LAUSD Eco-Sustainability Annual Report

Fiscal Year 2023 – 2024

Eco-Sustainability Office

Los Angeles Unified School District

Carthay Center Elementary School Magnet native garden and bioswale

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MESSAGE FROM THE SUPERINTENDENT

Dear Los Angeles Unified Family,

As the second largest school district in the United States with over half a million students, the Los Angeles Unified School District (LAUSD) has established a singular goal of ensuring that ALL of its students graduate READY FOR THE WORLD – to thrive in college, career, and life. To create a learning environment that supports this vision, LAUSD has stepped up to be the leader in sustainability among school districts nationwide, where students and staff are engaged in building a healthier, more resilient world.

The District's focus on reducing greenhouse gas (GHG) emissions, greening school campuses, energy conservation, stormwater management, waste reduction, and other strategies integrated across its vast operations is supporting the health and wellness of our school communities. In addition to reducing our carbon footprint, we are providing our students with access to climate literacy education to empower them to become environmental stewards.

This report highlights the progress LAUSD is making in overall GHG reduction and in achieving its goals of 100% Clean Energy, Climate Literacy for All, and Green Schools for All. Also identified are areas where continued, diligent work is needed to further reduce the District's impact on our planet.

In the pages that follow, we share some of the initiatives underway and the positive impacts already achieved by the newly established Eco-Sustainability Office. This Office is tasked with leading and implementing the most rigorous sustainability practices throughout LAUSD and developing the District's comprehensive Eco-Sustainability Plan, which will serve as a roadmap for LAUSD to become the most sustainable large urban school district in the nation.

Alberto M. Carvalho
Superintendent

MESSAGE FROM THE CHIEF ECO-SUSTAINABILITY OFFICER

LAUSD has the most ambitious sustainability targets in the nation for a major urban school district. The District is focused on three overarching sustainability goals: 100% Clean Energy, Climate Literacy for All, and Green Schools for All. The mission and vision for the Eco-Sustainability Office (ESO) are guided by these ambitious goals.

I'm proud to say that LAUSD has accomplished real and measurable achievements for students and staff across the District in line with these three goals. In our first year, ESO has contributed towards District efforts to electrify LAUSD's bus fleet, heating, ventilation, and air conditioning (HVAC) and water heating systems, reduced our total water and energy consumption and expanded gardens and green space at our schools. None of this would have been possible without our partners and school communities challenging us to go further and faster while working side-by-side with us.

To build on our progress, LAUSD must accelerate efforts to align with the District's sustainability goals and address the impacts of extreme heat, wildfires, pollution, floods, and sea-level rise. We aim to decarbonize our school campuses and reduce greenhouse gas emissions while creating healthy, resilient, and welcoming environments for all LAUSD students, teachers, and staff.

Major milestones LAUSD has achieved include:

1. Secured approximately **$60 million in grant funding** within the past year to support sustainability programs and initiatives and achieved **over $15.8 million in cost avoidance and savings**
2. Produced and acquired enough renewable energy to power **55%** of the District's energy needs
3. Reduced districtwide water use by **28%**
4. Engaged **73,043 students** through climate literacy education programs
5. Completed **8 greening projects** under the Extended Learning Opportunities Program (ELOP) Green Schoolyard Improvement and **7 greening projects** under the Sustainable Environment Enhancement Developments for Schools (SEEDS) Program
6. Achieved **100% electrification** of all District garden maintenance equipment

We continue to reduce our energy and water use while pursuing emerging technology pilot projects that will advance a more resilient environment for our school communities. At the same time, we're encouraging our students to take a leading role in being the champions for a greener tomorrow and more sustainable planet.

We are committed to developing data-driven standards and implementing cost-effective programs to achieve the sustainability goals outlined above. We look forward to continuing our work with our LAUSD community to make a positive impact on the world around us for generations to come.

Christos Chrysiliou
Chief Eco-Sustainability Officer

Canterbury Avenue Elementary native garden school greening project

EXECUTIVE SUMMARY

The LAUSD Eco-Sustainability Annual Report for Fiscal Year 2023 – 2024 highlights the District's progress towards achieving the Board's sustainability goals and commitments to the environment and all LAUSD students, staff, and the greater school community.

In October 2023, ESO was created to accelerate progress towards the District's goals across all sectors, expanding the efforts of the previous Sustainability Initiatives Unit (SIU) through collaboration with all LAUSD divisions. Focus areas include climate literacy, decarbonization, campus greening, water stewardship, emerging technologies, high performance schools, non-toxic materials, waste reduction, and climate resilience amongst others. Most notably, ESO began the procurement process for the first districtwide Eco-Sustainability Plan to align all LAUSD sectors with the District's 2022 – 2026 Strategic Plan[1] and the District's sustainability goals.

We invite readers to learn about ESO's future endeavors in the coming year.

MISSION

The Los Angeles Unified School District is committed to being the most sustainable and environmentally friendly large urban school district in the country.[2]

FOCUS AREAS

VISION

The Eco-Sustainability Office is committed to supporting the LAUSD Strategic Plan by developing and implementing programs and policies that raise awareness of environmental stewardship and provide a healthy, sustainable learning environment for all LAUSD students.

TIMELINE

LAUSD's journey towards sustainable and resilient operations has evolved over the past two decades as our understanding of the scope and gravity of the challenge before the District has grown. LAUSD's climate journey will continue to progress towards ever more inclusive and rigorous standards.

2003
The Board passes the Sustainability and High Performance Schools Resolution[2]

2007
The Board passes the Green LAUSD Resolution[3]

2008
LAUSD establishes the Sustainability Initiatives Unit (SIU)

2015
SIU joins the United States Department of Energy's (DOE) Better Buildings Challenge[4]

2016
The California Legislature passes the Short-Lived Climate Pollutants Reduction Strategy, CA SB 1383[5]

2019
The Board passes the 100% Clean Energy Resolution, Res-018-19/20, V.3[6]

2020
SIU joins US DOE's Better Climate Challenge[7]

2022
The Board passes the Climate Literacy for All, Res-016-21/22, V.1[8], and Green Schools for All, Res-002-22/23, V.1[9] Resolutions

2023
Sustainability Initiatives Unit becomes the Eco-Sustainability Office

2024
20% Water & Energy Reductions Goal Target

We are here

2025
ESO publishes the LAUSD Eco-Sustainability Plan; 100% Climate Literacy & 75% Organic Waste Reduction Target

2026
Sun Valley Bus Yard Full Electrification Target

2030
100% Clean Energy & 50% Emissions Reduction Target

2035
30% Campus Greening Target

2038
San Julian Bus Yard Electrification Target

2040
100% Electrification Target

SUSTAINABILITY GOALS

I.	100% Clean Electricity by 2030 & 100% Electrification of All Sectors by 2040	100% Clean Energy Resolution
II.	100% Climate Literacy Education by 2025	Climate Literacy for All Resolution
III.	30% Campus Greening by 2035	Green Schools for All Resolution
IV.	50% GHG Emissions Reduction by 2030	Better Climate Challenge
V.	20% Energy and Water Use Reduction by 2024	Better Buildings Challenge
VI.	75% Organic Waste Reduction by 2025	Climate Pollutants Reduction Strategy

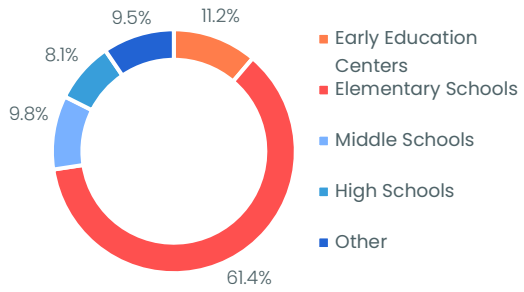
DISTRICT OVERVIEW

District Data

92,983,439 building square footage
25,392 structures
31,700 classrooms
6,676 acres of land
1,438 schools and centers, all types
710 square miles of site boundaries
563,083 students, all sites, all types[6]
74,741 employees

Source: LAUSD '23 – '24 FingerTip Facts statistics[10]

School Types



Source: LAUSD '23 – '24 FingerTip Facts statistics[10]

LAUSD Divisions & Offices

Adult & Career Education
Contracts & Procurement
Eco-Sustainability
Environmental Health & Safety
Facilities
Food Services
Information Technology
Instruction
Student Health Services
Transportation Services

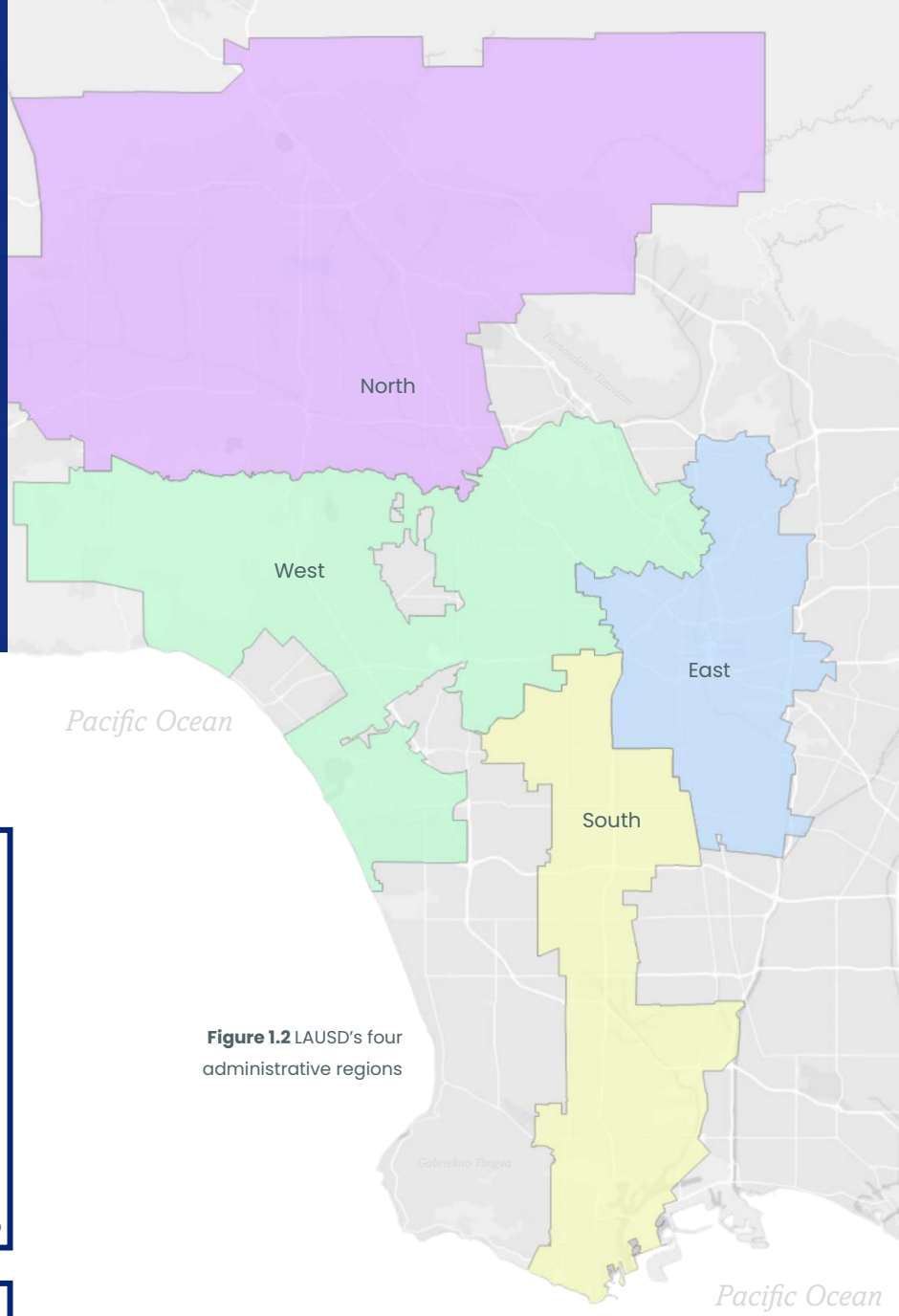


Figure 1.2 LAUSD's four administrative regions

LAUSD is the nation's second-largest school district by students served with more than half a million students. The District is divided into four operational regions: north, south, east, and west. (Figure 1.2)

ESO ACHIEVEMENT DASHBOARD

GHG Emissions

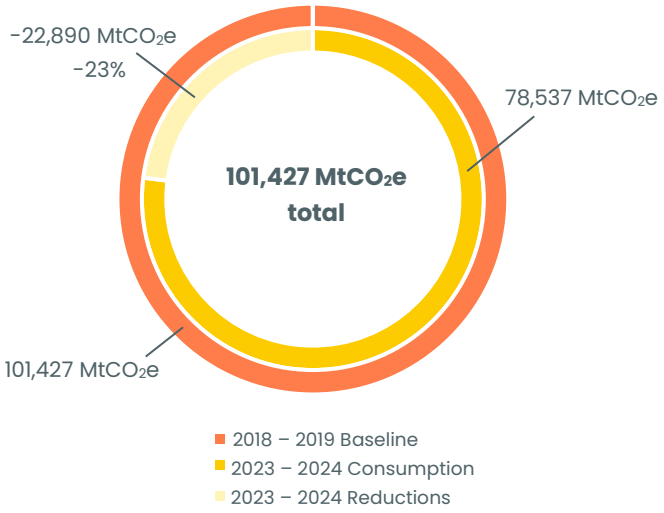


Figure 2.1 GHG goal progress, FY 2023 – 2024

See additional details on pg. 11

Clean Electricity

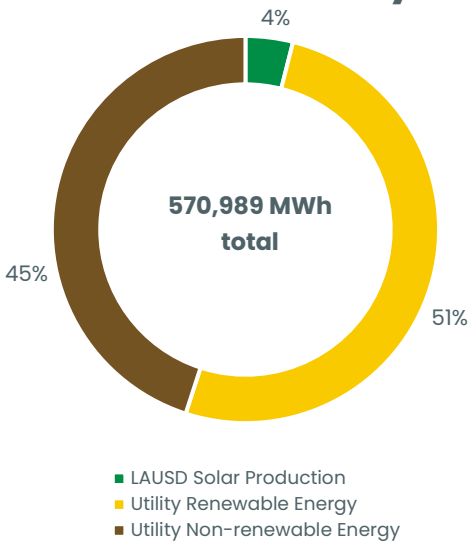


Figure 2.4 LAUSD energy production & consumption progress, renewable & non-renewable, FY 2023 – 2024

See additional details on pg. 12

Electrification

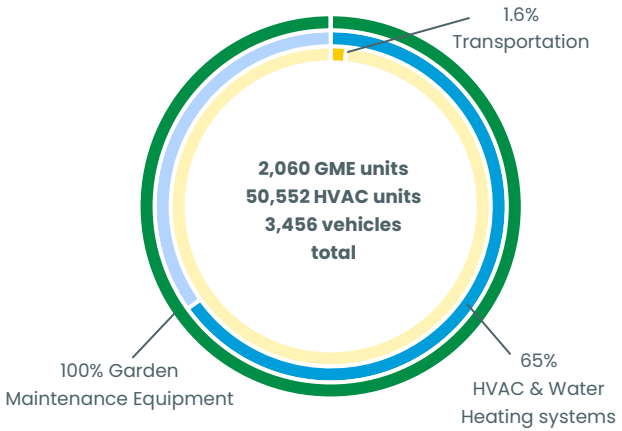


Figure 2.8 LAUSD electrification progress by sector FY 2023 – 2024

See additional details on pg. 13

Climate Literacy

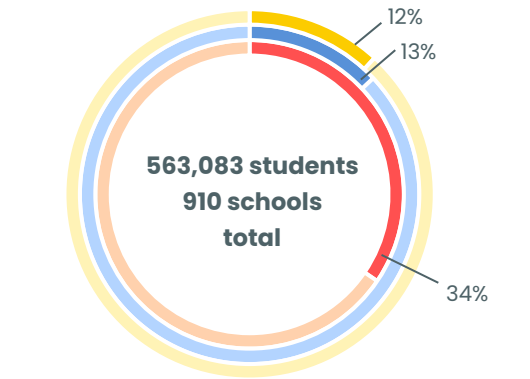


Figure 3.1 Climate Literacy goal progress, FY 2023 – 2024

See additional details on pg. 16

Campus Greening

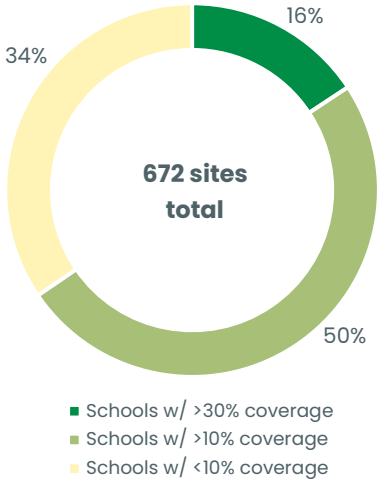


Figure 4.1 LAUSD campus greening coverage percentages FY 2023 – 2024

See additional details on pg. 20

Water Stewardship

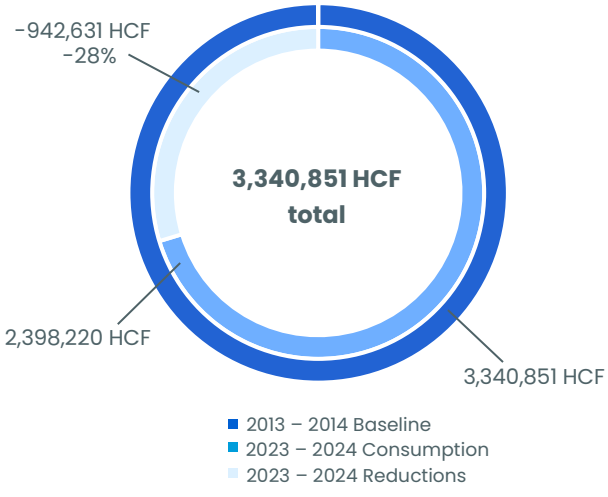


Figure 5.1 LAUSD water consumption reduction progress FY 2023 – 2024

See additional details on pg. 24

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PART I
ACHIEVEMENTS

DECARBONIZATION

LAUSD is committed to transitioning to 100% clean renewable energy by 2030 as well as 100% electrification across all sectors within the District's operations by 2040. Additionally, ESO has joined the United States Department of Energy (US DOE) Better Buildings Solution Center's Better Climate and Better Buildings Challenges, targeting 50% GHG reductions from LAUSD's 2019 Baseline (BL) by 2030, as well as 20% energy use reductions from LAUSD's 2013 – 2014 Baseline.

This year, LAUSD and its partners achieved a 23% reduction in GHG emissions from its normalized energy usage, achieved 100% electrification of the District's garden maintenance equipment, and sourced 55% of its power needs through renewable energy.

This work directly supports the Board's 2019 100% Clean Energy Resolution and 2022 – 2026 Strategic Plan. LAUSD continues to promote renewable energy production, electrification, and energy conservation across all District campuses and facilities through innovative technologies, pilot programs, and proven practices to lower utility costs, reduce energy use, and achieve the District's decarbonization goals.

GHG Emissions

Figure 2.1 LAUSD GHG Emissions FY 2023 - 2024

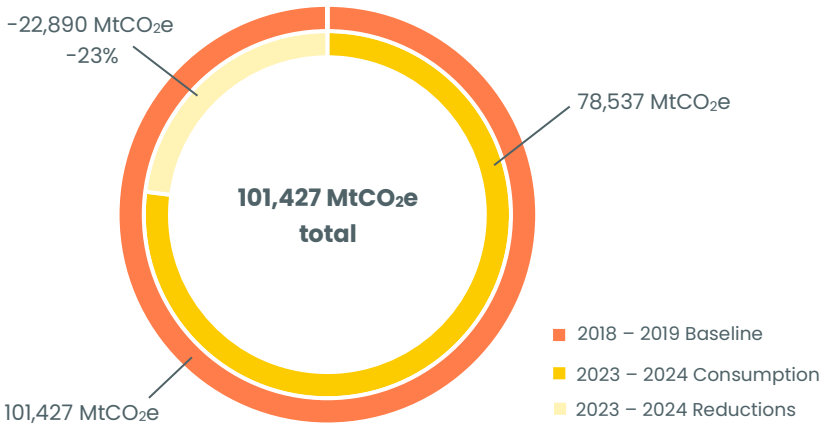


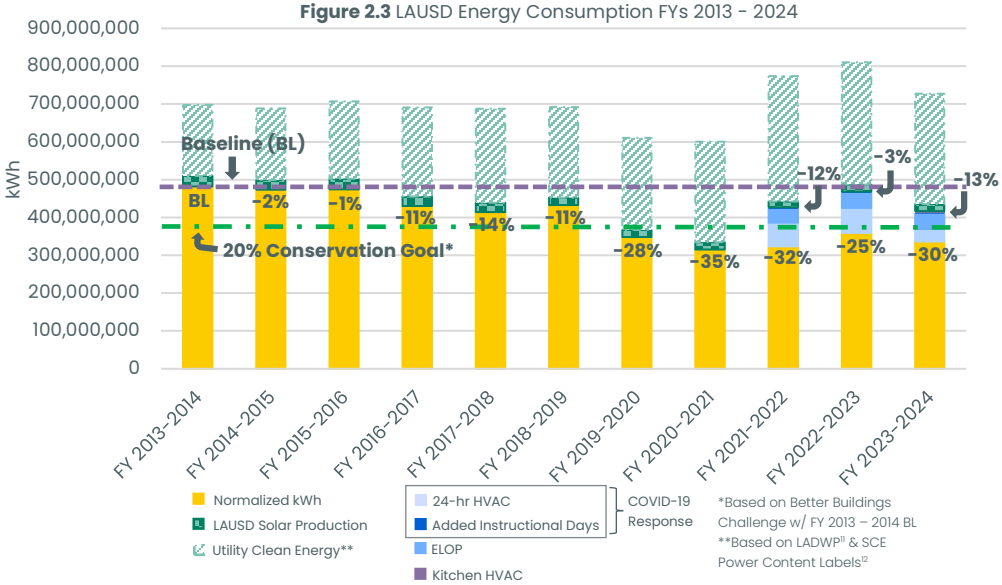
Figure 2.2 LAUSD GHG Emissions ($MtCO_2e$), Natural Gas & Electricity, FYs 2018 - 2024

GOALS

- Reduce districtwide energy consumption by 20% from the FY 2013 – 2014 Baseline by 2024
- Reduce districtwide GHG emissions 50% from the FY 2018 – 2019 Baseline by 2030

This year, LAUSD produced 78,537 metric tons of carbon dioxide equivalent ($MtCO_2e$), which represents a **23% reduction in GHG emissions** from the FY 2018 – 2019 Baseline. (Figures 2.1 & 2.2) This reduction in GHG emissions is a result of the District lowering its "normalized kWh" demand.

Figure 2.3 LAUSD Energy Consumption FYs 2013 - 2024



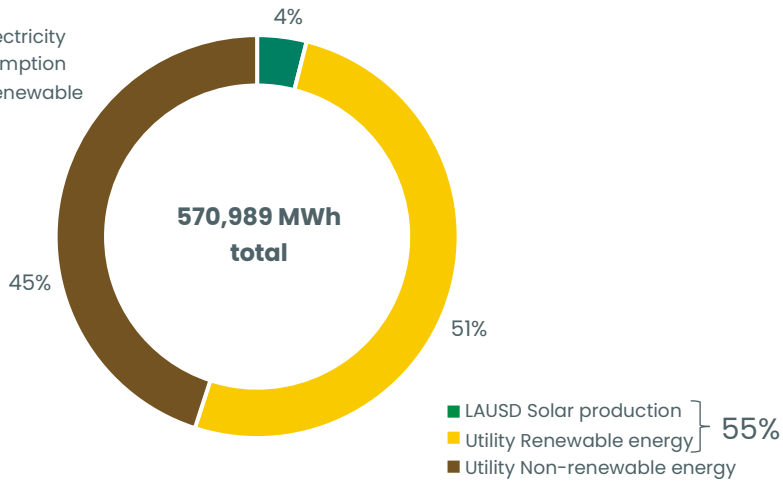
Normalized kWh reflects LAUSD's natural gas and electricity energy use based on pre-COVID-19 metrics. (Figure 2.3) To limit viral transmission, the District ran HVAC systems continuously to increase air circulation, significantly raising energy consumption from 2021-2024. Additional increased energy use included expanded ELOP-funded afterschool and summer programs for TK-6th grade, as well as added instructional days (Summer Bridge, Winter Academy, Spring Academy) to address pandemic learning loss. Additionally, in FY 2023-2024, portable HVAC units were added to kitchens at 416 sites, further increasing electricity use.

Despite an increase in overall electricity usage, LAUSD achieved a **30% decrease in its normalized kWh** this year compared to the FY 2013 - 2014 Baseline. As LAUSD continues to electrify all sectors, and in turn, increase its electricity demand, the District's utility partners are also adding clean sources of electricity to the region's grid. In the last ten years, the proportion of renewable and clean^ energy making up our utilities' energy mix has continued to grow. As a result, we continue to see the District's GHG emissions decline despite rising electricity demands.

^ *"clean" refers to non-emitting nuclear power and hydropower generation*

Clean Electricity

Figure 2.4 LAUSD electricity production & consumption renewable & non-renewable FY 2023 - 2024



*Solar production data for FY 2023 - 2024 is preliminary and subject to change, and is also calculated in MWh

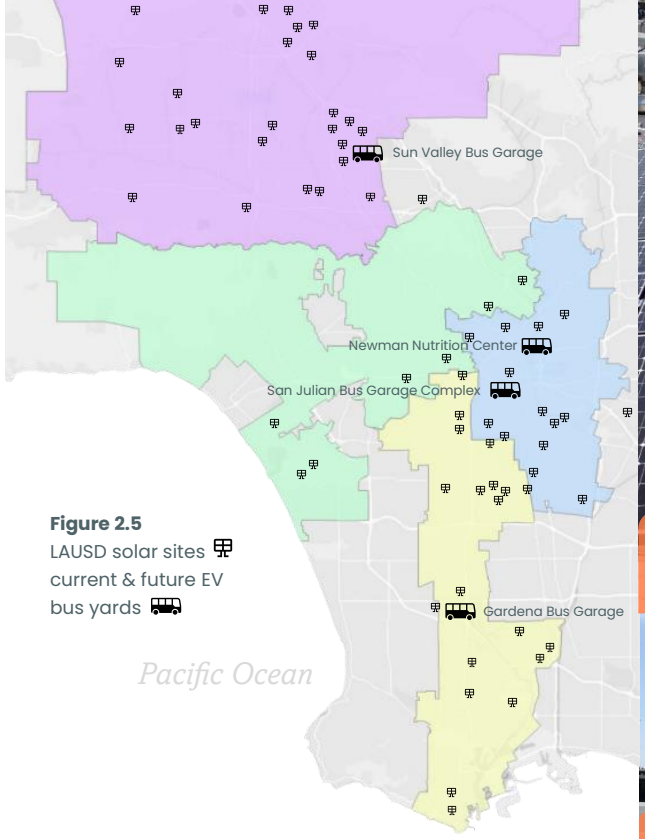


Figure 2.5 LAUSD solar sites current & future EV bus yards

Figure 2.7 LADWP & LAUSD clean energy collaboration

Solar Program

Solar power will play a key role in the District's goal to transition to 100% clean energy by 2030. Including energy provided by Los Angeles Department of Water and Power (LADWP) and Southern California Edison (SCE), in addition to LAUSD's solar production, the District was able to source **55% of power needs for the District through renewable and clean energy**. (Figure 2.4) LAUSD has installed photovoltaic solar panels projects at **63 sites** across the District (Figure 2.5) and is executing a solar pilot program as well as three phases of additional solar photovoltaic projects in the coming years. (Figures 2.6 & 2.7)

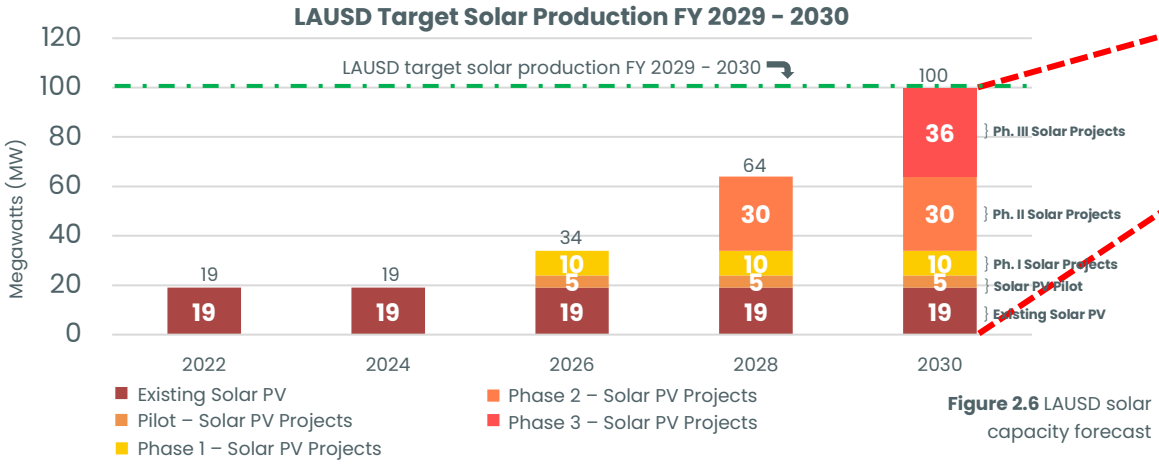
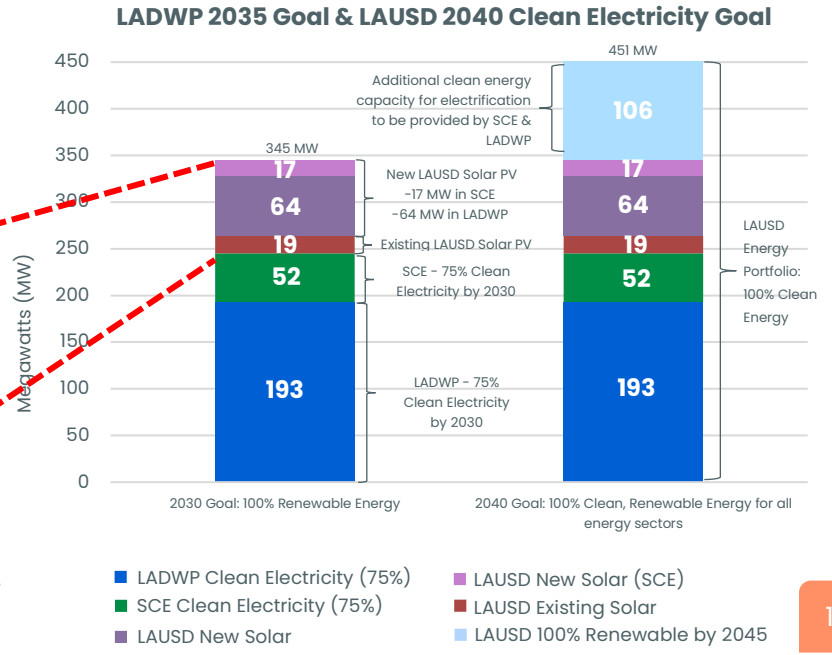


Figure 2.6 LAUSD solar capacity forecast



GOALS

- Transition LAUSD's electricity sector to 100% clean energy sources by 2030
- Transition all LAUSD sectors to 100% clean energy by 2040

Electrification

Figure 2.8 LAUSD electrification progress per sector, FY 2023 - 2024

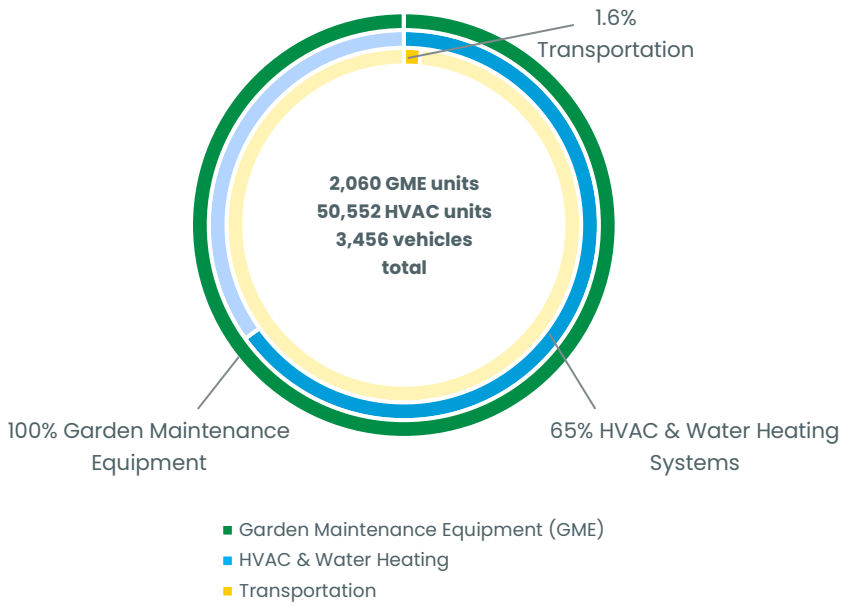
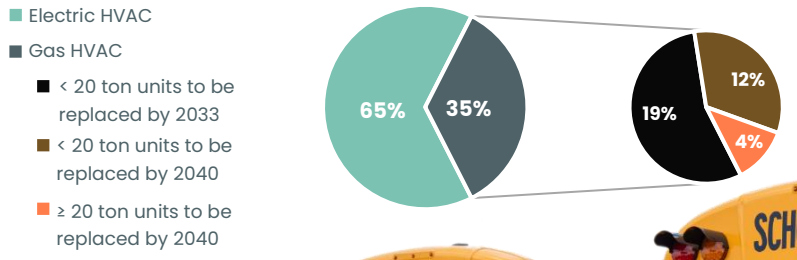


Figure 2.9 LAUSD HVAC electrification, FY 2023 – 2024



Transportation

LAUSD operates two fleets: a Yellow Fleet, consisting of 1,300 school buses for student transportation, and a White Fleet, comprised of 2,156 administrative and utility vehicles employed by LAUSD staff. In FY 2023 - 2024, **31 buses were electrified**, just over 2% of the District's Yellow Fleet, adding to the District's existing 23 EV buses for just over **4% of District buses electrified**. ESO and the Transportation Services Division (TSD) additionally sought grants for electric bus chargers at Sun Valley and Gardena bus yards, two of four bus yards LAUSD is working to electrify. (Figure 2.5)

This year, LAUSD installed 24 direct current fast chargers (DCFCs) and 4 Level 2 chargers across District bus yards and garages. Additionally, TSD released its White Fleet Electrification Plan to outline the District's path to achieve 100% electrification of the White Fleet. Currently, a little more than **1.6% of the District's combined White and Yellow fleets are made up of EVs**. The electrification of LAUSD's Yellow and White Fleets will support the District's 100% clean energy goals in addition to eliminating the District's emissions in the communities we serve everyday transporting students to and from school, to field trips, and athletic events.

Heating, Ventilation, & Air Conditioning & Water Heating Systems

Over two-thirds of heating, ventilation, and air-conditioning (HVAC) systems across the District are already electrified in the form of electric heat-pumps. (Figure 2.9)

This year, with funding from the California Schools Healthy Air, Plumbing, and Efficiency (CALShape) Ventilation Program Grant, ESO began HVAC assessments and CO_2 monitor installations at **20 schools** with plans to commence assessments at another **100+ sites**. This work will provide guidance on how to improve classroom indoor air quality at school sites, improve HVAC efficiency, and will identify HVAC systems that need further upgrades.

LAUSD's electric yellow fleet at the Sun Valley Bus Yard

AGZA training day with LAUSD garden maintenance staff

Garden Maintenance Equipment

This year, ESO and the Facilities Services Division (FSD) in partnership with American Green Zone Alliance (AGZA) **electrified 100% of all gas-powered ground service equipment** (GSE), including leaf blowers and mowers. This is a significant step as gas-powered GSE is far more polluting than other internal combustion engines. Students and teachers also will appreciate the new quieter equipment during school time.

Food Service Kitchens

This year, ESO partnered with Henderson Engineers and Frontier Energy to complete site assessment, scoping documentation, and cost estimates for the electrification of three school kitchens as part of a **pilot program** to install fully electrified kitchen equipment that, once complete, will serve as models for the entire District.

A fully electrified kitchen with no gas-powered appliances

Energy Efficiency

Collaborative for High Performance Schools (CHPS)

This year, LAUSD worked to install new electric systems and high-efficiency features, including lighting upgrades, meeting CHPS criteria, at **50 project sites**. By retrofitting existing schools and designing new schools with these technologies, applying CHPS guidelines greatly reduces the District's annual energy use.

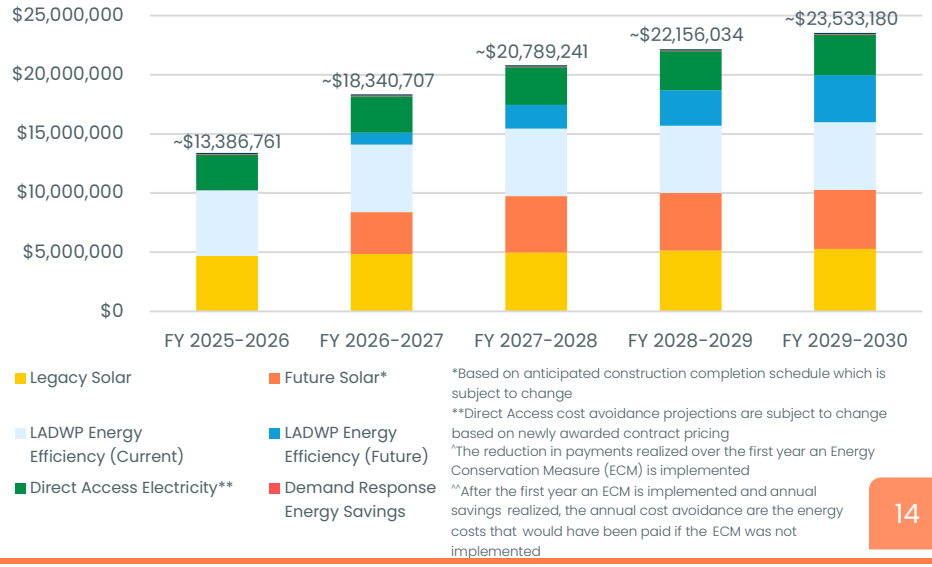
Savings By Design (SBD) & Zero By Design (ZBD)

SBD and ZBD are statewide and LADWP programs that encourage sustainable construction by providing financial incentives for new construction projects which exceed Title 24 or industry standards. This year, LAUSD received over **$200,000 in incentives** from combined SBD and ZBD participation with our partners at LADWP.

Direct Install Lighting Retrofit Program

In 2020, the District continued its partnership with LADWP of up to $87.5 million to improve energy efficiency, including a direct install lighting program for upgrades and controls. This year, **32 projects** were completed, estimated to save over **$1 million** and avoiding an estimated **$2 million** in future costs.

Figure 2.10 Projected annual savings^ and cost avoidance^^ of LAUSD decarbonization programs



*Based on anticipated construction completion schedule which is subject to change

**Direct Access cost avoidance projections are subject to change based on newly awarded contract pricing

^The reduction in payments realized over the first year an Energy Conservation Measure (ECM) is implemented

^^After the first year an ECM is implemented and annual savings realized, the annual cost avoidance are the energy costs that would have been paid if the ECM was not implemented

CLIMATE LITERACY

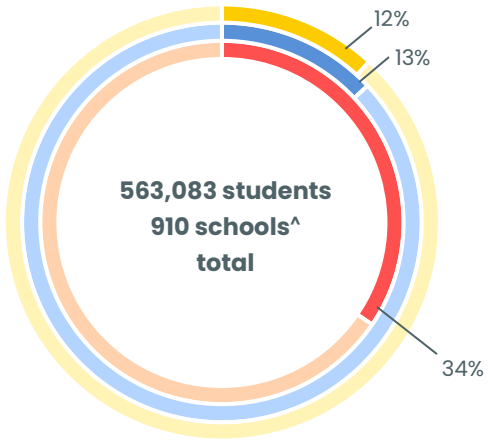
LAUSD is committed to implementing climate change curricula across all grades for every student through education initiatives to expand each student's understanding, resiliency, and agency to address challenges presented by anthropogenic climate change.

This year, LAUSD facilitated outdoor educational opportunities for 66,471 students. This work directly supports the Board's 2022 Climate Literacy Resolution and 2022 – 2026 Strategic Plan. LAUSD continues to engage students, staff, stakeholders, and the public through multiple efforts including education and awareness programs and the Climate Literacy Task Force to support climate literacy for all District schools.

Sunland Elementary School 2023 – 2024 H4Z winners, the Planet Protectors, sharing their project with peers

Climate Literacy

Figure 3.1 Climate Literacy goal progress, FY 2023 - 2024



*Climate Literacy Programs include Climate Literacy Champions, Heroes for Zero, EmPowered Schools, and Magenta House
**Outdoor Education Programs include Clear Creek OEC, Canyon Creek OEC, Point Fermin OEC, and Day of Discovery
^Does not include home, hospital, and independent charter schools or educational centers

GOALS

- Establish a Climate Literacy Task Force & have a Climate Literacy Champion at every school
- Develop sustainability educational partnerships & expand outdoor, climate literacy education for every student, every year
- Increase climate literacy across all curricula in every grade, PK-12 & adult education
- Develop workforce development opportunities for students to obtain green jobs

This year, LAUSD made foundational progress towards developing climate literacy programming across the District. (Figure 3.1) The District's climate literacy goals are supported primarily by the Division of Instruction (DOI) and ESO in partnership with public agencies and community-based organizations (CBOs).

Climate Literacy

DOI has integrated climate literacy into all subjects and grade levels using a transdisciplinary, problem-based learning model focused on real-world challenges. This approach cultivates critical thinking and problem-solving skills, empowering students to tackle real-world climate challenges and actively contribute to sustainable solutions.

DOI dedicates a Science, Technology, Engineering, and Mathematics (STEAM) Coordinator to support these efforts and provides the funding to compensate teachers selected districtwide to lead climate literacy initiatives at their schools.

Climate Literacy Task Force

The Climate Literacy Task Force (CLTF) supports to the Board's Climate Literacy Resolution to integrate climate literacy and climate justice into all subject matters at District schools to prepare students to be ready for the world and its climate challenges. The committee includes educators, union representatives, and District members to align initiatives in education, facilities, and transportation with climate literacy goals across all curricula in every grade. In 2025, CLTF is publishing a **Recommendations Report** with action items and resources for LAUSD staff and educators.

Climate Literacy Champions

Climate Literacy Champions are teacher volunteers that serve as a liaison between their school and CLTF in addition to engaging educators, climate specialists, and District community members.

In the past year, **314 Climate Literacy Champions** taught climate literacy and climate justice curricula across multiple subject matters. In the 2023-2024 academic year, LAUSD focused on the foundational work necessary to establish and support the District's Climate Literacy Champions.

Over 40 professional development and support meetings were available to Champions designed to equip educators with the knowledge and skills required to lead the work of climate literacy at their schools. The District also prioritized the development of resource repositories and collaborative networks using the District's learning management system, **Schoology**, that Champions would later utilize to disseminate best practices and support their colleagues.

DOI expanded the schools eligible to select a Climate Literacy Champion to the District's Early Education Centers (EEC) and schools under the Division of Adult and Career Education (DACE). Moreover, efforts were made to further define the role of Champions and establish the necessary infrastructure for their success, laying the groundwork for their critical work in subsequent school years.

DOI purchased nearly **$900k** of **Forward Education Climate Action Kits** to support afterschool Climate Action Clubs. **128 schools** with Climate Literacy Champions applied for and received Forward Education Climate Action Kits, integrating coding and robotics into lessons on sustainability and climate science, such as mobile precision Irrigation vehicles, glacial monitoring models, and more. These kits are not one-time use instructional materials but can be used to support afterschool Climate Actions Clubs for years to come.

Outdoor and Environmental Education

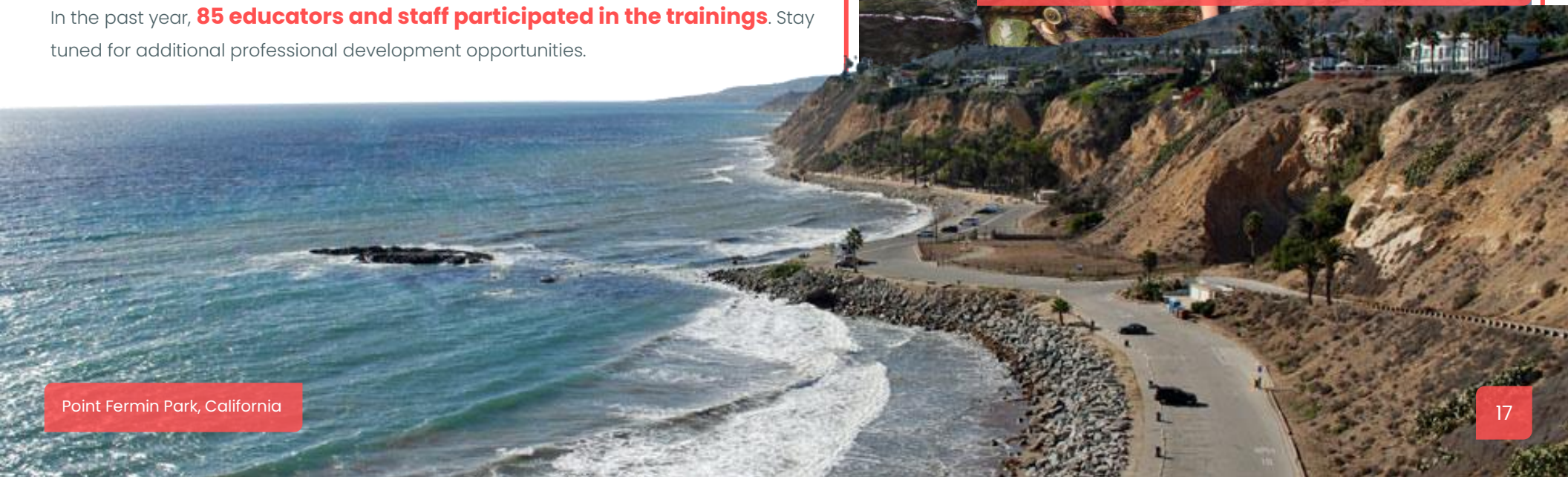
The Outdoor and Environmental Education (OEE) Department, a division of DOI, provides an immersive science experience for LAUSD students by providing hands-on, outdoor learning that supports classroom instruction. Students from 4th to 12th grade have opportunities to engage in overnight outdoor learning at Clear Creek, Canyon Creek, and Point Fermin Outdoor Education Centers (OEC). Single-day field study programs are offered through the Day of Discovery (DOD) program for K-12 students. In the past year, DOI, OEE, and ESO facilitated outdoor climate literacy education programs engaging over **66,000 K-12 students**.

Green Professional Trainings

The Green Professionals Program provides training on sustainability fundamentals and workplace strategies to align standard trade skills with energy-efficient building practices.

In the past year, **85 educators and staff participated in the trainings**. Stay tuned for additional professional development opportunities.

LAUSD students at Cabrillo Marine Aquarium, Point Fermin OEC



Point Fermin Park, California

EmPowered Schools

The EmPowered Schools Program educates PK-12 students on energy efficiency and its role in protecting the environment through STEAM-based activities that empower student ambassadors to apply energy conservation practices at school and home. The program offers lesson plans, activities, workshops, and energy auditing toolkits and LAUSD-branded T-shirts to enhance hands-on learning opportunities. In the past year, EmPowered programming reached **1,300 students** across **64 classrooms** in **45 schools**, an increase in seven schools from last year. The EmPowered Program additionally provides **$200 stipends** to teachers serving as Team Leads to facilitate the program's implementation.

HEROES for Zero Contest

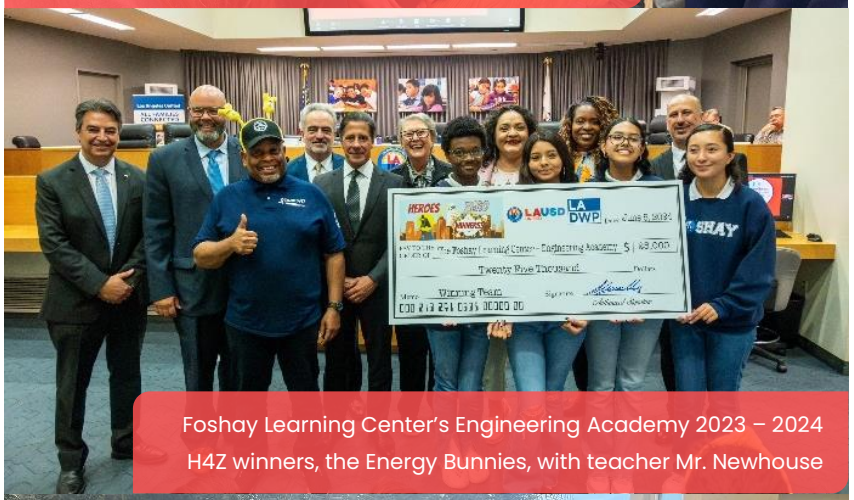
The HEROES for Zero (H4Z) Contest encourages schools to learn about Zero Net Energy concepts and apply energy efficiency strategies through a contest and showcase of innovative sustainability solutions while providing funding for **student-led projects** that promote energy conservation and environmental responsibility.

In the past year, **50 schools participated** in the H4Z Contest, doubling participation from the previous year's 21 schools. Three schools won **$25,000 each** for their sustainability projects, contributing to a total of over **$370,000 awarded** since the program's inception in 2017. These top honored schools include Sunland Gifted Magnet Elementary, Foshay Learning Center's Engineering Academy, and Cesar E. Chavez Learning Academies Technology Prep Academy (CCLA TPA). The annual program accepts registration in the summer and winners are announced in the spring.

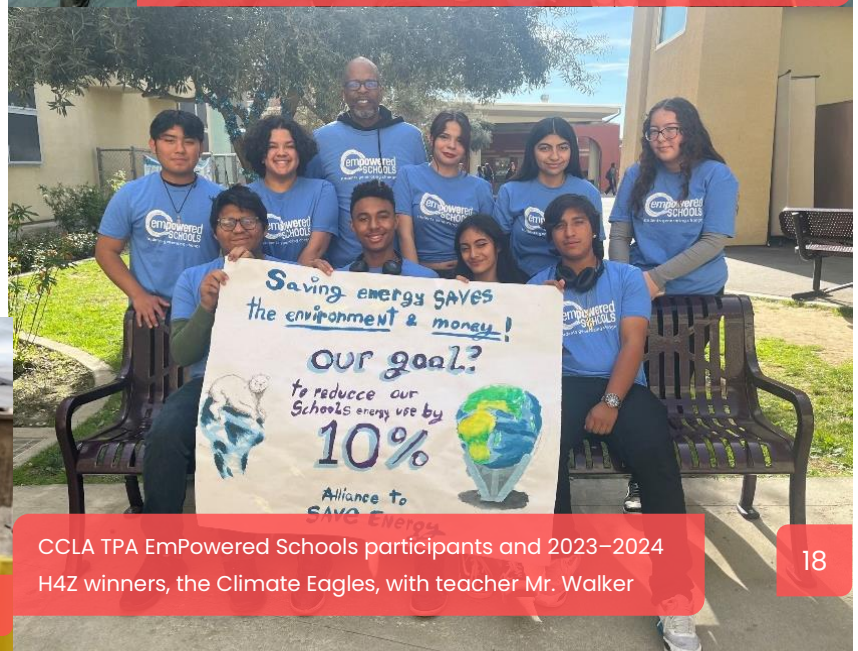
Magenta House

The Magenta House program wrapped up this year after encouraging middle school students to engage in project-based learning with a focus on water conservation and energy efficiency. In the past year, Magenta House facilitated **25 student-led projects**, including initiatives like water-soluble bioplastics and upcycling lightly used clothing.

Woodland Hills Academy and Humanities Magnet 2023–2024 EmPowered Schools student ambassadors



Foshay Learning Center's Engineering Academy 2023 – 2024 H4Z winners, the Energy Bunnies, with teacher Mr. Newhouse



CCLA TPA EmPowered Schools participants and 2023–2024 H4Z winners, the Climate Eagles, with teacher Mr. Walker

2023 – 2024 Woodland Hills Academy & Humanities Magnet Magenta House Participants

CAMPUS GREENING

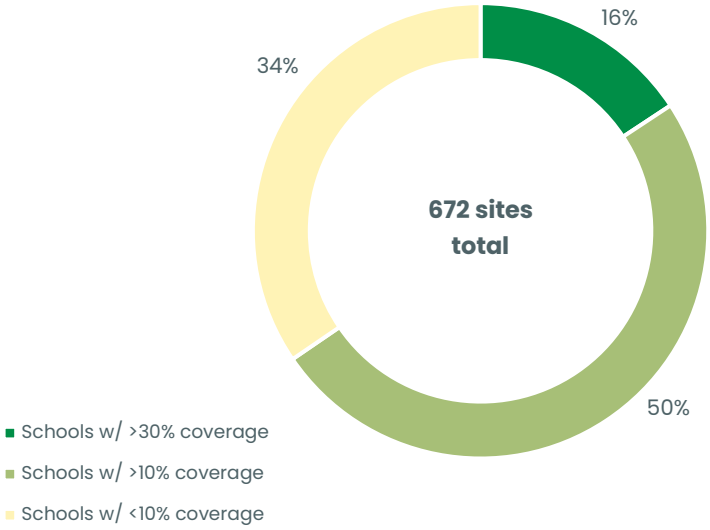
LAUSD is committed to providing campuses with natural green spaces for at least 30% of the schoolyard by 2035 at all school sites. These green spaces will create vibrant, resilient environments that promote healthy learning and play for students and staff. This year saw LAUSD reach a new milestone of 16% of campuses reaching the 30% green space goal. Greening initiatives include various programs and funding sources, such as ELOP (Expanded Learning Opportunities Program), SEEDS (Sustainable Environment Enhancement Developments for Schools), OLE (Outdoor Learning Environments), Comprehensive Modernization Projects (Comp Mods) and Third-Party Greening projects. ESO continues to transform LAUSD campuses to support the Board's Green Schools for All Resolution and 2022 – 2026 Strategic Plan.

Logan Elementary School outdoor classroom

Campus Greening

Tree planting at Northridge Middle School

Figure 4.1 LAUSD percentage of schools achieving greening targets, FY 2023 - 2024



GOAL

- Convert 30% of campus coverage districtwide to permeable, green cover by 2035

This year, ESO built substantial momentum towards 30% greening across all school sites in the District. (Figure 4.1) The District's campus greening goals are supported by partnerships with public agencies and CBOs. These programs include:

Sustainable Environment Enhancement Developments for Schools (SEEDS)

The SEEDS program helps to create or improve existing school greening projects to establish outdoor spaces that enhance sustainability and align with LAUSD's curriculum while also ensuring equitable distribution across regions (Figure 1.3) by addressing the need for increased green space in historically underserved areas. SEEDS additionally seeks to create partnerships with community organizations to support project design, implementation, and long-term maintenance. In the past year, ESO completed **7 greening projects** through SEEDS. And currently 21 projects are in design, 28 projects in planning 4 projects are in pre-construction and 2 are under construction.

Third-Party Partner Greening Projects

LAUSD's Third-Party Greening Projects engage community partners to collaboratively remove asphalt, plant trees, add gardens, and construct unstructured play space to create "living schoolyards". In the past year, ESO and CBO partners facilitated CalFire grant funding to plan **8 projects** and to plan and implement another **33 more projects**, aiming for completion by March 2026.

"The [ELOP] greening project is a breath of fresh air for my students. They tell me now our school is beautiful. Our school community has embraced the changes, and our sense of community is stronger than ever. Thank you for including our school in the project and creating a welcoming environment at Marianna."

-Principal Vargas, Marianna Elementary School Elementary School, commenting on how the greening project has improved student wellness, engagement, and attendance

Green Schoolyard Improvement Program (ELOP)

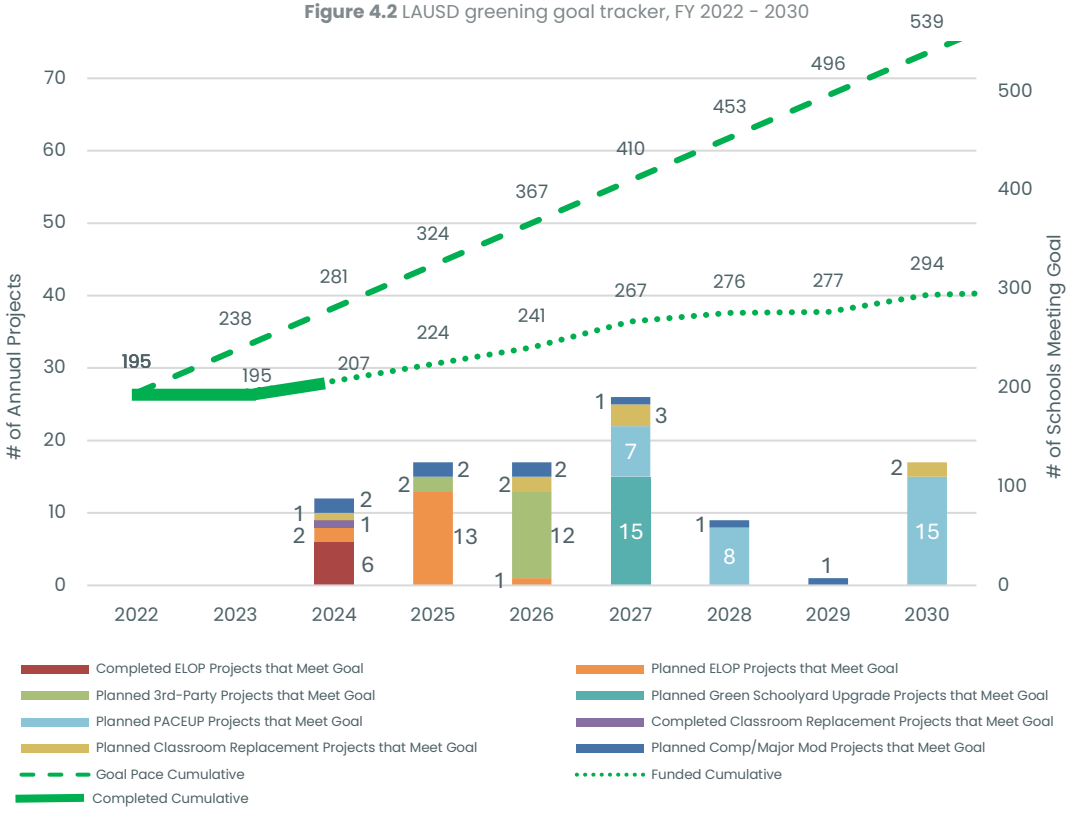
ELOP has program targets to **replace asphalt** with green spaces at LAUSD campuses to enhance campus environments with native plants, natural turf, tree shade, and decomposed granite to achieve 30% greening of each site's schoolyard. By June 30, 2024, ESO secured full funding for **34 projects**, completed the construction of **2 greening projects**, completed the design of 9 additional projects, and began design of another 23 projects. (Figure 4.2)

Aeroponic Tower Garden Pilot Program

The Aeroponic Tower Garden Pilot aims to provide students with access to edible gardens in locations that would not otherwise allow for growing edible plants and/or greening, to introduce a sustainable method of growing produce through complimentary curriculum. In May 2024, LAUSD executed an agreement with SGBT Seedlings and is working towards the installation of **30 towers** at **8 schools** in the Fall of 2024.

Greening Goals

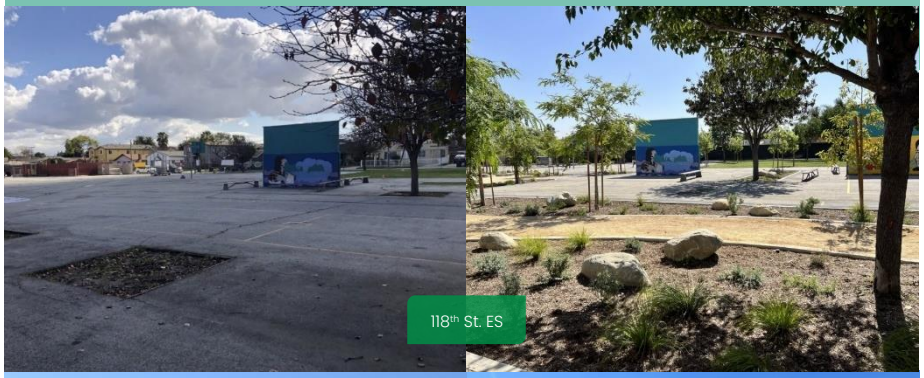
Figure 4.2 LAUSD greening goal tracker, FY 2022 - 2030

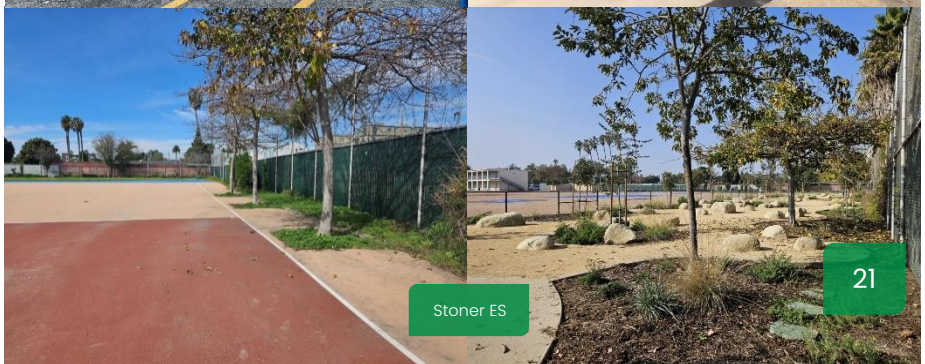


~40 projects/year need to be completed to meet our 2035 target of 30% greening

Transforming Asphalt into Sustainable, Healthy, & Living Playgrounds!

BEFORE | AFTER





Solar Reflective Coatings Research Study

As part of LAUSD's on-going efforts to mitigate the impacts of extreme heat on students at school, LAUSD commissioned a literature review of the impacts of solar reflective coatings on schoolyards to **improve the health and thermal comfort** of students in the schoolyard, to reduce the heat island impact on surrounding areas, and to avoid any negative environmental impacts. The literature review will be followed by field measurements at LAUSD school sites in three different micro-climates to verify these impacts though data specific to the Los Angeles region.

Mayall Elementary School SEEDS garden

Sherman Oaks Elementary School SEEDS garden

Gage Middle School learning garden planting day

Pacoima Middle School native garden planting day

To ensure the successful implementation of the Green Schools for All Board Resolution, ESO has led the **development of greening standards** including numerous initiatives:

- Greening Metrics: Methodology for calculations and guidance for design firms and partners.
- Lessons Learned: Policies and standards for successful projects
- How-To Guide: Clear steps for partners to apply for and implement grants
- Nature-Based Play Station Standards: Guidelines aligned with physical education and athletics needs
- Updated Details and Specifications: Including recommendations for mow strips, irrigation controllers, decomposed granite, and plant species

WATER STEWARDSHIP

LAUSD is committed to reducing the District's water use while also reducing groundwater pollution and replenishing Los Angeles Basin aquifers. In 2015, ESO joined the US DOE's Better Buildings Solution Center's Better Buildings Challenge, targeting 20% water use reduction by LAUSD's 2013 – 2014 BL by 2024.

This year, LAUSD decreased its water consumption by 28% through innovative technologies and proven practices to reduce the District's water use, exceeding the DOE's water conservation goals for 2024. LAUSD continues to promote water stewardship across District campuses and facilities through comprehensive programs and initiatives that highlight water efficiency, drought tolerant planting, stormwater capture, recycled water, and increased conservation behavior.

Porter Middle School's stormwater infiltration tank installation

Water Consumption

Figure 5.1 LAUSD water consumption reduction, FY 2023 – 2024

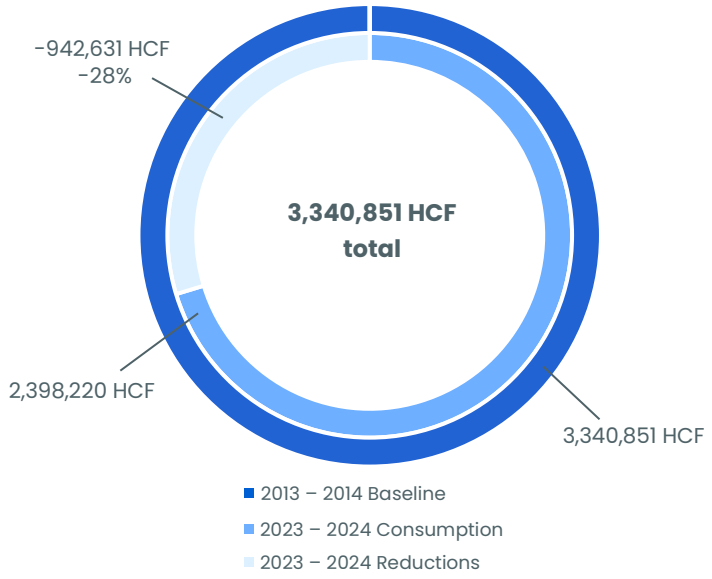
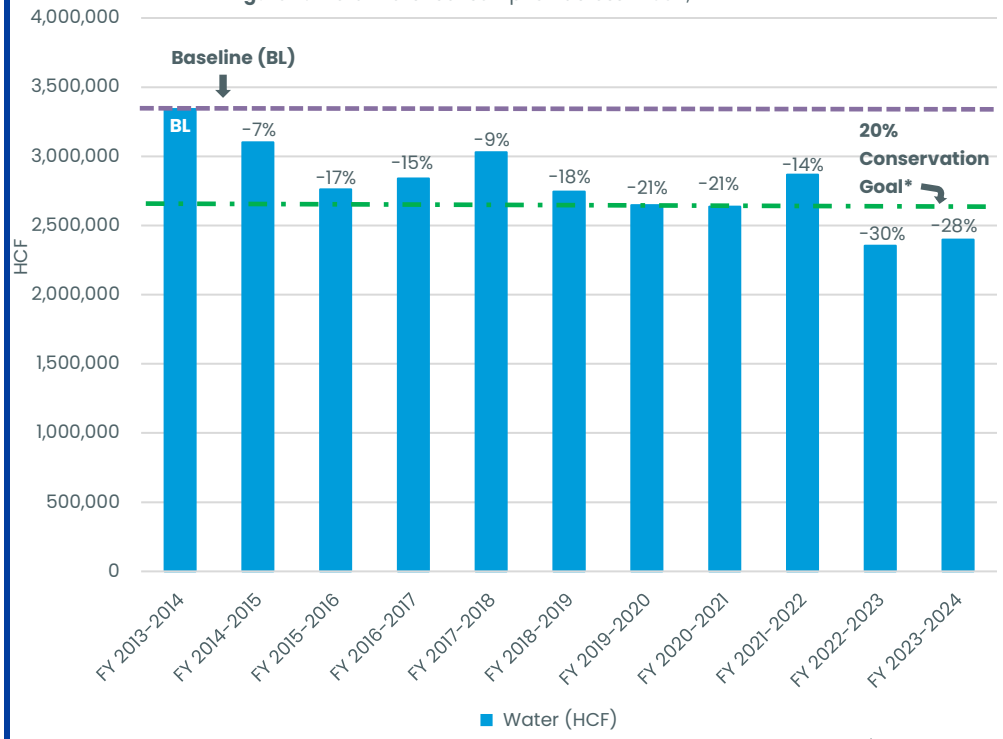


Figure 5.2 Total water consumption across LAUSD, FY 2014 – 2024



*Based on Better Buildings Challenge w/ FY 2013 – 2014 BL

GOALS

- Reduce districtwide water consumption by 20% from the FY 2013 - 2014 Baseline by 2024
- Reduce groundwater pollution & replenish groundwater aquifers

The District's water reduction goals are supported by partnerships with the City of Los Angeles, LADWP, the Metropolitan Water District (MWD), TreePeople, the Council for Watershed Health, and the State Water Resources Control Board. This year, LAUSD's water conservation programs achieved a **28% reduction** compared to the 2013–2014 Baseline. (Figures 5.1 & 5.2) These initiatives include:

Recycled Water Program

The District is expanding recycled water systems at more campuses through a partnership with LADWP. Currently, three campuses—Van Nuys High School, Sotomayor Learning Academies, and Playa Vista Elementary School—use recycled water, saving over **12 million gallons** of drinking water annually. Next year, LAUSD will add **four recycled water projects**, which are currently slated for construction in the first half of 2025. (Figure 5.4) The four sites are Fulton College Prep, Westchester Elementary School, East Valley High School, and Gardena High School. A fifth recycled water project at North Hollywood High School will be completed in 2026.

Recycled water is currently limited to landscape irrigation and bus washing. The District has installed water recycling systems at bus garages. These systems filter and reuse water for vehicle washing.

Irrigation Reduction Pilot

LAUSD is exploring water-saving technologies like "hydrogel", a non-toxic compound injected at turf roots to absorb, store, and release water as soil dries. A 6-month pilot at Roybal High School in fall 2023 projected that installing hydrogel across the campus's 3.5 acres of irrigated turf could save **4 million gallons of water** and **$57,000** over three years. This year, LAUSD plans to expand its study by launching another hydrogel pilot site in the drier San Fernando Valley. Hydrogel will allow the District to lower our irrigation schedules so the District uses even less water.

Collaborative for High Performance Schools (CHPS)

New water systems feature high-efficiency fixtures, including high performance faucets and showerheads, meeting EPA, CHPS, and LEED criteria. These advanced technologies in retrofits and new school designs significantly reduce the District's annual water consumption.

Drought Response Outreach Program for Schools (DROPS)

Chief Sustainability Officer, Christos Chrysiliou, took state and local agency representatives to tour the Normandie Avenue Elementary School's recent green infrastructure capital improvements funded by the California Water Resources Control Board's Drought Response Outreach Program for Schools (DROPS). Participants heard from LAUSD Facilities Services Division and Maintenance and Operations representatives and the school project team including Council for Watershed Health, Barbara Hall Inc., Studio-MLA, TreePeople, and Nature Nexus Institute to learn from the success and challenges of building and operating green infrastructure for public agencies.

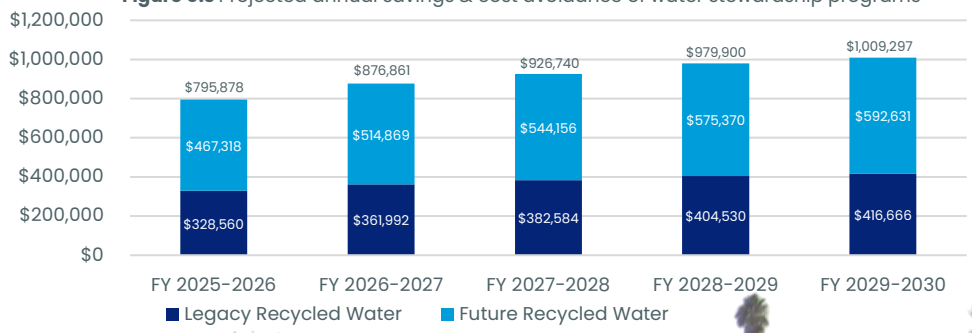
Stormwater Tanks

Infiltration and detention stormwater tanks on campuses contribute to the District's water conservation goals. Infiltration tanks allow for storage and infiltration of stormwater to recharge ground water and reduce runoff and pollutants. Detention tanks collect and store stormwater runoff during storms, and then release the water at a controlled rate to public drains. This year, LAUSD installed a detention tank system at Venice High School and has **six additional projects in construction** targeting completion in the FY 2024 – FY 2025 school year.

LAUSD **exceeded** its water reduction goal by more than **2 MILLION gallons of water** in FY 23 – 24 compared to the FY 13 – 14 Baseline

Christos Chrysiliou leading tours for state and local agency representatives across Normandie Avenue Elementary School's bioswales and campus greening projects

Figure 5.3 Projected annual savings & cost avoidance of water stewardship programs



Chatsworth High School's infiltration tank installation

A LOOK FORWARD

In the coming year, ESO will be making further progress on the sustainability goals set forth for the District by the Board, including some of these anticipated milestones:

Eco-Sustainability Plan

The Eco-Sustainability Plan, beginning development in Q1 2025, will expand ESO's sustainability initiatives into the following six categories across all District Divisions:

- Clean Energy
- Water Stewardship
- Campus Ecology
- Materials & Resources
- Climate Literacy
- Climate Resilience

These **6 initiatives** align with the **LAUSD 2022-2026 Strategic Plan** sectors of Academic Excellence, Joy & Wellness, Engagement Collaboration, Operational Effectiveness, and Investing in Staff.

LADWP Memorandum of Understanding

In 2025, The Los Angeles Department of Water and Power (LADWP) is in discussions with LAUSD about a Memorandum of Understanding (MOU), potentially contributing **$100 million** in funding, with LAUSD contributing an additional $20 million, to support the District's sustainability efforts. The LADWP MOU encompasses several programs, including Direct Install Lighting, Education and Awareness, Greening, Climate Resilience, and Water Conservation. Specifically, the Direct Install Lighting initiative will expand under the new MOU, expected to benefit around **150 schools**, with an estimated **$5.5 million** in electricity cost avoidance.

2028 Summer Olympics

As LA prepares to host the 2028 Olympic and Paralympic Games, LAUSD is partnering with the Los Angeles Cleantech Incubator (LACI) and the Transportation Electrification Partnership (TEP) to find mutually beneficial ways to advance LAUSD's bus electrification while supporting clean transportation for the Games. This proposed collaboration underscores the City of L.A.'s commitment to leaving a **legacy of sustainable infrastructure**, benefiting students, communities, and the region long after 2028.

Eco-Sustainability Sectors

The LAUSD Eco-Sustainability Plan will align with the LAUSD Strategic Plan:

1 Academic Excellence
- Climate Literacy
- Green Career Technology

2 Joy + Wellness
- Healthy Food Initiatives
- Outdoor Education & Greening
- Air Quality
- Climate Resilience

3 Engagement + Collaboration
- Student Leadership
- Community Engagement

4 Operational Effectiveness
- Energy + Water Infrastructure
- Transportation
- Waste Reduction
- Monitoring + Evaluation

5 Investing in Staff
- Professional Development
- O&M Staff Training
- Social Equity + Inclusion

Eco-Sustainability Office Areas of Responsibility

To support the development and implementation of the Eco-Sustainability Plan, ESO's role will encompass the following areas of responsibility:

- Eco-Sustainability Planning, Goals, & Metrics
- Research & Development
- Emerging Technologies
- Sustainability Pilot Project Program Management
- Life Cycle Assessments
- Design Reviews
- GHG Emissions
- Utilities Budget Forecasting & Analysis
- Regulatory Compliance
- Policy & Grants
- High Performance Schools Certification
- Rebates & Incentives
- Energy Monitoring

Solar Pilot Program

A Solar Pilot Installation Program will commence construction at **21 LAUSD schools** for an addition of **15 MW to the District's portfolio**. These solar panels will be installed at elementary, middle, and high schools across the District.

Transportation Electrification

Currently, LAUSD has **574 EV bus and 22 white fleet chargers** in the planning process. With planned completion in 2026, the full electrification of the Sun Valley Bus Yard will transition 149 compressed natural gas (CNG) and 51 propane-powered vehicles to EV buses to achieve a **35% decrease in GHG emissions** from the Sun Valley Yard.

Health & Wellness

LAUSD's Division of Food Services is developing a **new menu** focusing on fresh food and scratch cooking in line with LAUSD's Joy and Wellness Strategic Pillar.

Materials & Resources

In the coming years, LAUSD will be sharpening its focus on sustainable material and resource management as a major sector in alignment with the ESP. Including recyclable materials, food scraps, and landscaping debris, LAUSD diverted **6,000 tons**, or about **9%** of the District's total waste, from local landfills. (Figure 6.1) Recently, the Office of Environmental and Health Safety (OEHS) recently acquired food scrap bins for LAUSD Headquarters in downtown L.A. to contribute to the District's waste management, reducing the building's contributions to potent GHG methane emissions.

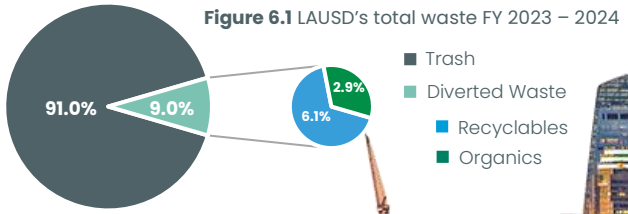


Figure 6.1 LAUSD's total waste FY 2023 – 2024

Sharing the Impact

In 2025, ESO will be sharing additional **status updates** on progress towards LAUSD's sustainability goals across several digital mediums for transparency and visibility of the District's work. Check out additional progress on the following platforms:

lausd.org/eso

linkedin.com/company/eco-sustainability-office-at-lausd/

bsky.app/profile/lausdeso.bsky.social

instagram.com/lausd_eso_/

2

PART II
RECOGNITION

Achievements & Engagement

Additional Achievements

Better Buildings CHALLENGE
U.S. DEPARTMENT OF ENERGY

LAUSD participates in the DOE Better Buildings Challenge to achieve a 22% energy reduction by 2025 and recently won the 2023 Better Practice Winner Award for energy conservation efforts across the District.

AGZA GREEN ZONE CERTIFICATION LEVEL 2

This year, LAUSD became the first public school district in the nation to earn AGZA's 'Green Zone Certification – Level 2,' thanks to the FSD's efforts.

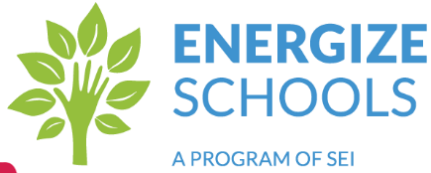
LAUSD recently won 1st Place in LADWP's 2024 Sustainability Awards for Demand Response Leadership.

Speaking Engagements

This year, ESO participated in a variety of speaking engagements and presentations to highlight our sustainability initiatives, build partnerships, and inspire action. Highlights include:

- Coalition for Adequate School Housing (CASH) 67th Annual Fall Conference, Sailing Into the Future of Urban Education – October 13, 2023
- CASH 45th Annual Spring Conference, School Facilities – February 29, 2024
- Better Buildings, Better Plants Summit – April 3, 2024
- Council of Great City Schools Conference – April 18, 2024
- Earth Day Presentation – April 22, 2024
- White House Summit on Sustainable K-12 School Buildings and Grounds – April 26, 2024
- Ethnic Media press event on Green Schools for All – May 3, 2024

We Thank Our Partners



ACKNOWLEDGEMENTS

The Eco-Sustainability Office extends its appreciation and gratitude to the LAUSD Board of Education, Superintendent Alberto Carvalho, Senior Advisor to the Superintendent Jaime Torrens, the many Divisions and Offices across the Los Angeles Unified School District, our incredible partners, and the entire LAUSD school community, including students, staff, parents, and caregivers. Your unwavering collaboration and support have been instrumental in driving forward the sustainability programs highlighted in this report throughout the 2023-2024 school year. Together, we have made strides toward creating a greener and more sustainable future for our schools and communities. Thank you for your shared commitment and collective efforts in championing this vital mission.

The Los Angeles Unified School District's Eco-Sustainability team (left to right, top to bottom): Rami Musallam, Joel Stout, Luis Hernandez, Ernesto Carmona, Jon Doyle, Christos Chrysiliou, Sylvia Wallis, Peter Yee, Will Meade, Keith Coffman, Will Norten, Sylvia Palomera, Mike Montes, Thao Tran, Ilianna Padilla, Michelle Montano, & Coomy Kadribegovic.

APPENDICES

GLOSSARY

BL	Baseline
BOE	Board of Education
Btu	British thermal unit
CALShape	California Schools Healthy Air, Plumbing, And Efficiency Program
CASH	Coalition for Adequate School Housing
CBO	Community-Based Organization
CCLA	Cesar Chavez Learning Academy
CHPS	Collaborative for High Performance Schools
CLTF	Climate Literacy Task Force
CNG	Compressed Natural Gas
CO_2	Carbon Dioxide
COVID-19	Corona Virus Disease of 2019
DACE	Division of Adult and Career Education
DCFC	Direct Current Fast Charger
DOD	Day of Discovery
DOE	Department of Energy
DOI	Division of Instruction
DROPS	Drought Response Outreach Program for Schools
ECM	Energy Conservation Measure
EEC	Early Education Center
ELOP	Expanded Learning Opportunities Program
EPA	Environmental Protection Agency
EV	Electric Vehicle
FSD	Facilities Services Division
FY	Fiscal Year
GHG	Greenhouse Gas
GME	Garden Maintenance Equipment
H4Z	HEROES for Zero
HCF	Hundred Cubic Feet
HVAC	Heating, Ventilation, Air Conditioning
kWh	Kilowatt hour
LACI	Los Angeles Cleantech Incubator
LADWP	Los Angeles Department of Water and Power
LAUSD	Los Angeles Unified School District
LEED	Leadership in Energy and Environmental Design
LID	Low-Impact Development
$MtCO_2$	Metric tons of Carbon Dioxide
$MtCO_2e$	Metric tons of Carbon Dioxide equivalent
MW	Megawatt
MWD	Metropolitan Water District
MWh	Megawatt hour
OEC	Outdoor Education Center
OEE	Outdoor and Environmental Education
OEHS	Office of Environment and Health Safety
OLE	Outdoor Learning Environments
O&M	Operations and Maintenance
PACEUP	Playground and Campus Exterior Upgrade Projects
PV	Photovoltaic
RW	Recycled Water
SBD	Savings By Design
SCE	Southern California Edison
SEEDS	Sustainable Environment Enhancement Developments for Schools
TPA	Technology Prep Academy
US	United States
USGBC	U.S. Green Building Council
W/	with
ZBD	Zero By Design

Castlebay Lane Charter Elementary School learning garden

References

I. Los Angeles Unified School District Office of the Superintendent. (2021). Ready for the World: Los Angeles Unified School District (2022-2026 Strategic Plan). LAUSD. https://www.lausd.org/cms/lib/CA01000043/Centricity/Domain/1371/Strategic-Plan22-26.pdf

II. Los Angeles Unified School District. (2003, October 14). *Sustainability and the Design and Construction of High Performance Schools.* [Resolution]. https://www.lausd.org/cms/lib/CA01000043/Centricity//Domain/1500/Board%20Resolution%20for%20Sustainability%20and%20the%20Design%20and%20Construction%20of%20High%20Performance%20Schools%202003.pdf

III. Los Angeles Unified School District. (2007, October 23). *Green LAUSD* [Resolution]. https://www.lausd.org/cms/lib/CA01000043/Centricity/Domain/1500/GreenLAUSD1023-2007.pdf

IV. US Department of Energy. (2024) *Better Buildings Challenge.* Better Buildings Solution Center. https://betterbuildingssolutioncenter.energy.gov/challenge

V. Global Warming Solutions Act of 2006, AB 32, Nuñez, Chapter 488. (Cal. Stat. 2006) *Short-Lived Climate Pollutant Reduction Strategy.* California Air Resources Board. https://ww2.arb.ca.gov/sites/default/files/2020-07/final_SLCP_strategy.pdf

VI. Los Angeles Unified School District. (2019, November 5). *One-hundred Percent Clean Energy* (Res-018-19/20, Version 3). [Resolution]. https://www.lausd.org/cms/lib/CA01000043/Centricity//Domain/1500/Board%20Resolution%20-%20100%20Percent%20Clean%20Energy%20-%202020.pdf

VII. US Department of Energy. (2024) *Better Climate Challenge.* Better Buildings Solution Center. https://betterbuildingssolutioncenter.energy.gov/climate-challenge

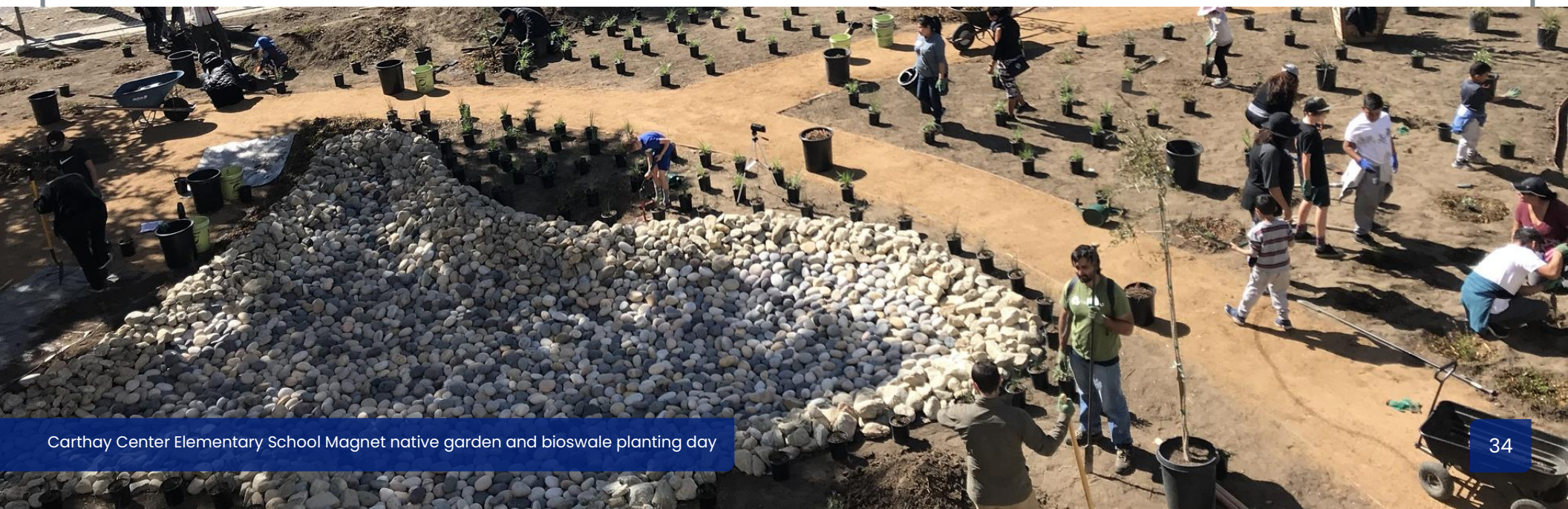
VIII. Los Angeles Unified School District. (2022, February 8). *Climate Literacy* (Res-016-21/22, Version 1). [Resolution]. https://www.lausd.org/cms/lib/CA01000043/Centricity/Domain/1500/ClimateLiteracy016-2022.pdf

IX. Los Angeles Unified School District. (2022, September 27). *Green Schools for All* (Res-002-22/23, Version 1). [Resolution]. https://www.lausd.org/cms/lib/CA01000043/Centricity/Domain/913/Green%20Schools%20for%20All.pdf

X. Los Angeles Unified School District. (2024). Fingertip Facts (Version 2023-24). https://www.lausd.org/Page/362

XI. Los Angeles Department of Water and Power. (2013-2023). *Green Power Annual Report: Green Power For A Green LA.* Los Angeles Department of Water and Power. https://www.ladwp.com/reports/green-power-annual-reports

XII. Southern California Edison. (2013-2023). *Power Content Label.* Southern California Edison Company. https://www.sce.com/regulatory/document-library/customer-connection-notices/customer-business-connection-archive



Carthay Center Elementary School Magnet native garden and bioswale planting day

Elysian Heights Elementary School edible garden

ECO-SUSTAINABILITY OFFICE

lausd.org/eso