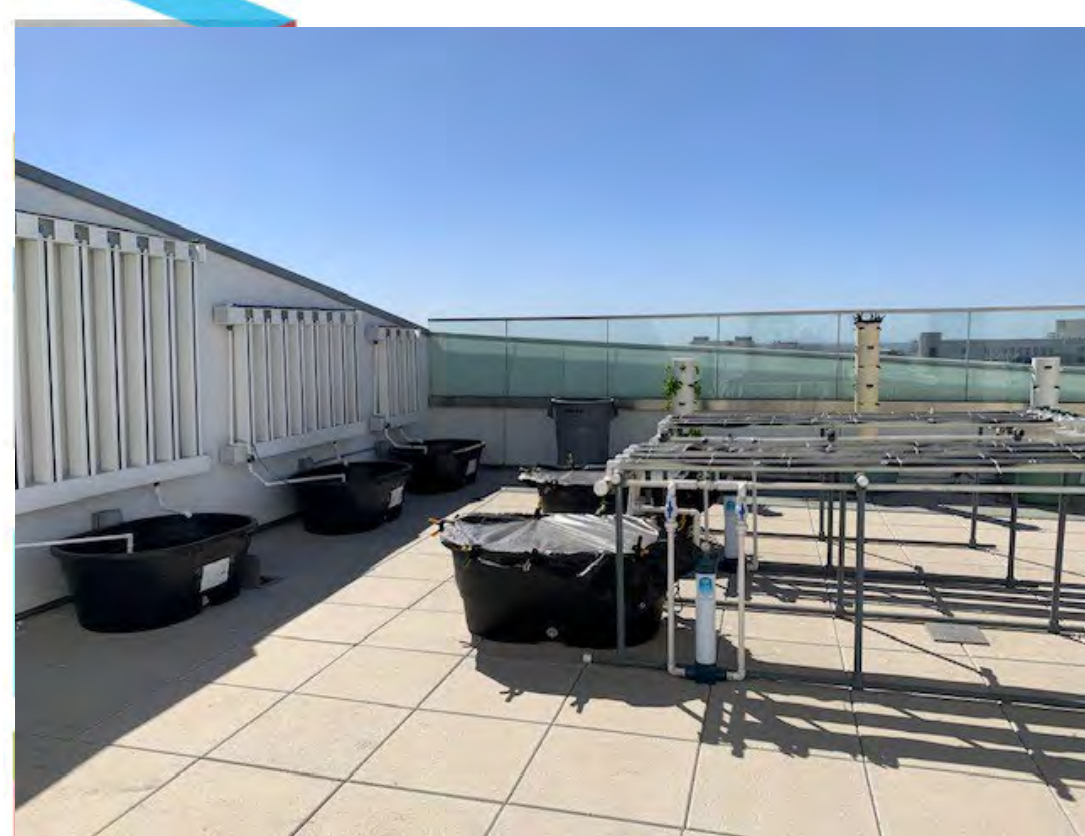
SAMOHU DISCOVERY ROOFTOP HYDROPONICS & AQUAPONICS SYSTEMS



Education + Engagement Green Bldg. + Operations



SAMOHI DISCOVERY ROOFTOP HYDROPONICS & AQUAPONICS SYSTEMS



Education + Engagement Green Bldg. + Operations



SAMOHI DISCOVERY BUILDING ROOFTOP HYDROPONICS & AQUAPONICS GARDEN



Education + Engagement

CLIMATE LITERACY INITIATIVE



- November 2, 2023 – Resolution adopted + Team Marine advocacy
- CSBA Policy 6142.5: Environmental Education (Sustainability Plan goal)
- Climate Literacy Resource Hub (webpage)
- Follow up teacher surveys, success metrics



Education + Engagement

Climate Literacy Resource Hub



Welcome to the SMMUSD Climate Literacy Resource Hub

A collection of climate-related and sustainability-focused teaching resources

Resources for Teaching Climate Literacy Across the Curriculum

Select your education level to view grade-specific learning experiences and resources.

Teachers are strongly encouraged to commit to at least two climate-related lesson, activity, etc. per year (per Resolution No. 23-18)



TK - K



5 - 8



9 - 12 & Transition
Program Samohi



Professional Learning Opportunities
(Teachers & Administration)

Click below to view our SMMUSD Board-approved Resolution and Policy



SMMUSD Board Policy
Climate Literacy Resolution No. 23-18





SMMUSD Board Policy
6142.5 Environmental Education

Questions? Email agoyama@smmusd.org Austin Toyama, SMMUSD Sustainability Manager
or dbartbell@smmusd.org Dana Bart-Bell, Santa Monica High School Librarian

TK-5 Resource Page



CLIMATE LITERACY LESSONS FOR TK-5

Subject	TK	K-2	3-5
ELA		(K-2) 50 mins - Take It to the Forest Game Details: Basics of carbon cycle, how it relates to climate change and human health. https://bit.ly/ClimateK-2ELA1	(3-5) 50 mins - Green Spaces: What are they? Explore local green spaces via Google. Design your own ideal green space. https://bit.ly/Climate3-5ELA1
	(TK-K) 50 mins - Be a Weather Watcher - Students observe and draw the weather https://bit.ly/ClimateTKELA2	(K-2) 200 mins - What is the sun and how can we use its energy? https://bit.ly/ClimateK-2ELA2	(3-5) 45 mins - Intro to Air quality and Air pollution https://bit.ly/Climate3-5ELA2
Math		(K-2) Learn about Biodiversity - Endangered, extinct, and vulnerable species & how to protect them (60 mins) https://bit.ly/ClimateK-2Math1	(3-5) Climate Postcards - Students learn about Earth's many climate zones by interpreting data in graphs and identifying climate zones described in postcards. Students will learn about the difference between weather and climate, the conditions of five different climate zones, and why variations in climate exist. https://bit.ly/3H4u48V
	(K-2) Earth Day activities	(K-2) Earth Day activities	(3-5) Earth Day activities



Water



2023-24 HIGHLIGHTS

- Districtwide water use 32% lower compared to 2017-18 baseline year
- Districtwide water costs 23% lower compared to baseline year
 - \$147,206 lower than baseline year
- On track to meet 2025 Sustainability Plan goal of 20% reduction in use

Water

2023-24 HIGHLIGHTS

- Decreased usage attributed to:
 - High-efficiency plumbing fixture installations
 - Smart irrigation controllers
 - Work with Bldgs./Grounds team
 - Bill & utility monitoring
 - Drought-tolerant landscape designs
 - 23-24 rainy seasons



Utilities Account Statement

ACCOUNT INFORMATION

Account Number: 00000000000000000000
 Name: SMITH, SMITH SCHOOL
 Address: 112 MICHIGAN AVE E27N
 City: ARTEZIA, CA 94501
 State: CA
 Zip: 94501

WATER USAGE INFORMATION

Month	Start Date	End Date	Usage (Gallons)	Usage (Cubic Feet)	Rate	Amount
Jan	1/1/23	1/31/23	100	1.34	\$1.34	\$1.34
Feb	2/1/23	2/28/23	100	1.34	\$1.34	\$1.34
Mar	3/1/23	3/31/23	100	1.34	\$1.34	\$1.34
TOTAL			300	3.99		\$3.99

YOUR WATER USAGE HISTORY (in HEP)

Bar chart showing water usage history over the last 12 months.

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 Zip: 94501

AMOUNT DUE

\$3.99

AMOUNT ENCLOSED

\$3.99

DATE DUE

03/31/23

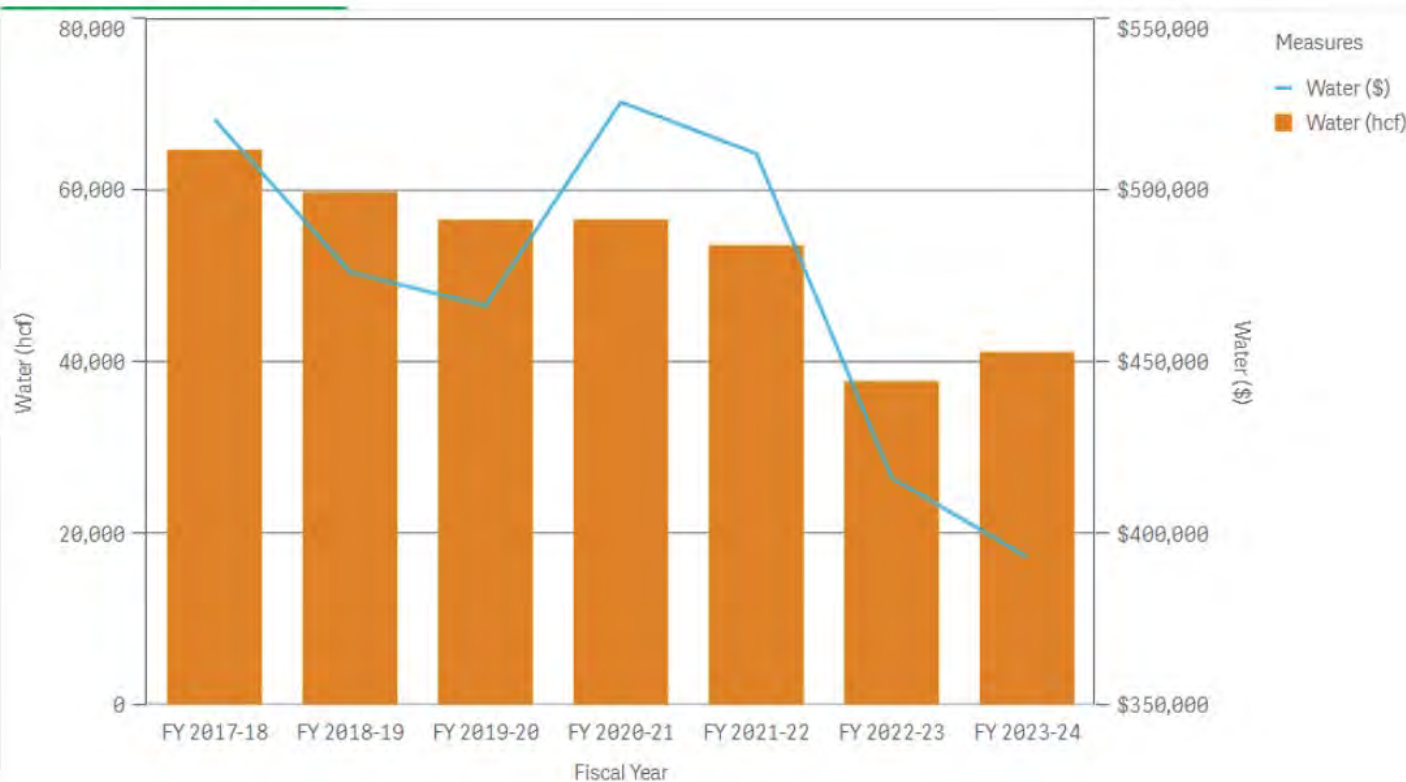


Water

USE AND COST

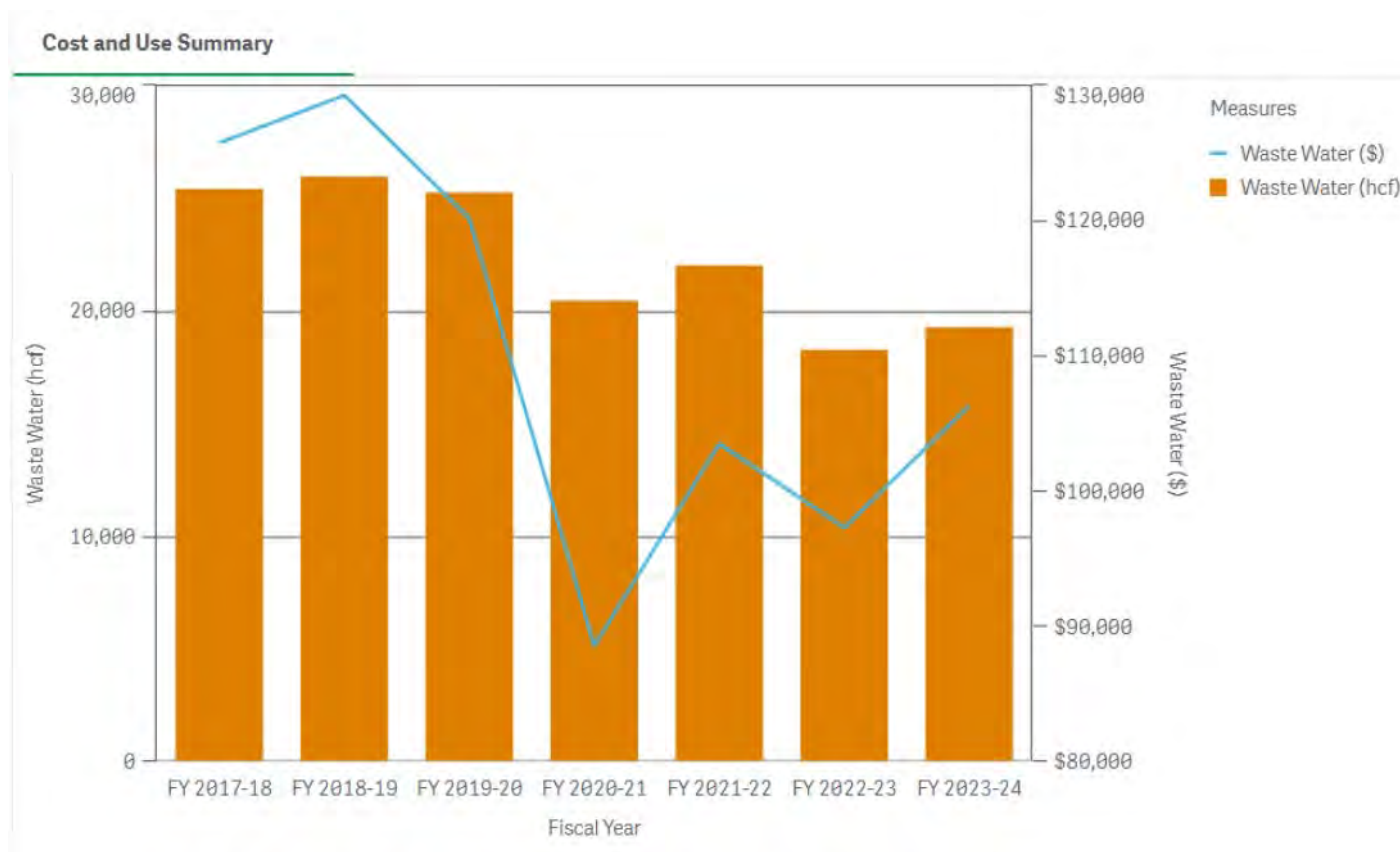


Cost and Use Summary



Waste Water

USE AND COST





Energy Efficiency + Renewables



2023-24 ENERGY HIGHLIGHTS

- Total energy use (natural gas + electricity) rose 14% compared to 2017-18 baseline year
- Since schools returned from pandemic in 2021-22 total energy use has dropped 7%
- 2023-24 was the lowest energy use year since schools returned from the pandemic in 2021

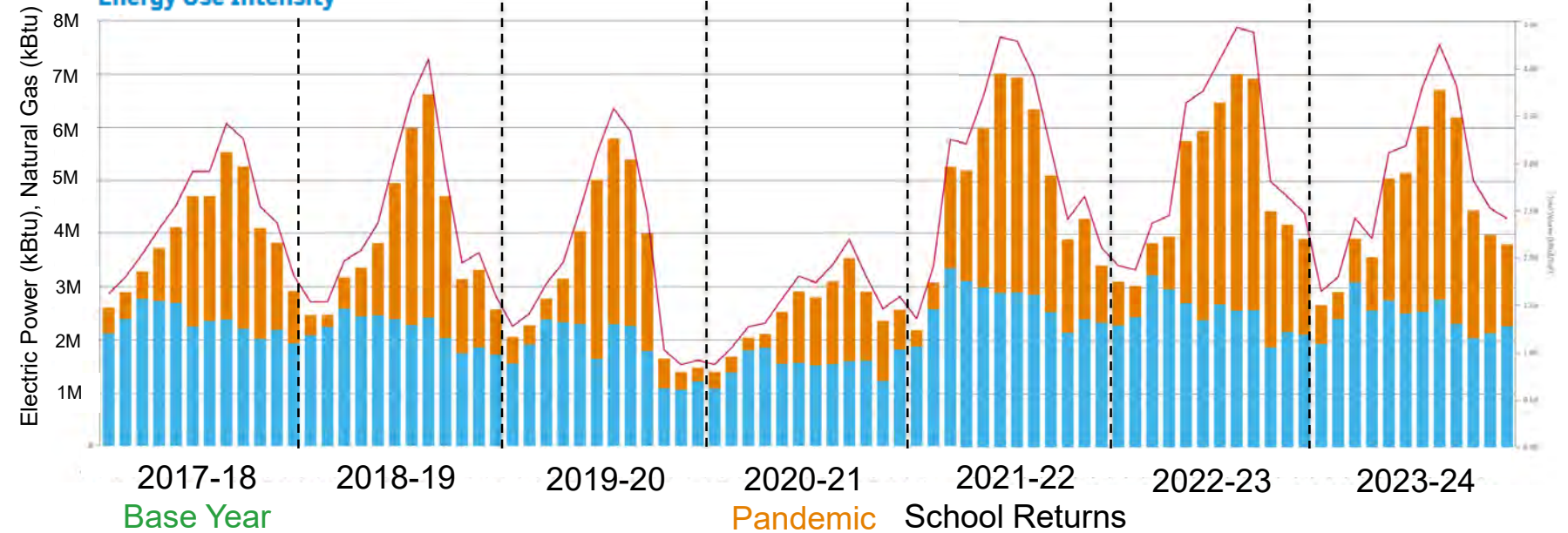
Energy Use Index Trend



Measures

- Total Volume (kBtu)/SqFt
- Electric Power (kBtu)
- Natural Gas (kBtu)

Energy Use Intensity





Energy Efficiency + Renewables



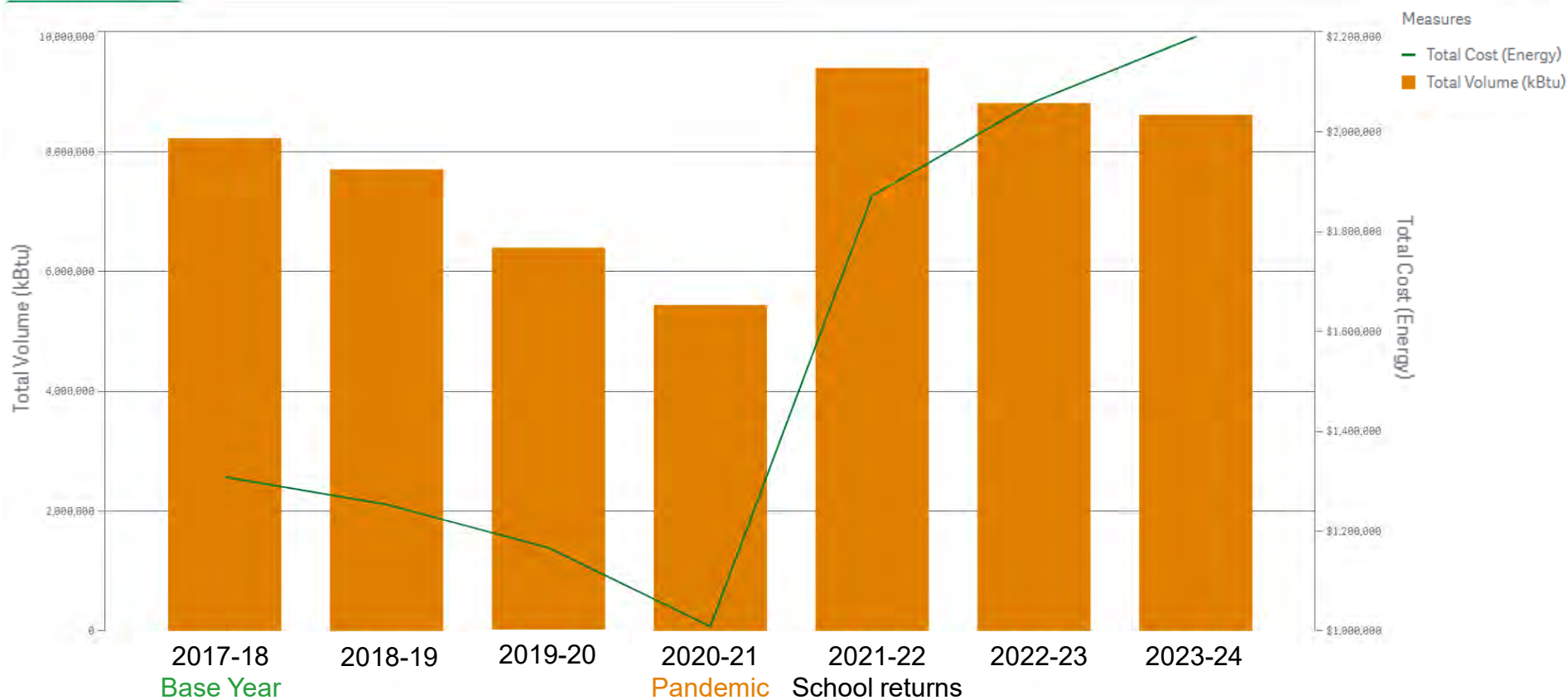
2023-24 ENERGY HIGHLIGHTS

- Electricity use increased by 5% compared to the baseline year (2017-18)
- Electricity use decreased 8% since return from pandemic but cost was 15% greater due to annual utility rate increases

Annual Electricity Use & Cost

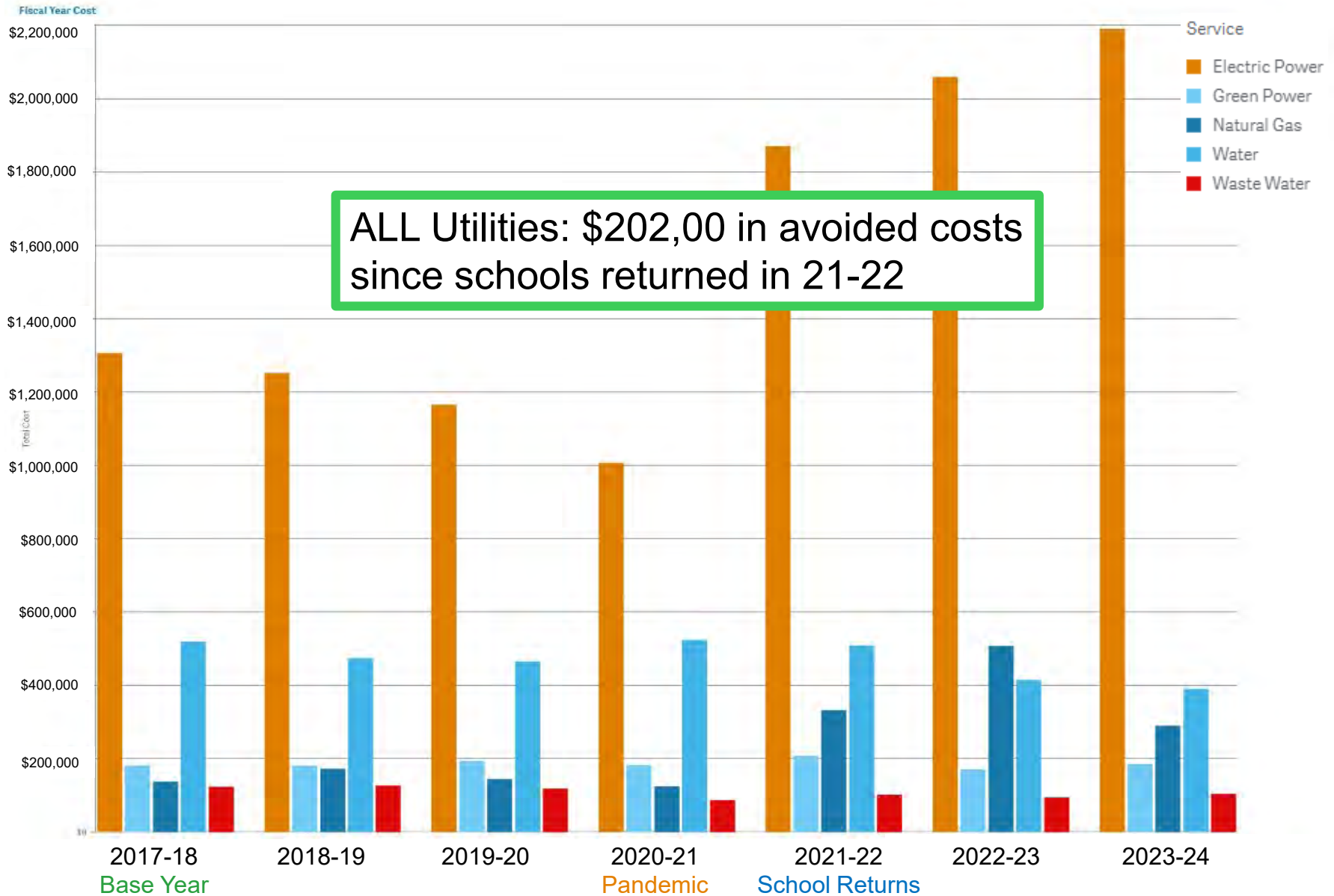


Cost and Use Summary



Utility Cost Trend

Samohi, MHS, JAMS construction impacts were biggest contributors to the increase





Energy Efficiency + Renewables



2023-24 DISTRICTWIDE SOLAR

- 18% of total District electricity is generated from our rooftop solar PV systems
- % of school electricity powered by rooftop solar:
 - Webster – 90%**
 - Roosevelt – 62%**
 - Grant – 57%**
 - Franklin – 51%**
 - Malibu Elementary – 50%**
 - Will Rogers – 46%**
 - McKinley – 13% (smaller system size)**
 - Malibu Middle/High – 12% (large campus, 1 rooftop system)**
 - Samohi – 10% (large campus, 2 rooftop systems)**



Energy Efficiency + Renewables



Green Bldg. + Operations



WHAT IS THE DISTRICT GENERATING FROM SOLAR?

- Sustainability Plan goal to reach 30% by 2025 in progress
- Upcoming new rooftop solar
 - 1) Samohi Exploration Building
 - 2) Malibu New HS Building - SMMUSD's first zero-net energy building!
- Collaborative for High Performance Schools (CHPS) designed +25%

Energy Efficiency + Renewables Green Bldg. + Operations



MALIBU

NEW HIGH SCHOOL BUILDING



SAMOH

EXPLORATION BUILDING



Renewable Energy Sourcing

CLEAN POWER ALLIANCE (CPA)



- District celebrated and recognized for being a CPA Green Leader



May 2024 celebration

Renewable Energy Sourcing



Previous Rate



Our **Lean Power** provides 40% clean power.
[Learn More](#)

Current Rate



Our **Clean Power** provides 50% clean power.
[Learn More](#)



Our **100% Green Power** provides 100% renewable energy.
[Learn More](#)

100% Green Power

The graphic features a large light blue circle with the text '100% Green Power' inside. Below the circle is an illustration of three yellow cylindrical structures, each topped with solar panels and a wind turbine.

100% Green Power

Our 100% Green Power provides 100% renewable content and gives you the opportunity to be an environmental champion.

Help lead the way to a greener future!



Energy Efficiency + Renewables



CALIFORNIA SCHOOLS HEALTHY AIR, PLUMBING, AND EFFICIENCY VENTILATION (CALSHAPE) PROGRAM

- \$1.6M grant funds awarded to District for ventilation
- Targeted classroom HVAC equipment assessments and maintenance, CO2 monitor installations, and filter replacements
- \$140,000 out of pocket for building controls upgrades after grant funds used
 - Smart Pelican thermostats



CALIFORNIA
ENERGY COMMISSION



Energy Efficiency + Renewables



CALSHAPE PROGRAM CONTINUED...

Program highlights (all schools)

- 81.8% of HVAC systems returned to using MERV 13-rated filters which provide better filtration of indoor air quality
 - Assessments found 18.2% of systems can't support MERV 13 filters and received the highest level of filtration appropriate
- Over 100 standalone CO2 monitors installed



CALIFORNIA
ENERGY COMMISSION



Energy Efficiency + Renewables



CALSHAPE PROGRAM CONTINUED...

Program highlights (all schools)

- Over 150 new smart thermostats installed, 90% of classrooms Districtwide now have smart thermostats
- Other HVAC system improvements completed
 - Coil cleaning, non-disposable filter washing and additional unit assessments initially not counted in the grant



CALIFORNIA
ENERGY COMMISSION

Transportation



Metro GoPass Program (Year 3)

- 2,607 student registrations (31% of all K-12 students)
- 178,844 boardings (14% increase from previous year 2022-23)



Transportation



Bike It! Walk It! Bus It! – October 2023

- Grant Elementary won with 87% student participation
- 8 schools and 2,530 students



Transportation



Bike It! Walk It! Bus It! – May 2023

- Franklin Elementary won with 88% student participation
- 9 schools and 2,646 students



Solid Waste



- Electronic waste collection and recycling
 - **9,136 lbs.** donated and diverted from the landfill



Solid Waste



- Samohi waste audits, presentation to staff and waste sorting initiatives
- Avg. contamination over 50% in recycling and trash dumpsters
- **Student/Staff education and custodial staff/management buy in needed**





Thank you!

Questions?