Sustainability Roadmap 2024–2025 California State Teachers' Retirement System

Sustainability Master Plan
and Biennial Progress Report on Legislative Sustainability Mandates and the Governor's Sustainability Goals for California State Agencies

California State Teachers' Retirement System

Gavin Newsom, Governor

November 2025

CALSTRS ROADMAP

Sustainability Road Map 2024–2025

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TABLE OF CONTENTS

EXECUTIVE SUMMARY

The California State Teachers' Retirement System was established by law in 1913 to provide retirement benefits to California's public-school educators from prekindergarten through community college. Today, CalSTRS is the largest educator-only pension fund in the world. The market value of the CalSTRS investment portfolio was approximately $392.2 billion as of December 31, 2025.

CalSTRS' mission: Securing the financial future and sustaining the trust of California's educators.

CalSTRS administers a hybrid retirement system consisting of a traditional defined benefit plan (CalSTRS Defined Benefit Program), cash balance plans (CalSTRS Defined Benefit Supplement Program and CalSTRS Cash Balance Benefit Program) and a voluntary defined contribution plan (CalSTRS Pension2®) for California's public school educators, prekindergarten to community college. We also provide disability and survivor benefits. CalSTRS is governed by the Teachers' Retirement Law, which is a part of the California Education Code.

To increase members' understanding of their benefits and their shared role in securing their financial futures, CalSTRS offers benefits planning services, including self-service resources, workshops, videos and publications specific to key career stages. We also offer a speakers' bureau for our stakeholder groups.

CalSTRS owns and occupies a two-building headquarters campus in West Sacramento. Our original building is 409,000 square feet and is designed and constructed with sustainability in mind. After it opened in 2009, the headquarters building achieved a Leadership in Energy and Environmental Design (LEED) New Construction Gold certification for features such as the under-floor air distribution system, daylight and motion-sensor lighting systems and an energy efficient building facade design. Subsequently, the headquarters building achieved the LEED Operation and Maintenance Platinum certification in 2011, 2015, 2020 and 2023. Most recently our building received the WELL Health-Safety rating that focuses on occupant health.

Our second campus building, a 266,500 square-foot office building, opened in late 2024, adjacent to our original headquarters building. Although it was not in operation during most of this reporting cycle, it is also designed to be highly efficient and we are in the process of certifying it for LEED New Construction at the Platinum level, WELL Building, and the Living Building Challenge.

Although CalSTRS has a relatively small building inventory, we are committed to meeting the sustainability requirements for state-owned buildings. Meeting these goals helps conserve precious resources such as water and helps to create a

healthier environment for all Californians by creating less greenhouse gas emissions. Conserving resources also helps us to be good financial stewards by saving money.

Climate Change Adaptation

CalSTRS understands the importance of climate change adaptation. From facilities operations to the CalSTRS Investment Portfolio, we continue to take steps to research and plan for a changing climate.

Before the start of construction on the CalSTRS Headquarters Expansion Project, planning and development staff assessed the risk that a changing climate posed to the project (for instance, sea level rise and increasing daily temperatures). The impact that this infrastructure project will have on the surrounding community, individuals and community resilience (for instance, heat island impacts) were also considered. CalSTRS takes the necessary steps to integrate climate considerations in planning and investment through:

- Pledge to achieve net zero greenhouse gas emissions across the CalSTRS Investment Portfolio by 2050, or sooner.
- Following LEED requirements and standards for employee-occupied facilities.
- Developing sustainability policies for purchasing, waste management, technology and others.
- Engaging and educating employees.

With climate change, temperatures are expected to increase both at the high and low ends, and the risk of floods is expected to increase. As a result, facilities will experience higher maximum and increased minimum temperatures. CalSTRS is prepared to deal with these events, reduce the impact of changing temperatures on facility performance and uphold occupant health and well-being by the following actions:

- Continue to protect habitat and biodiversity at headquarters by caring for native plants and other species included in our landscape, restrict the onset of invasive species, and mitigate harmful runoff.
- Maintain business continuity plans in response to emergencies.
- Research alternative energy and water sources.
- Uphold sustainability policies.
- Strive for a zero net energy facility with accompanying sustainable systems for resiliency, as applicable.

- Employ additional strategies to reduce the impact of changing precipitation cycles, including rainwater capture and other natural infrastructures to minimize flooding.

Zero-Emission Vehicles (ZEV)

Although CalSTRS does not have a large fleet of vehicles, we are mindful to make purchases that meet all state sustainability requirements. We also keep an eye toward future needs, such as EV charging infrastructure.

Our vehicle fleet is used for transporting board members to and from Sacramento International Airport and hotel locations to board meetings. Fleet vehicles are also used for regular activities such as transporting staff for messenger duties, business trips, meetings and visits to member service centers and county offices of education.

We have reduced our reliance on fossil fuels and exceeded Executive Order B-16-12 with the addition of a zero-emission electric vehicle as well as a hybrid vehicle. The use of the electric vehicle negates greenhouse gas emissions in staff business travel.

CalSTRS fleet vehicle count by class consists of one sedan, one SUV, one truck and one van. When we prepare to retire a fleet vehicle, staff will select from ZEVs available through state contracts. New and developing technologies allow us to reduce our carbon footprint and act as an environmental steward.

In addition, CalSTRS encourages visitors and employees to participate in the use of ZEV's by providing electric vehicle charging stations in our headquarters parking garage. Since the last reporting cycle, we doubled the amount of charging ports in our garage to accommodate for the increase of electric vehicle adaptation by our employees and visitors.

Energy

Energy savings is a top priority for CalSTRS operations. Not only is there potential for financial savings, but we are also always looking for ways to meet or exceed state mandates on energy use. CalSTRS uses many tools to help manage energy consumption.

Policies are in place to support energy savings at headquarters. Lights and equipment are turned off at the end of each workday with programmed shutdowns of all non-emergency equipment at 6:00 p.m. Technology devices that are not in use for a certain amount of time automatically switch to energy-saving mode. In addition, all computers, copiers and printers, and kitchen

appliances are required to be either ENERGY STAR ® or Electronic Product Environmental Assessment Tool (EPEAT) rated devices. CalSTRS has a strict after-hours Heating, Ventilation and Air Conditioning (HVAC) Policy that requires a set number of staff working within the building to receive heating and/or cooling during any after-hours timeframe.

HVAC and lighting controls are managed through the building management system with override controls given by in-house engineering staff. In addition, parking garage, common areas and meeting rooms are controlled by occupancy sensors to eliminate energy waste. Several energy efficiency improvement projects have been completed on these systems which include LED lighting retrofits, server room cold aisle containment improvements and virtualization of server room equipment.

CalSTRS is enrolled in Demand Response for both buildings at our headquarters campus and is working with the state contracted consultant, Enersponse, on our processes to maximize energy savings during peak events.

We recently installed solar panels on the top level of our parking garage and the rooftop of our Headquarters Expansion building. The use of on-site solar power will help us reduce our greenhouse gas emissions as well as save us money in energy costs.

Decarbonization

The next big energy challenge for CalSTRS will be decarbonization. We are in the early stages of planning for this but will keep abreast of current decarbonization technologies as we plan for the replacement of our fossil fuel burning systems, such as gas boilers, once they reach end of life.

Working with Glumac Group to identify all our gas burning systems and equipment and to recommend replacement strategies was an extremely helpful first step on this path.

Water Efficiency and Conservation

Water is an extremely precious and limited resource in the state of California. As a state agency, CalSTRS does its best to conserve both domestic and landscape water. Technology, education and maintenance are some of the strategies we use for water conservation.

CalSTRS continually improves its water conservation practices through water efficiency projects. Equipment upgrades since initial construction include the

installation of low-flow faucet aerators in all restrooms and employee kitchen sinks as well as native plant landscaping combined with ongoing drip irrigation.

Water meters at CalSTRS Headquarters measure and track monthly building water consumption and landscape irrigation. Sub-meters provide insight into water use related to our on-site cafe, domestic water, cooling tower and irrigation system. Water consumption reports are analyzed by a dedicated facilities environmental coordinator and on-site building engineers.

In addition to low-flow fixtures, employee engagement and education help reduce our domestic water use. Visual leak detection tasks performed by janitorial staff inform on-site engineers of any plumbing issues and assist in the conservation of water at headquarters as well.

CalSTRS' engineering team takes diligent care in maintaining mechanical systems. A regular cleaning schedule is executed to keep systems free of debris and to ensure optimal conductivity of heat transfer. Increasing cycles of concentration improves efficiency in the cooling tower and reduces the water demand required for blowdown and make-up water. Blowdown is the intentional periodic removal of water from the cooling tower to maintain the solids content of tower water within certain limits as determined by manufacture specifications and is periodically checked and adjusted accordingly.

We continue to save on building water usage with our hybrid work model and recently added a 40,000-gallon rainwater capture system to supplement landscape watering.

Facilities' Construction and Operations

Since our last roadmap reporting cycle, we opened our new Headquarters Expansion building. Opened in late 2024, this 266,500 square-foot office building sits adjacent to our original headquarters building in West Sacramento. It is designed to be energy and water efficient as well as healthy for occupants and visitors. The expansion is currently under review for the following sustainability certifications:

- LEED New Construction: Platinum level
- WELL Building: Platinum level
- Living Building Challenge: Materials petal

CalSTRS does not have any new construction plans on the horizon, however we look forward to benchmarking this new addition to our portfolio and continuing

our green operations, such as using all electric equipment to maintain our beautiful landscaping.

Waste Management and Recycling

CalSTRS is proud of our waste management and recycling efforts. We manage to maintain a waste diversion rate of around 90%. We can contribute this success to our signage and education. All our waste streams are clearly marked with helpful signage that we update periodically. New employees are also trained on bin sorting during our robust onboarding process.

Recently, we had great success using the GovDeals auction website for auctioning off items that have reached end of useful life at CalSTRS but still have usefulness to others. This has been helpful in diverting items from the landfill.

Procurement

CalSTRS continues to improve on our environmentally preferable purchasing. Most recently, our SABRC purchasing met the minimum requirements in all categories except for Printing and Writing Papers. In that category we increased our compliance from 21% to 59% in the most recent reporting cycle.

Purchasing policies and education as well as shopping cart system adaptations have helped to educate and guide our employees to make environmentally preferable purchases.

Funding Opportunities

Many big projects, such as decarbonization, that will help meet State sustainability goals will require funding. Although most of our big decarbonization projects are some years out, we are in the early stages of identifying funding. Some projects—such as remaining LED lighting retrofits at our 100 Waterfront building— will be completed in stages. This helps us to budget for the cost.

We will also keep researching other funding opportunities such as incentive programs or grants.

CalSTRS Commitments

CalSTRS is proactive in reducing our carbon footprint and environmental impact. We continue our commitment to sustainability and as a result have achieved

and maintained LEED Platinum certification for Operations and Maintenance in an existing building for our headquarters.

We believe climate change is one of the greatest threats to our future, with undeniable links to business and financial investments. In September 2021, the Teachers' Retirement Board pledged to achieve net zero greenhouse gas emissions across the CalSTRS Investment Portfolio by 2050, or sooner. In August 2022, the board approved a package of investment actions to enhance our efforts to achieve a net zero investment portfolio, address climate change and support the retirement security of California's public educators. This included a decision to set an interim goal to reduce emissions from the portfolio by 50% by 2030.

CalSTRS will continue our efforts to meet or exceed the sustainability requirements set forth by the State of California. We remain committed to exploring opportunities that integrate more advanced conservation strategies into our facilities operations.

Cassandra Lichnock
Chief Executive Officer

CHAPTER 1—CLIMATE CHANGE ADAPTATION

CalSTRS' Mission and Climate Change Adaptation

The CalSTRS Headquarters facility is crucial to our mission of securing the financial future and sustaining the trust of California's educators. It is where the majority of our business is conducted, from our customer service call center to the heart of our investments operations. Even though we maintain a hybrid work model, the physical operations at our headquarters are necessary to support our important work. Keeping our staff and visiting members comfortable in a climate-controlled setting is necessary to support the best work and provide the best customer service.

Climate change is predicted to increase heatwaves as well as wildfires. Increase use of HVAC to mitigate the heat and filter the air means more wear and tear on mechanical systems which can shorten the lifespan of the equipment. These are just two seemingly small examples that can have big financial implications.

This chapter will go into detail about the different impacts of climate change on CalSTRS facilities and how we are planning to meet these challenges.

Climate Change Risks to Facilities

Climate Change Risk Process:

CalSTRS has two buildings that make up the Headquarters campus in West Sacramento, across the Sacramento River from downtown Sacramento. The original headquarters building (100 Waterfront Place) is 409,000 square feet of office space and was built in 2009 to be energy and water efficient. By operating the building in a sustainable and efficient way, the headquarters building is well suited for absorbing some of the effects of climate change, such as increased cooling degree days and hazardous air quality days caused by wildfires.

Located next to the Sacramento River, flooding is a possibility in the future. However, CalSTRS maintains a business resumption center at a separate physical location to temporarily house staff required to support critical business processes during a disaster. It also has backup infrastructure that allows for the restoration of critical information technology systems in the event the headquarters building is unavailable. As was proven by the response to the COVID-19 pandemic, CalSTRS has a highly adaptable workforce that can transition quickly to working

remotely if the headquarters building is impacted by flooding or another emergency.

In late 2024, we added to our building portfolio by opening our Headquarters Expansion building. Before embarking on the Headquarters Expansion Project—a 266,500 square-foot office building adjacent to the original headquarters building—planning and development staff assessed the risk that a changing climate posed to the project (for instance, sea level rise or increasing daily temperatures). The impact that this infrastructure project might have on the surrounding community and the impacts on individual and community resilience (for instance, heat island impacts) were also considered. The Headquarters Expansion building is aiming to achieve LEED– New Construction certification at the Platinum level, a WELL certification at the Gold level, and a Living Building Challenge certification. The new building also features an activated pedestrian plaza with a coffee bar, child care center and assembly space. All these ground-level amenities are available to the public. Public access to these amenities enhances the neighborhood and benefit the Washington District community of West Sacramento.

CalSTRS has historically used its influence as a significant global investor to promote long-term sustainable public policies and business practices and has successfully integrated sustainability principles into operations and investment strategies. The CalSTRS Sustainable Investment and Stewardship Strategies program is focused on transitioning to a low-carbon economy, increasing board diversity and enhancing sustainability risk management.

In 2021, we committed to achieving net zero greenhouse gas emissions across the CalSTRS Investment Portfolio by 2050 or sooner, aligning with the science-based targets of the Paris Climate Agreement. CalSTRS also approved an implementation framework to chart its path to net zero, which includes developing a net zero action plan.

CalSTRS takes the necessary steps to integrate climate considerations in planning and investment through participation in:

- The annual Global Reporting Initiative.
- LEED requirements and standards for employee-occupied facilities.
- Sustainability policies related, but not limited, to purchasing, waste and technology.
- Employee engagement and education.

Assessing Risk from Changing Extreme Temperatures:

Table 1.1: Top 5–10 Facilities that Will Experience the Largest Increase in Extreme Heat Events

Facility name	Extreme heat threshold (EHT)°F	Average # of days above EHT (1961–1990)	Average # of days above EHT (2031–2060)	Change from historical to projected average # of days above EHT (2031–2060)	Average # days above EHT (2070–2099)	Change from historical to projected average # of days above EHT (2070–2099)
100 Waterfront Place	4.0	4.0	17.0	13.0	25.0	21.0
200 Waterfront Place	4.0	4.0	17.0	13.0	25.0	21.0

Table 1.2a: Top 5–10 Facilities Most Affected by Changing Temperature—Annual Mean Max. Temp

Facility name	Historical annual mean max. temp. (1961–1990)	Annual mean max. temp. (2031–2060)	Change from historical to annual mean max. temp (2031–2060)	Annual mean max temp. (2070–2099)	Change from historical to annual mean max. temp (2070–2099)
100 Waterfront Place	74.2	78.4	4.0	80.0	6.0
200 Waterfront Place	74.2	78.4	4.0	80.0	6.0

Table 1.2b: Top 5–10 Facilities Most Affected by Changing Temperature—Annual Mean Min. Temp

Facility name	Historical annual mean min. temp. (1961–1990) °F	Annual mean min. temp. (2031–2060) °F	Change from annual mean min. temp. (2031–2060)	Annual mean min. temp. (2070–2099) °F	Change from annual mean min. temp. (2070–2099)
100 Waterfront Place	49.0	53.0	4.0	54.0	5.0
200 Waterfront Place	49.0	53.0	4.0	54.0	5.0

Assessing Risk from Heating Degree Days (HDD) and Cooling Degree Days (CDD)

Table 1.3a: Top 5–10 Facilities that will be Most Impacted by Projected Changes in Heating Degree Days (HDD)

Facility name	Heating degrees 1961–1990	Average modeled heating degrees (year) 2031–2060	Change in heating degree days historical to mid-century	Average modeled heating degrees (year) 2070–2099	Change in heating degree days historical to end-century
100 Waterfront Place	2498.0	1842.0	-656.0	1657.0	-841.0
200 Waterfront Place	2498.0	1842.0	-656.0	1657.0	-841.0

Table 1.3b: Top 5–10 Facilities that will be Most Impacted by Projected Changes in Cooling Degree Days (CDD)

Facility name	Cooling degrees 1961–1990	Average modeled cooling degrees (year) 2031–2060	Change in cooling degree days historical to mid-century	Average modeled cooling degrees (year) 2070–2099	Change in cooling degree days historical to end-century
100 Waterfront Place	1332	2113	781	2397	1065

Facility name	Cooling degrees 1961–1990	Average modeled cooling degrees (year) 2031–2060	Change in cooling degree days historical to mid-century	Average modeled cooling degrees (year) 2070–2099	Change in cooling degree days historical to end-century
200 Waterfront Place	1332	2113	781	2397	1065

Reporting Narrative on Tables 1.3b and 1.3c: HDD and CCD

A heating degree day (HDD) is defined as the number of degrees by which a daily average temperature is below a reference temperature. The reference temperature is typically 65 degrees Fahrenheit. For a heating degree day, the reference temperature loosely represents an average daily temperature above which space heating is not needed. The average temperature is represented by the average of the maximum and minimum daily temperatures. Similarly, a cooling degree day (CDD) is defined as the number of degrees by which a daily average temperature exceeds a reference temperature. The reference temperature is also typically 65 degrees Fahrenheit. For a cooling degree day, the reference temperature loosely represents an average daily temperature below which space cooling such as air conditioning is not needed.

More extreme heat days and increasing mean maximum temperatures will result in more use of the cooling system. This will cause more wear and maintenance costs for the heating, ventilating and air conditioning (HVAC) system as well as an increase in energy and water consumption. Air quality is also negatively affected by extreme heat days. With the projected increase in cooling days, CalSTRS Headquarters will find it harder to meet electricity use reduction goals as the facility air conditioning will be used more. Conversely, as the heating days are projected to decrease, there will be less need for natural gas used for heating. The headquarters facility, located in the Sacramento Valley, will be greatly impacted by an increase in extreme heat events. With a projected 350% increase (from the historical average) in extreme heat days by midcentury, not only will CalSTRS' individual cooling system be taxed, but the larger energy grid will also face increased demands. CalSTRS Headquarters will be greatly impacted by the projected increase in cooling days, which could put significant strain on the HVAC system and increase electricity and water use.

Plan to Mitigate HDD and CDD

Planning Outline: PO1:a: Plan for Top 5–10 Facilities HDD and CDD Mitigation

Facility name	Abbreviated mitigation plan 2030
	No plan

Planning Narrative on PO1:a: Mitigate HDD and CDD

The following actions may be considered as strategies to reduce the impact of changing temperatures on facility performance and to uphold occupant health and well-being:

- Continued use of the urban farm at headquarters to provide employees and visitors with access to local, organic and fresh produce.
- Continue to protect habitat and biodiversity at headquarters by caring for native plants and other species included in its landscape, restrict the onset of invasive species, and mitigate harmful runoff using permeable pavers, rain capture and bioswales.
- Maintain our urban beehives located in our landscaping at our headquarters campus to support pollinators.
- Maintain business continuity plans in response to an emergency, including use of on-site generators and the CalSTRS Business Resumption Center.
- Implement solar technology.
- Continue to support a hybrid work schedule in response to more extreme weather events.
- Uphold and update, when necessary, the sustainability policies such as Disposal of Assets, Facilities and Workspace, Sustainable Procurement, and Waste Management policies.
- Create new policies, as needed, to keep pace with changing sustainability codes and best practices.
- Continue to properly maintain HVAC, including air filtration with MERV 15 filters.
- Continue to participate in the Demand Response Program and use strategies such as prechilling the building during event days.
- Continue to offer indoor amenities such as the gym for employees and meeting spaces such as the cafe for employees and community members.

Long-term impacts could trigger the need for some building redesign, including possible on-site alternative energy strategies.

Assessing Risk from Urban Heat Islands

Table 1.3: Facilities in Urban Heat Islands

Facility name	Located in an urban heat island (yes or no)	sq. ft. of surrounding hardscape or pavement if greater than 5000 sq. ft.
100 Waterfront Place	Yes	No hardscape
200 Waterfront Place	Yes	No hardscape

Reporting Narrative on Table 1.4: Urban Heat Islands

Urban heat islands occur when cities replace natural land cover with dense concentrations of pavement, buildings, and other surfaces that absorb and retain heat. This effect increases energy costs (e.g., for air conditioning), air pollution levels and heat-related illness and mortality.

CalSTRS Headquarters is located in an urban heat island according to the state's Urban Heat Island Index for California. CalSTRS Headquarters recently added solar panels covering the top level of the five-level parking garage. The solar panels have the added benefit of providing shade for our employees who park there. The former adjacent surface lot is now the site of the recently opened Headquarters Expansion building. The expansion features balconies that provide green spaces which help to limit the urban heat island effect. Most of the perimeter walkways are paved to allow permeation. All walkways are shaded by trees and lined with native and drought-tolerant landscaping. The roof at headquarters is made of a white, reflective membrane which decreases the urban heat island effect of this facility. Urban heat island effect was and continues to be considered in CalSTRS energy plans and strategies for its headquarters campus.

Planning Outline for Urban Heat Islands Mitigation:

Planning Outline: PO1:b: Plan for Urban Heat Islands Mitigation

Facility name	Mitigation or plan	Est. implementation date
100 Waterfront Place	Maintain landscaping	ongoing
200 Waterfront Place	Maintain landscaping	ongoing

Planning Narrative for PO1.b: Urban Heat Islands Mitigation

CalSTRS uses landscaping to reduce the impacts of the urban heat island effect. We planted new trees along the sidewalk at the adjacent Headquarters

Expansion and continue to use drought tolerant and native plants and shrubs, and maintain minimal use of hardscapes.

We also feature air-conditioned spaces that are open to the public, such as our neighborhood cafes.

Assessing Risk from Changes in Precipitation

Table 1.4: Top 5–10 Facilities that will be Most Impacted by Projected Changes in Precipitation

Facility name	Annual mean max. precip. (1961–1990) (in/yrs.)	Annual mean precip. (2031–2060) (in/yrs.)	Percent change by mid-century	Annual mean precip. (2070–2099) (in/yrs.)	Percent change by end of century	Extreme precip (1961–1990) (in/day)	Extreme precip (2031–2060) (in/day)	Extreme precip (2070–2090) (in/day)
100 Water front Place	19.4	21.0	10.5	21.3	12.1	1.5	1.6	1.7
200 Water front Place	19.4	21.0	10.5	21.3	12.1	1.5	1.6	1.7

Reporting Narrative on Table 1.5: Precipitation Impacts

Heavier, more widespread rains can result in flooding and may also shift the runoff timing and runoff volumes. This may affect the current systems in place managing storm water runoff. CalSTRS Headquarters sits adjacent to the western levee of the Sacramento River just below its confluence with the American River. As such, there is risk of flooding with the projected increase in precipitation. Flooding was a consideration in the design of the headquarters building. Most of CalSTRS critical business performance assets, such as servers, are located on upper floors that are above the severe projected flood lines. The landscaping at headquarters consists of native and drought tolerant landscaping that is mulched yearly. Front walkways at headquarters are made of permeable pavers designed to absorb runoff.

Planning Outline to Mitigate Precipitation Changes

Planning Outline PO1:c: Plan for Top 5–10 Facilities Most Impacted by Projected Changes in Precipitation

Facility name	Extreme precipitation (2030) plan or strategy
100 Waterfront Place	Remote work
200 Waterfront Place	Remote work

Planning Narrative on PO1.c: Precipitation Changes Mitigation Plan

The newly constructed Headquarters Expansion, which shares adjacent landscaping with 100 Waterfront Place, includes bioswales and rain capture that help minimize flooding. Bioswales mitigate heavy precipitation by slowing, spreading, and then sinking runoff back into the water table instead of allowing it to flow into gutters and streets that can become overwhelmed and flooded.

In instances of severe flooding around our facilities, our organization is well positioned to quickly pivot to remote work for employees and remote counseling sessions for members.

Assessing Risk from Sea Level Rise

Table 1.5: All Facilities at Risk from Rising Sea Levels

Facility name	Tide chart region	2050 water level (ft)	Exposed in 2050? (y/n)	2100 water level (ft)	Exposed at 2100? (y/n)
No facilities at risk.					

Reporting Narrative on Table 1.6: Sea Level Rise Impacts

No facilities at risk.

Planning Outline to Mitigate Sea Level Rise Impacts

Planning Outline PO1:d: Planning for Sea Level Rise impacts Mitigation

Facility name	Tide chart region	Plan 2030?
No facilities at risk.		

Planning Narrative on PO1.d: Sea Level Rise Impact

No facilities at risk.

Assessing Risks from Wildfire

Wildfire Threats by Fire Hazard Severity Zone

Table 1.6: Top 5–10 Facilities Most at Risk to Wildfire Threats by Fire Hazard Severity Zone

Facility name	Fire hazard severity zone designation (low, medium, high, very high)
100 Waterfront Place	Unzoned-N/A
200 Waterfront Place	Unzoned-N/A

Reporting Narrative on Table 1.7: Assessing Facilities most at Risk to Wildfire Threats by Fire Hazard Severity Zones

No facilities at risk.

Planning Narrative on Table 1.7: Assessing Facilities most at Risk to Wildfire Threats by Fire Hazard Severity Zones

No facilities at risk.

Wildfire Threats as Measured by Impacts from Previous Wildfire Events

Table 1.7: Facilities Impacted by Previous Wildfire Events (Last 20 Years)

Facility name	Impact category	Year of impact	Fire name
100 Waterfront Place	Smoke	2018	Camp

Reporting Narrative on Table 1.8 Wildfire Threats as Measured by Impacts from Previous Wildfire Events.

Although CalSTRS Headquarters is in an urban area not at direct risk from wildfires, occupant health is still a concern as it relates to poor air quality caused by wildfires. The headquarters location in the Sacramento Valley makes it susceptible to hazardous air quality from wildfires. An example of this impact on our facilities is the Camp Fire which occurred in the fall of 2018. Although the fire was more than 80 miles north of our facility, unhealthy air quality lingered in the Sacramento Valley for weeks. Increasing hazardous air quality, such as that caused by the Camp Fire, will require more air filtration and increased use of the

HVAC system. The long-term impacts of estimated increasing wildfires will continue to tax the HVAC system. A significant increase in hazardous air quality days could possibly shorten the lifespan of those systems, costing CalSTRS financially.

Planning Outline PO1:e: Plan for Mitigating Wildfire Risk for Facilities Most at Risk.

Planning Outline PO1:e: Plan for Mitigating Wildfire Risk for Top 5–10 Facilities Most at Risk

Facility name	Plan 2026–2030
100 Waterfront Place	Yes
200 Waterfront Place	Yes

Planning Narrative on PO1.e: Mitigating Wildfire Risk for Facilities Most at Risk

CalSTRS will continue to monitor indoor air quality and perform the necessary maintenance on the HVAC system in accordance with LEED and WELL Health-Safety requirements and ASHRAE standards to continue providing healthy air for building occupants.

Understanding Climate Risk to Planned Facilities

Tables 1.8: a–g: Climate Risks to New Facilities

a.1Annual Mean Max. Temperature

Facility name	Historical annual mean max. temp. (1961–1990)	Annual mean max. temp. (2031–2060)	Change from historical to annual mean max. temp. (2031–2060)	Annual mean max. temp. (2070–2099)	Change from historical to annual mean max. temp. (2070–2099)
No new facilities planned					

a.2 Annual Mean Min. Temperature

Facility name	Historical annual mean min. temp. (1961–1990)	Annual mean min. temp. (2031–2060)	Change from annual mean min. temp. (2031–2060)	Annual mean min. temp. (2070–2099)	Change from annual mean min. temp. (2070–2099)
No new facilities planned					

b. Annual Mean Max. Precipitation

Facility name	Annual mean max. precip. (1961–1990) (in/yr.)	Annual mean precip. (2031–2060) (in/yr.)	Extreme precip. (1961–1990) (in/day)	Extreme precip. (2031–2060) (in/day)
No new facilities planned				

c. Largest Increase in Extreme Heat Events

Facility name	Extreme heat threshold (EHT) °F	Average number of days above EHT (1961–1990)	Average number of days above EHT (2031–2060)	Increase in number of days above EHT
No new facilities planned				

d. Sea Level Rise

Facility name	Area (California Coast, San Francisco Bay, Delta)	Sea level rise 0.0 m	Sea level rise 0.5 m	Sea level rise 1.0 m	Sea level rise 1.41 m
No new facilities planned					

e. Wildfire Risks by Fire Hazard Severity Zone

Facility name	Current fire hazard severity zone (low, medium, high, very high)
No new facilities planned	

f. Facilities Impacted by Previous Wildfire Events (Last 20 Years)

Facility name	Impact category	Year of impact	Fire name
No new facilities planned			

g. Risk from Heating Degree Days/Cooling Degree Days

Facility name	Heating/cooling degree days (1961–1990) (HDD/CDD)	Heating/cooling degree days (2031–2060) (HDD/CDD)
No new facilities planned		

Reporting Narrative for Tables 1.9a-g: Understanding Climate Risks to Planned Facilities

No new facilities planned.

Understanding the Potential Impacts of Facilities on Communities

Reporting on Facilities located in Disadvantaged Communities

Table 1.9: Facilities Located in Disadvantaged Communities

Facility name	CalEnviroScreen score	Located in a disadvantaged community? yes/no
100 Waterfront Place	85	Yes
200 Waterfront Place	85	Yes

Reporting Narrative for Table 1.10: Facilities in Disadvantaged Communities

CalSTRS Headquarters campus is found in a disadvantaged community. The headquarters includes a member service center to help local members and retired teachers mitigate their financial risk in retirement.

Our two cafes serve employees, visitors and the local community by providing access to local, organic and fresh ingredients, including produce from the on-

site garden. The Corner Cafe actively engages with the surrounding community via social media to create a welcoming environment. There are also community meeting spaces available to the public to reserve for free. In 2019 and 2020, our board room was used to hold the Mayors' Commission on Climate Change community meetings. These meetings were open to all members of the community to attend and provide feedback on climate change roadmaps for the cities of Sacramento and West Sacramento.

The CalSTRS Headquarters Expansion, opened in late 2024, and features a child care center that accepts enrollment from employees as well as community members.

The headquarters campus landscaping consists of native and drought tolerant plants as well as trees that shade walkways to help reduce the urban heat island effect.

Planning Narrative for table 1.10: Facilities in Disadvantaged Communities

Process for understanding potential impact of facilities on communities achieved.

New Facilities and Disadvantaged Communities and Urban Heat Islands

Table 1.10: New Facilities and Disadvantaged Communities and Urban Heat Islands

Facility name	Located in a disadvantaged community (yes/no)	Located in an urban heat island (yes/no)
No new facilities planned.		

Reporting Narrative on Table 1.11: New Facilities and Disadvantaged communities and Urban Heat islands

No new facilities planned.

Planning Narrative on Table 1.11: New Facilities and Disadvantaged communities and Urban Heat islands

No new facilities planned.

Integrating Climate Change into CalSTRS Funding Programs

Table 1.11: Integration of Climate Change into CalSTRS Planning

Name of plan	Have you integrated climate?	Is a plan in progress?	If no, or in process, when will it be integrated?
Path to net zero	Yes	Yes	2050

Reporting Narrative for Table 1.12: Integrating Climate Change into CalSTRS Planning Process

We believe climate change is one of the greatest threats to our future, with undeniable links to business and financial investments. CalSTRS' mission is to support the retirement security of California's educators. Virtually all companies and assets in our portfolio are affected by climate risk and must prepare for climate change. In September 2021, the Teachers' Retirement Board pledged to achieve net zero greenhouse gas emissions across the CalSTRS Investment Portfolio by 2050, or sooner.

In August 2022, the board approved a package of investment actions to enhance our efforts to achieve a net zero investment portfolio, address climate change and support the retirement security of California's public educators. This included a decision to set a science-based interim goal to reduce emissions from the portfolio by 50% by 2030. See *Path to net zero* for more details.

Planning Narrative for table 1.12: Integrating Climate Change into CalSTRS Planning Process

Climate change integration into department planning process achieved.

Community Engagement and Planning Processes

Table1.12: Community Engagement and Planning Processes

Name of plan	Does this plan consider impacts on vulnerable populations? yes/no	Does this plan include coordination with local and regional agencies? yes/no	Does this plan prioritize natural and green infrastructure? yes/no
Member outreach	Yes	Yes	Yes

Reporting Narrative for Table 1.13: Community Engagement and Planning Processes

Community engagement and planning process achieved.

Planning Narrative for Table 1.13: Community Engagement and Planning Processes

Community engagement and planning process achieved.

Climate Change Implementation Planning in Funding Programs

Table1.13: Climate Change Implementation Planning in CalSTRS Funding Programs

Name of grant or funding program	Have you integrated climate change into program guidelines? (yes/no)	If no, date it will be integrated?	Does this funding program consider impacts on vulnerable populations? (yes/no)	Does this funding program include coordination with local and regional agencies? (yes/no)
No funding or grant programs.	n/a	n/a	n/a	n/a

Reporting Narrative for Table 1.14: Climate Change Implementation Planning in Funding Programs

No grant or other funding provided.

Planning Narrative for Table 1.14: Climate Change Implementation Planning in Funding Programs

No grant or other funding provided.

Measuring and Tracking Progress

Reporting Narrative on Measuring and Tracking Progress

Measuring and tracking progress achieved.

Planning Narrative on Measuring and Tracking Progress

Measuring and tracking progress achieved.

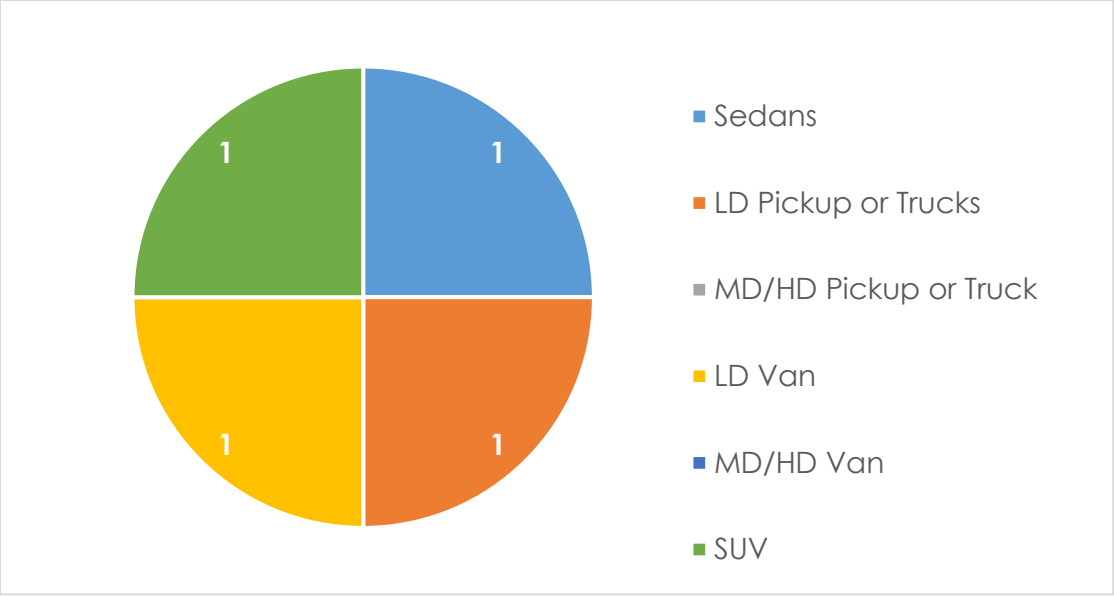
CHAPTER 2—ZERO-EMISSION VEHICLES

CalSTRS' Mission and Fleet

CalSTRS maintains a small fleet of vehicles to perform the variety of tasks required to conduct business. Some common uses for the fleet sedan and SUV include transporting staff twice daily for messenger duties, downtown meetings, work-related trips, and visiting member service centers and education offices. The pickup truck is typically used for transporting items such as miscellaneous office equipment for recycling and even turkeys from CalSTRS' annual turkey drive to a local food bank. The passenger van is most often used for transportation of board members for business purposes. The fleet vehicles are only operated on paved roads and highways in cities and are typically used for short trips.

Composition of Vehicle Fleet

Graph 2.1: 2024 Composition of Vehicle Fleet



Fuel Types

Reporting on Total Fuel Use by Fuel Type

Table 2.1: Total Fuel Purchased in 2023 and 2024

Year	Fuel type (gallons) diesel	Fuel type (gallons) gasoline	Fuel type (gallons) renewable diesel
2023	Fuel type not used	280.11	Fuel type not used

Year	Fuel type (gallons) diesel	Fuel type (gallons) gasoline	Fuel type (gallons) renewable diesel
2024	Fuel type not used	174.84	Fuel type not used

Reporting Narrative on Table 2.1: Fuel Type Selections

CalSTRS is committed to complying with the ZEV and hybrid first purchasing mandate for new vehicles. To meet this requirement, we are replacing internal combustion engine vehicles with battery electric vehicles. CalSTRS first ZEV purchase came in 2017 when we purchased a hydrogen fuel cell Toyota Mirai. We determined this to be the best ZEV option due to a hydrogen fueling station located near our headquarters building, where our fleet is housed. It also meant not having to rely on slow charging times experienced by electric vehicles at the time. During the first few years after purchasing the vehicle, we were pleased with hydrogen as an alternative fuel type and considered making future hydrogen fuel cell purchases. However, in the final years of owning the Mirai, we encountered issues with hydrogen shortages at the fueling station. Many times, the station simply did not have any hydrogen at all. This forced us to rethink the fuel type for future purchases. Currently, battery electric vehicles offer the most choice and available infrastructure, so we made the decision to purchase battery electric vehicles going forward.

Planning Narrative on Table 2.1: Fuel Type Selections

Our goal is to purchase fully battery electric vehicles whenever we make new vehicle purchases. The vehicle that we use most often in our fleet is our battery electric 2023 Toyota BZ4X. As the only Zero-Emissions Vehicle in our small fleet, using it as the primary vehicle for most daily business needs is a purposeful decision that helps us reduce our greenhouse gas emissions from our fleet vehicles.

Rightsizing the Vehicle Fleet

Teleworking, Mission Changes, and Technology Changes

Reporting Narratives on Teleworking, Mission Changes, and Technology Changes

The CalSTRS fleet was already small prior to the COVID-19 pandemic. Most of the daily uses for fleet vehicles have not changed with our agency's post-pandemic hybrid telework model. The longer trips, such as visits to member service centers and offices of education have decreased with the adoption of telework. This will help to extend the life of our current fleet of vehicles by reducing total yearly miles travelled.

We have not made any mission changes that impact vehicle use at CalSTRS, however the adoption of telework and the technological tools that support it, such as Microsoft Teams, have impacted our vehicle use by reducing miles traveled.

Telematics

Telematics Implementation Status

Reporting Narrative on Telematics Implementation Status

Completed telematics implementation.

Planning Narrative for Telematics Data

Completed telematics implementation.

Existing Fleet Description

Light-Duty Fleet Vehicles

The CalSTRS fleet is comprised of all light-duty vehicles, including a Sedan, an SUV, a pickup truck and a passenger van. As reported earlier in this chapter, some common uses for the fleet sedan and SUV include transporting staff twice daily for messenger duties, downtown meetings, work related trips, and visiting member service centers and education offices. The pickup truck is typically used for transporting items such as miscellaneous office equipment for recycling and even frozen turkeys from CalSTRS annual turkey drive to a local food bank. The passenger van is most often used for transportation of board members for business purposes. The fleet vehicles are only operated on paved roads and highways in cities and are typically used for short trips around the Sacramento area.

Reporting on Total Miles Traveled

Table 2.2 Total Miles Traveled

Year	2019	2020	2021	2022	2023	2024
Miles traveled	10580	5837	5561	5908	5947	6943

Reporting Narrative on Table 2.2: Total Miles Traveled

Prior to the COVID-19 pandemic, there was an upward trend in miles traveled which mirrored our growth in workforce. During and after the pandemic, our yearly miles traveled was reduced by roughly half as a direct result of telework and the ease of conducting meetings virtually rather than in-person. CalSTRS will continue to conduct off-site meetings virtually, when possible, to decrease vehicle miles travelled.

Reporting on Miles per Gallon

Table 2.3 Light-Duty Miles per Gallon

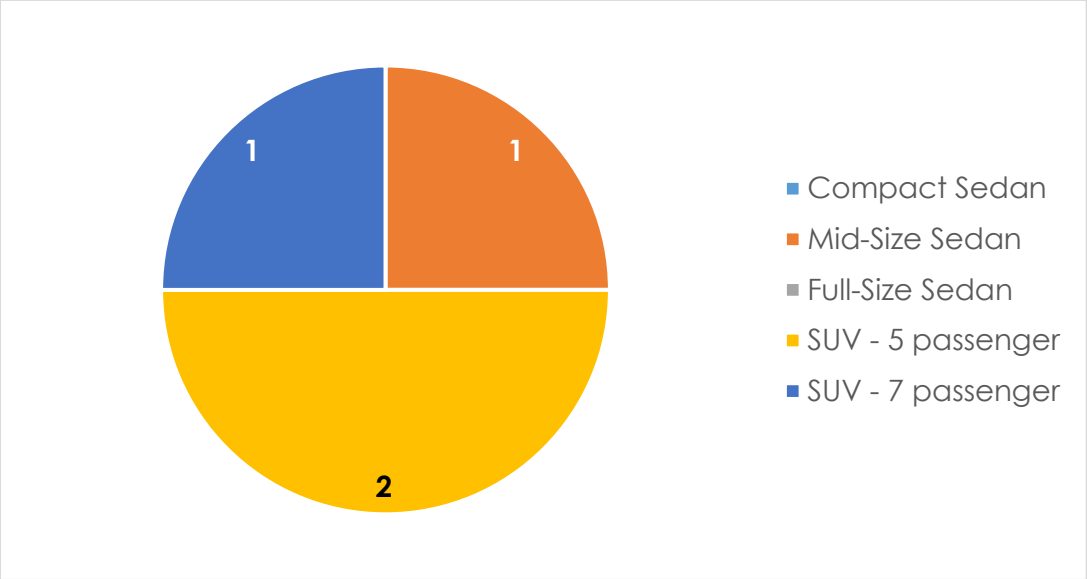
Year	2019	2020	2021	2022	2023	2024
MPG	33.66	33.98	34.51	35.02	21.23	39.71

Reporting Narrative on Table 2:3: Miles per Gallon

The yearly miles per gallon have remained relatively constant at around 30. We will continue the practice of using our most fuel-efficient vehicles for daily trips and will use telematics data to find areas where miles per gallon can be improved. For instance, telematics data shows idling times and can identify if certain routes or drivers are excessively idling.

Composition of Light-Duty Vehicle Fleet

Graph 2.2: Composition of Light Duty Vehicle Fleet



Incorporating ZEVs into the State Fleet

Light-Duty ZEV Adoption

Table 2.4 Light-Duty Vehicles in CalSTRS Fleet Currently Eligible for Replacement

Vehicle type	Sedan	LD van	LD pick up	SUVs 5 passenger	SUVs 7 passenger	SUVs, 8 passenger	Total
# of vehicles eligible for replacement	0	1	1	0	0	0	2

Table 2.5 Plan for Light-Duty ZEV Additions to the CalSTRS Fleet

ZEV category	21/22	22/23	23/24	24/25	25/26
Battery electric vehicle (BEV)	0	1	0	0	0
Plug-in hybrid vehicle (PHEV)	0	0	0	0	0

ZEV category	21/22	22/23	23/24	24/25	25/26
Fuel cell vehicle	0	0	0	0	0
Percent of total purchases		**100%**			
Required ZEV percentage	**35%**	**40%**	**45%**	**50%**	**50%**
Total number of ZEVs in Fleet	1	1	1	1	1

Reporting Narrative for Table 2.5: Light Duty ZEV Additions to the CalSTRS Fleet.

CalSTRS currently has one light-duty combustion engine pickup truck and one light-duty combustion engine passenger van. Both vehicles are eligible for replacement; however, they are the least used vehicles in our fleet and are in good working order. As the ZEV options for these types of light-duty vehicles are still limited, we decided to postpone replacement purchases for the next few fiscal year cycles. Although these two vehicles are used the least, they both serve important functions. The light-duty truck is used for miscellaneous hauling needs by our Facilities and Business Services units, and the passenger van is used to transport board members when they are in town for board meetings or for other business purposes. CalSTRS is committed to replacing both vehicles with ZEVs when they are retired.

Medium- and Heavy-Duty ZEV Adoption

Medium- and Heavy-Duty Vehicles in CalSTRS Fleet currently Eligible for Replacement

Table 2.6 MD/HD Vehicles in CalSTRS Fleet Currently Eligible for Replacement

Vehicle type	Vans, class 2b	Vans, class 3 & 4	Vans, class 5 & 6	Trucks, class 3-6	Truck, class 8	Total
# of vehicles eligible for replacement	No MD/HD fleet vehicles					

Table 2.7 Planned Medium- and Heavy-Duty ZEV Additions to the CalSTRS Fleet

Vehicle type	21/22	22/23	23/24	24/25	25/26
Battery electric vehicle (BEV)	No MD/HD fleet vehicles				
Plug-in hybrid vehicle (PHEV)					
Fuel cell vehicle					
Percent of total purchases					
Total number of ZEVs in fleet					

Reporting Narrative for Table 2.7: Medium- and Heavy-Duty ZEV Adoption

No MD/HD vehicles.

Planning Narrative for Table 2.7: Medium- and Heavy-Duty ZEV Adoption

No MD/HD vehicles.

Take-Home Vehicle Fleet Status

Table 2.8 Take-Home Vehicle Fleet Status

Vehicle Type	Sedans	LD pickup or trucks	MD/HD pickup or truck	LD van	MD/HD van	SUV
Totals	0	0	0	0	0	0

Reporting Narrative on Table 2.8: Take-Home Vehicle Fleet

No take-home vehicle program.

Planning Narrative on Table 2.8: Take-Home Vehicle Fleet

No take-home vehicle program.

Planning Narrative for Integrating ZEVs into Take-Home Vehicle Fleet

No take-home vehicle program.

Planning Narrative on Integrating the Take-Home Vehicle Program with Telework

No take-home vehicle program.

Planning Narrative on Integrating the Take-Home Vehicle Program with Emissions Reduction Strategies

No take-home vehicle program.

Planning Narrative for Integrating ZEVs into Take-Home Vehicles

No take-home vehicle program.

ZEV Public Safety Exemption

Reporting Narrative for ZEV Public Safety Exemption

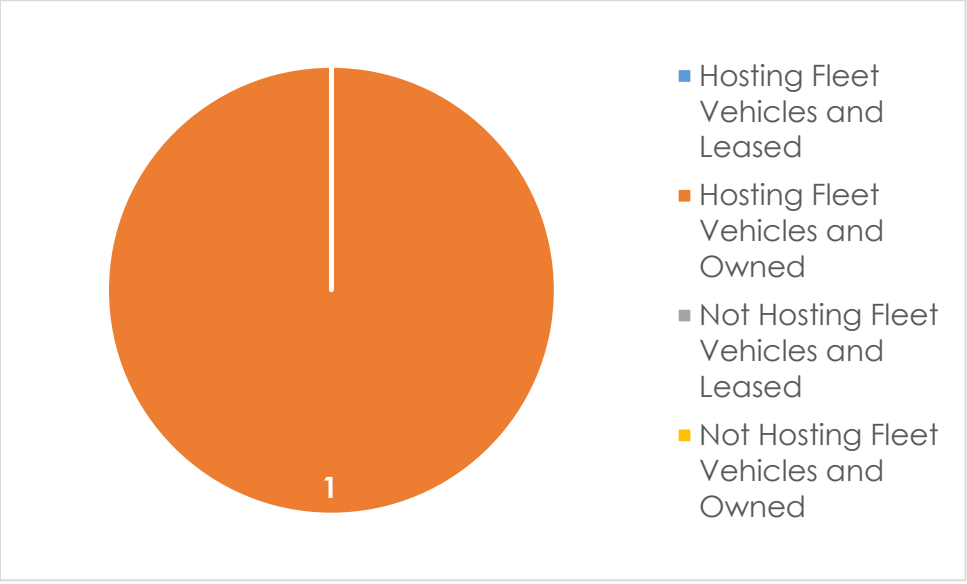
No sworn officers.

Planning Narrative for ZEV Public Safety Exemption

No sworn officers

CalSTRS Parking Facilities

Graph 2.3: Parking Facilities



Reporting Narrative on Graph 2.4: Parking Facilities

Our parking facilities include a five-level parking garage with 1,440 spaces used by employees, fleet vehicles and visitors. The employee, fleet vehicle and visitor

parking areas are intermingled. CalSTRS Headquarters is an asset of the Teachers' Retirement Fund and hosts the entire small fleet of CalSTRS vehicles.

Reporting on Status of EVSE Projects

Table 2.9 : High Priority EVSE Projects

Facility name	Total parking spaces	Existing L1 charging ports (2024)	Existing L2 charging ports (2024)	Existing L3 charging ports (2024)	Total charging ports (2024)	EV Charging ports needed by 2026
100 Waterfront Place	720	2	16	0	18	1 level 2 port
200 Waterfront Place	720	0	15	0	15	2 level 2 ports
Total	1440	2	31	0	33	3 level 2 ports

EV Charging Site Assessments

Reporting on 2024 Facility Site and Infrastructure Assessments

Table 2.10 EV Charging Infrastructure Site Assessments Conducted

Facility name	L1 EVSE project assessments	L2 EVSE project assessments	L3 EVSE project assessments	Entity that conducted the site assessment
No EV charging assessments completed				
Total				

Planning Narrative on Table 2.10: EVSE Construction Plan

With the opening of 200 Waterfront in late 2024, the CalSTRS Headquarters campus parking garage added over 600 parking spaces. Additional Level 2 charging ports were also added. Prior to construction of the new building, assessments were completed by the design team. Although assessments were completed over a year ago, we find that the additional Level 2 charging ports

that were installed have been sufficient. We will continue to evaluate our EV charging infrastructure needs. Before installing more charging stations, we will investigate incentive programs offered by Pacific Gas & Electric Company (PG&E), the agency's electricity provider, and will work with the Department of General Services Office of Sustainability Clean Transportation Unit.

On-going EVSE Charging Operations and Maintenance

Public EV Charging Policies

Reporting Narrative on Public EV Charging Policies

Public charging policy not required.

Planning Narrative on Public EV Charging Policies

Public charging policy not required.

Employee EV Charging Policies

Reporting Narrative on Employee EV Charging Policies

There is no employee EV charging policy in place. Employees are required to complete a waiver prior to use. Charging stations can be paid only through the ChargePoint operating system, which the employees must register with to gain access. Energy for charging is tracked with a monthly report from ChargePoint. Employee charging energy use currently averages about 1,000 kWh per month with approximately 100 registered users.

Currently, charging station users are charged 35 cents per kWh to charge their vehicle with the rate increasing to $3.50 per kWh after four hours. This rate increase encourages users to move their vehicle once fully charged to make the station available to other users. The average length of charging sessions is holding steady around three hours, so the program is working well.

Planning Narrative on Employee EV Charging Policies

We are working on an employee EV charging policy to be completed in 2026. This will be the responsibility of the Facilities Parking Coordinator with direction from the Facilities Operations Manager.

Fleet EV Charging Policies

Reporting Narrative for Fleet EV Charging

CalSTRS does not yet have a fleet EV charging policy.

We still have work to do in using telematics to collect and report fleet EVSE use data. Energy use is logged when the vehicle is charged. For 2024, the most recent year of tracking, we used 791.43 kWh for our one ZEV fleet vehicle. We will manage fleet charging during Flex Alerts and peak time by only charging in the morning hours when energy is cheaper and more abundant in the power grid. Our Facilities Management Division will be responsible for oversight of EV operations and maintenance.

Planning Narrative for Fleet EV Charging

So far, CalSTRS only has one battery electric ZEV in our small fleet. Since we are committed to expanding our ZEV fleet with any future purchases, we will create a fleet EV charging policy that ensures adequate and timely EV charging. This policy will be completed in 2026.

Hydrogen Fueling Infrastructure

Planning Narrative for Hydrogen Fueling Infrastructure

CalSTRS has no hydrogen fuel plans. We previously owned a hydrogen fuel cell Toyota Mirai. We discovered that the hydrogen fueling station was often out of hydrogen and not a reliable fuel source. Further, according to the California Air Resources Board's 2025 Annual Evaluation of Fuel Cell Electric Vehicle Deployment and Hydrogen Fuel Station Network Development Report, hydrogen fueling station development in California has continued to be slower than projected with financial uncertainty being the key issue for fuel station developers.

CHAPTER 3—ENERGY

CalSTRS' Mission and Building Infrastructure

Reporting Narrative for CalSTRS Mission and Building Infrastructure:

Most of the work done to support CalSTRS' mission happens at the headquarters office building in West Sacramento—a 409,000-square-foot LEED Certified Gold for New Construction office building opened in 2009. The headquarters building is also LEED Certified Platinum for Operations and Maintenance. In late 2024, we opened an adjacent 266,500-square-foot expansion office building designed to be highly energy efficient. We are pursuing a LEED certification for New Construction at the Platinum level. Although the impact of these two buildings may be small compared to other state-owned portfolios, it is important for us to operate them as efficiently as possible.

Our fiduciary responsibility is the principle guiding how we manage energy consumption across our modest building portfolio. This stewardship demands that we optimize operational costs to maximize the value and stability of CalSTRS members' assets. Consequently, our pursuit of operational efficiency naturally aligns with the state mandated energy goals.

Total Purchased Energy

Table 3.1: Total Purchased Energy 2023 and 2024 for 100 Waterfront

Purchased energy	2003 baseline quantity	Unit	2023 quantity	2024 quantity	% Qty. change 2003–24
Electricity	6,284,000	kWh	3,132,689	3,738,986	-40%
Less EV charging	No data	kWh	4,307	7,655	No baseline
Natural gas	34,232	therms	38,926	34,713	1%
Propane	0	gallons	0	0	0
Fuel oil	0	gallons	0	0	0
Steam	0	pounds	0	0	0
Chilled H2O	0	kBtu	0	0	0
Totals	25,268,735	kBtu Site	14,596,059.33	16,254,848	-36%

*Data in the above table only reflects the 100 Waterfront Building.

CalSTRS Energy Use

Reporting High Energy Use Facilities

Table 3.2: Facilities with Largest 2024 Energy Consumption

Facility name	Floor area (ft^2)	Site energy (kBtu)	Source energy (kBtu)	Source EUI (kBtu/ft^2-yr)
100 Waterfront Place	409,000	17,284,719	44,969,750	110
Total for facilities in this table	409,000 ft^2	17,284,719 kBtu	44,969,750 kBtu	---
Total for all CalSTRS facilities	409,000 ft^2	17,284,719 kBtu	44,969,750 kBtu	---
Percent of totals	100%	100%	100%	---

Energy Efficiency Solutions for Largest Energy Using Buildings

Planning Outline PO3a: Planning for Facilities with Largest Energy Use

Facility name	Proposed energy efficiency solutions
100 Waterfront Place	Lighting retrofit project planned 2026

Planning Narrative for PO3a: Building Energy Efficiency

CalSTRS Headquarters at 100 Waterfront Place opened in 2009 and is designed and constructed to be energy efficient. It is a challenge to reduce purchased energy by 20% because the benchmark data reflected the building's energy efficient design with relatively low energy consumption for a building of its size.

Although it was a challenge to reduce energy by 20%, CalSTRS has met the reduction goal through a combination of refined building engineering and energy efficient projects.

Over the years, we have replaced old fluorescent lighting with more energy efficient LED lighting in smaller locations such as stairwells and the parking garage. We plan to retrofit the office floors to LED when we start a refresh

project in 2026. Once complete, the entire building at 100 Waterfront will have LED lighting. The effort will be led by our property management partners, JLL. We expect this project will result in noticeable energy reduction.

Zero Net Energy (ZNE)

Reporting on Existing Building ZNE

Table 3.3 Zero Net Energy Buildings

Status of ZNE buildings	Number of buildings	Floor area (ft^2)	% of building area
Buildings completed and verified	0	0	0
Building in design or under construction	0	0	0
Building proposed for before 2025 (but not in design or construction)	0	0	0
Totals for ZNE buildings by 2025	0	0	0
Totals for all department buildings by 2025	0	0	0
% ZNE by 2025	0%	0%	0

Planning Narrative of Table 3.3: Zero Net Energy Buildings

Although CalSTRS has not yet reached the 50% of total building area Zero Net Energy (ZNE) by 2025 target, we have met our Source Energy Use Intensity reduction target for 100 Waterfront Place. With our new building having just opened in late 2024, it is still in the benchmarking stage, although it is also not expected to be ZNE.

The main challenge to reaching ZNE for both buildings in our portfolio is that they both use natural gas for heating. When our gas boilers reach end of life, we will replace them with electric infrastructure recommended by Glumac Group, the decarbonization consultant hired by the Department of General Services. In the meantime, we purchase Renewable Energy Certificates (RECs) to cover 100% of our electricity usage and are on the PG&E wait list for their Solar Choice program.

New Construction Exceeds Title 24 by 15%

Table 3.4: New Building Construction Exceeding Title 24 by 15%

New buildings exceeding Title 24 by 15%	Number of buildings	Floor area (ft^2)
Completed since July 2012	1	266,500
Under design or construction	0	
Proposed before 2025	0	

Reporting Narrative of Table 3.4 New Building Construction Exceeding Title 24 by 15%

All new state buildings and major renovations beginning design after July 1, 2012, must exceed the current California Code of Regulations (CCR) Title 24, energy requirements by 15% or more.

The CalSTRS Headquarters Expansion at 200 Waterfront Place opened in late 2024. It is a 266,500-square-foot office building with a cafe and day care adjacent to our original headquarters building in West Sacramento. This new building is designed to meet the Title 24 energy efficiency requirements by at least 15% and we are currently pursuing LEED New Construction certification at the Platinum level.

Existing Buildings Energy Efficiency

Reporting on Energy Efficiency for Existing Buildings

Table 3.5: CalSTRS-Wide Energy Trends (if available)

Year	Floor area (ft^2)	Total Source kBtu Consumption	Department average EUI (Source kBtu /square foot)
Baseline Year 2003	0	0	0
2013	409,000	64,465,681	158
2014	409,000	61,397,615	150
2015	409,000	57,589,400	141
2016	409,000	60,976,516	149
2017	409,000	55,912,581	137
2018	409,000	51,817,030	127
2019	409,000	50,121,907	123
2020	409,000	43,101,582	105
2021	409,000	40,801,369	100
2022	409,000	49,693,104	121
2023	409,000	38,245,235	94
2024	409,000	44,969,750	110
% Change 2003-2024	0%	-30%	-30%

* CalSTRS baseline year is 2010, which is the first full year of energy date for our building. The table above only reflects energy data for the 100 Waterfront Building.

Reporting Narrative for Table 3.5: CalSTRS-Wide Energy Trends

Even though the CalSTRS Headquarters building is relatively new and built to be energy efficient, we were still able to reduce energy consumption by 30% since the baseline year. Engineering staff work hard to operate the building in the most efficient way possible. Future strategies to further reduce energy consumption include a lighting retrofit project.

Energy Savings Projects

Table 3.6: Summary of Energy Savings Projects 2023-2024

Year funded	Estimated energy savings (kBtu/yr.)	Floor area retrofit (sq. ft.)	Percent of department floor area
2023	No energy savings projects		
2024	No energy savings projects		
Total			

Reporting Narrative for Table 3.6 Energy Savings Projects 2022-2024

CalSTRS is focused on replacing old fluorescent fixtures with energy efficient LED fixtures. We replaced the lobby fixtures, elevator cab lights and, most recently, interior stairwell sconce lighting at our headquarters building. Budgeting for the larger lighting retrofit in the office space is a challenge, which is why we started with smaller areas. We will most likely start this larger retrofit in 2026 to align with a refresh of our office floors.

Demand Response (DR)

Participating in DR Utility Programs and Participating in DR Events

Table 3.7 : Demand Response (DR) Program Participation

Demand Response	Total number of buildings	Total nominated reduction (kW)	Total curtailment in 2023 (kW)	Total curtailment in 2024 (kW)
Enrolled with Enersponse	2			
Participate in DR	2			
Participate in ADR	0			
Total participating (DR/ADR)	2	unknown	unknown	unknown
Enrolled in DR/ADR in 2025	2			
Under construction or renovation during 2025				
Ineligible to participate				

Entire agency's building portfolio	2	

Reporting Narrative for Table 3.7: Demand Response (DR) Program Participation

All buildings are enrolled in DR.

Planning Narrative for Table 3.7: Demand Response (DR) Program Participation

Demand Response enrollment achieved.

Renewable Energy

Table 3.8: 2024 On-Site and Off-Site Renewable Energy

Status	Number of sites	Capacity (kW)	2024 power generation (kWh)	Percent of total annual power use
On-site renewables in operation or construction	1	1,500	317,148	8.5%
On-site renewables planned	1	0	0	0.0%
On-site renewables totals	2	1,500	317,148	8.5%
CalSTRS-wide total energy use (kWh equivalent)	-	-	3,738,986	
Off-site renewable totals	0	0	0	0.0%
Off-site renewables planned	0	0	0	0.0%
Off-site renewables combined current and planned	0	0	0	0.0%
Current combined on-site and off-site renewable energy	2	1,500	317,148	0
Additional planned on-site and off-site renewables	0	0	0	0.0%

Planning Narrative for Table 3.8, for all Existing Building Renewable Energy

In 2023, we installed on-site solar on the top level of the parking garage at 100 Waterfront Place. We are also considering installing more solar to cover the outdoor cafe seating along the east side as well as solar coverings over the outdoor bicycle racks and along the walkway in front of the building. Our headquarters expansion building, 200 Waterfront Place, opened in 2024. This new building has solar covering the entire rooftop. We continue to collect

baseline information on both buildings to see how much electricity usage is offset by solar production.

Although the on-site solar power will help to offset some of our electricity usage between the two buildings, it is not expected to cover all usage. We will continue to purchase Renewable Energy Credits (RECs) to cover electricity purchased by both buildings. This is a short-term strategy until PG&E opens more capacity in their Solar Choice program, which will provide us with 100% renewable electricity that meets the requirements of Senate Bill 1020.

Monitoring-Based Commissioning (MBCx)

Table 3.9: Current and Potential MBCx Projects

Facility	Building name	Floor area (sq. ft.)	MBCx capable, difficult, or no EMS	MBCx projected start date	MBCx projected cost ($ if known)
100 Waterfront Place	100 Waterfront Place	409,000	Capable		
200 Waterfront Place	200 Waterfront Place	266,500	Capable		

Planning Narrative for Table 3.9: MBCx Status of Buildings

CalSTRS incorporates building commissioning in both buildings on a regular basis to facilitate efficient building operation in conjunction with LEED Existing Buildings: Operations and Maintenance.

CalSTRS will coordinate with DGS on MBCx implementation to ensure that we are following state policy.

Building Controls

Reporting on EMS/BMS/Controls Building Capability

Building controls achieved.

Table 3.10: Building Controls

Equipment controls	% of buildings controlled remotely off-site	% of buildings with controls on-site	% of total buildings
Lighting		100%	100%
HVAC: EMS/BMS		100%	100%
HVAC: smart thermostats			
Other: _____			

Planning Narrative for Table 3.10: EMS/BMS/Controls Building Capability

Building controls achieved.

Energy Reduction Strategies—Best Management Practices (BMPs)

Planning Narrative for Energy Reduction Strategies in CalSTRS Buildings Best Management Practices (BMPs)

CalSTRS achieved almost all the energy reduction strategies listed in the Department of Technology's basic policy 4819.31, item 13, Management Memo 14-07 "Standard Operating Procedures for Energy Management in State Buildings" and its associated Standard Operating Procedures as well as Management Memo 14-09 "Energy Efficiency in Data Centers and Server Rooms." Ensuring lights and equipment are turned off at the end of each workday, purchasing Energy Star rated equipment, and occupancy sensor installation are just some examples of these energy reduction strategy best practices.

Retro commissioning has helped us to identify energy reduction strategies such as the ongoing effort to replace the remaining fluorescent light fixtures with more energy efficient LED lighting. This effort has been a challenge since replacing all the fixtures in such a large building as our headquarters can be costly. We are slowly replacing these lights in smaller areas of the building to spread the cost over multiple years as the budget allows. The final phase of this project will start in 2026. Ultimately, we expect this will save CalSTRS money as well as energy use.

CHAPTER 4—DECARBONIZATION

CalSTRS' Mission and Decarbonization Efforts

CalSTRS owns and operates two large office buildings which make up the headquarters campus in West Sacramento. The original building is 409,000 square feet and our newly opened expansion building next door is 266,500 square feet.

Both buildings use electricity and natural gas to operate, including space cooling and heating. CalSTRS has reduced emissions through operational efficiency, energy efficiency projects, and newly installed solar panels. These actions support progress toward the 2035 carbon neutrality target in SB 1203.

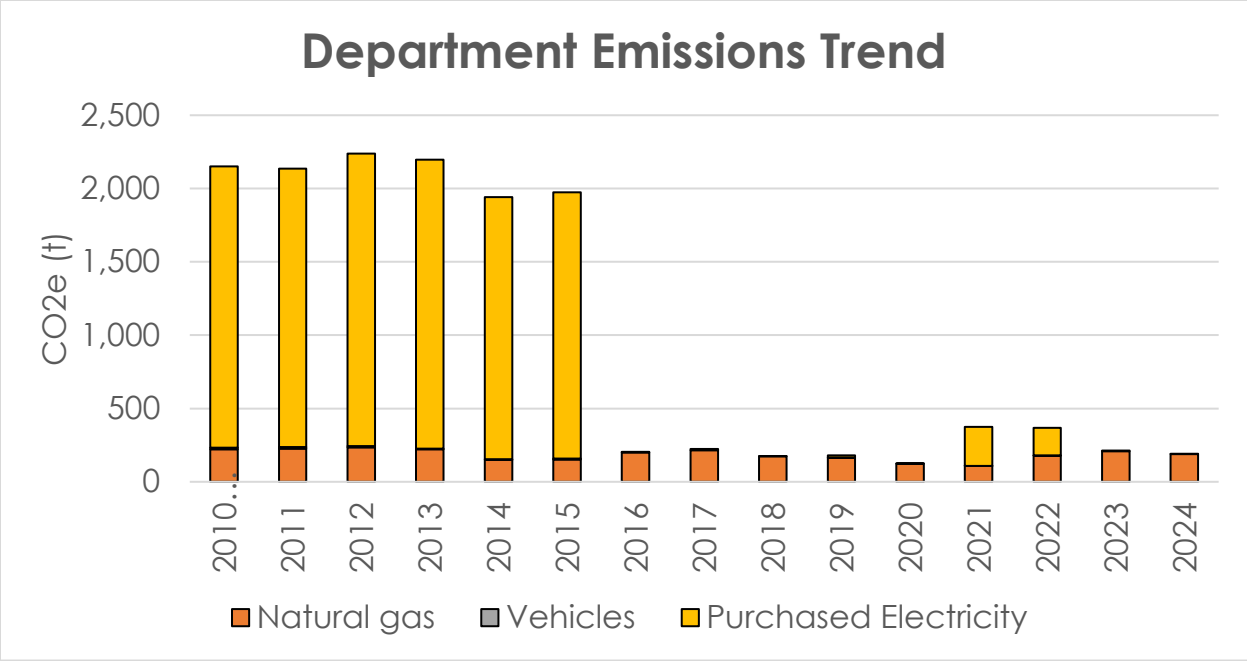
Greenhouse Gas Emissions

Table 4.1: GHG emissions since 2010 (metric tons)

Emissions source	Natural gas	Vehicles	Purchased electricity	Total
2010 baseline	221	11	1,919	2,151
2011	227	11	1,897	2,135
2012	234	10	1,994	2,238
2013	221	6	1,969	2,196
2014	150	5	1,787	1,942
2015	153	5	1,816	1,974
2016	199	6	0	205
2017	216	9	0	225
2018	173	3	0	176
2019	162	2	16	180
2020	123	1	0	124
2021	108	1	266	375
2022	179	1	188	368
2023	210	2	0	212
2024	189	2	0	191
Percent change since baseline	-14%	-89%	-90%	-91%

* The table above only reflects data for the 100 Waterfront Building operations.

Graph 4.1: GHG Emissions since 2010



CalSTRS Decarbonization Approach

CalSTRS' approach to decarbonization includes energy efficiency projects such as retrofitting remaining non-LED lighting at the 100 Waterfront headquarters building. It also includes maintaining existing infrastructure so that it operates efficiently. For our newest headquarters building at 200 Waterfront, we will fine-tune operations through energy use data and benchmarking information. We will also perform retro-commissioning on both buildings to identify areas for improved efficiency.

We are working with our utility provider, PG&E, to obtain 100% carbon-free electricity in the next two years. In the meantime, we will continue purchasing RECs to cover our yearly electricity usage for both buildings.

Long term, we are planning to electrify both buildings when current gas equipment reaches end of life. Once this equipment is replaced, we will have reached carbon neutrality.

Existing Conditions Assessment

CalSTRS has the following sources of on-site emissions in both headquarters buildings:

- Natural gas boilers for heating.
- Natural gas water heaters.

- Natural gas kitchen equipment.

CalSTRS has identified systems efficiencies since our first headquarters building opened in 2009, which helped us meet previous state-mandated reduction targets ahead of schedule. Our building engineers perform regular maintenance to keep systems running as efficiently as possible.

Most recently, CalSTRS installed a solar photovoltaic system on the rooftop of our new Headquarters Expansion building as well as covering our existing building's parking garage. We remain on the PG&E waitlist for their Solar Choice program, which provides 100% green electricity. Until we can procure 100% green electricity from PG&E, which they estimate will be about two years, we will continue to purchase RECs to cover our electricity usage.

Carbon Inventory Worksheet

CalSTRS has completed a carbon inventory worksheet for our owned facilities. This will help us plan for eventual electrification of these systems.

Owned Building Inventory

Table 4.1 Option A: Baseline Building Inventory—Owned Facilities

Building name	Building type	Square footage	Fossil fuel consuming equipment	Total building emissions (MTCO2e)
100 Waterfront Place	Office (general)	409,000	NG HHW Boiler NG Unitized WH Kitchen	923
200 Waterfront Place	Office (general)	296,550	NG HHW Boiler NG Unitized WH Kitchen	921

Leased Building Inventory

Table 4.2: Baseline Building Inventory—Leased Facilities

Building name	Lessor agency	Leased square footage	Natural gas consuming equipment
Fresno Member Service Center	N/A—3rd party lease	2,245	N/A
Glendale Member Service Center	N/A—3rd party lease	9,175	N/A
Irvine Member Service Center	N/A—3rd party lease	8,345	N/A
Riverside Member Service Center	N/A—3rd party lease	7,917	N/A
San Diego Member Service Center	N/A—3rd party lease	8,946	N/A
Santa Clara Member Service Center	N/A—3rd party lease	7,423	N/A

Central Utility Plant and Energy Intensive Operations Inventory

Table 4.3: Central Utility Plant Inventory

Existing plant type	Property name	Connected building count	Natural gas consumption (Therms)	Fuel oil consumption (kBtu)	Total carbon emissions (CO_2e)
No CUP					

*CalSTRS does not have any facilities connected to a central utility plant.

Decarbonization Measures

CalSTRS has not implemented any decarbonization measures in the past two to three years. Regular maintenance of our existing systems has kept them highly efficient.

We plan to electrify our HVAC and water heating systems as well as our kitchen equipment when they reach end of life. This will realistically be after the 2035 deadline laid out by SB 1203.

Building Electrification Measures

CalSTRS will need to replace the two current HVAC systems with air-to-water heat pump systems. We will also need to replace our hot water heaters with heat pump water heaters. Lastly, we will need to replace our natural gas stoves and ovens with induction and electric options.

Table 4.4: Building Electrification Measure Summary

Project type	Project count	Fossil fuel savings (kBtu)	Electricity savings (kWh)	Emissions savings (MTCO2e)	Utility cost impact ($)
HVAC_AWHP	2	8,871,100	-996,431	273.64	-$159,444
DHW_Hybrid HP WH	2	441,400	-33,137	16.87	-$2,544
Process_Kitchen Electrification	2	1,147,500	-149,430	31.33	-$27,357

CUP Electrification Options

Table 4.5: CUP Measure Summary

Property name	Recommended strategy	Fossil fuel savings (kBtu)	Electricity savings (kWh)	Emissions savings (MTCO2e)	Utility cost impact ($)
No CUPS					

*CalSTRS does not have any facilities connected to a central utility plant.

Building Energy Efficiency Measures

We identified two energy efficiency measures at our headquarters buildings. We will retrofit the remaining fluorescent lighting at 100 Waterfront Place to LED during the next two years. We will also retro-commission both buildings to look for energy savings.

Table 4.6: Energy Efficiency Measure Summary

Project type	Project count	Fossil fuel savings (kBtu)	Electricity savings (kWh)	Emissions savings (MTCO2e)	Utility cost impact ($)
Lighting_LED	1	0	550,266	109.02	$180,365
RCx	2	1,628,700	630,351	211.37	$237,306

Decarbonization Action Plan

CalSTRS is committed to achieving an overall net-zero carbon operation for its stationary assets although our projected target date will be later than 2035. Actions are split into short-term, mid-term and long-term plans.

Short-Term Actions (2026–2030)

- **Energy Efficiency Upgrades:**
  - Complete LED retrofit for all remaining fluorescent bulbs at the 100 Waterfront building.
  - Conduct Retro-Commissioning (RCx) to identify and optimize building controls.

Mid-Term Actions (2031–2035)

- **Infrastructure and Planning:**
  - Validate electrical capacity at both CalSTRS Headquarters Campus buildings with local utility providers.
  - Determine sites for heat pump units.
- **Supply Management:**
  - Continue collaboration with utility providers to leverage incentives and grid modernization programs.
  - Explore options for on-site renewable energy installations
- **Electrification Projects:**
  - Replace natural gas stove/ovens with induction and electric options when current equipment reaches end of life.

Long-Term Actions (2035 and Beyond)

- **Full Electrification:**
  - Replace natural gas boilers for HVAC in both buildings with air-to-water heat pump units when boilers reach end of life.
  - Replace natural gas water heaters with domestic hot water hybrid heat pumps in both buildings when current equipment reaches end of life.

- **Sustainability and Maintenance:**
    - Maintain carbon neutrality through ongoing monitoring, maintenance, and upgrades of electrification and efficiency systems.
    - Evaluate and pilot emerging technologies such as advanced heat pumps, thermal storage, or on-site renewable energy integration.
- **Policy Adaptation:**
    - Update decarbonization plans in alignment with evolving state policies and technological advancements.

Existing Challenges

- **Electrical Capacity Constraints:** Validating and potentially upgrading electrical infrastructure at Headquarters to support new heat pump systems will require coordination with PG&E.
- **Space Allocation:** Limited rooftop/outdoor space at Headquarters for heat pump units could constrain project implementation.
- **Life Cycle of Existing Equipment:** Existing heating systems that require electrification will still have significant remaining life by 2035 and will require large investments ahead of anticipated replacement budgets.

Decarbonization Action Plan Implementation

CalSTRS has only two owned office buildings in our portfolio. One building was opened in 2009 and the newest in late 2024. Since both buildings are relatively new and the systems are in good working order, we made the decision to postpone replacing most of the gas systems until equipment end-of-life. Our building engineers keep our systems in excellent working order by performing regular maintenance and systems end-of-life is not anticipated until after the 2035 deadline.

We plan to start kitchen electrification prior to 2035 since that is a less costly switch.

Table 4.7: Decarbonization Strategy Summary

Project type	Project count	Emissions savings (MTCO2e)	Timeline
HVAC Air-to-water heat pump	2	273.64	Long-Term: Complete project at equipment end-of-life, post 2035
Domestic hot water hybrid heat pump water heater	2	16.87	Long-Term: Complete project at equipment end-of-life, post 2035
Kitchen electrification	2	31.33	Mid-Term: Complete kitchen electrification before 2035.

Pilot and Priority Projects

We have not yet identified any pilot projects; however, we plan to start with kitchen electrification in the mid-term. A pilot could involve starting with one piece of kitchen equipment to gain feedback from kitchen personnel before moving forward with additional electric kitchen equipment.

Projects will be prioritized by need and cost. As part of CalSTRS' fiduciary responsibility, we will only fund costly projects as the need arises. Kitchen equipment will reach end of life sooner than HVAC and water heating systems and are less costly to swap out.

Replacing HVAC and hot water heaters with electric versions will most likely happen after 2035, closer to 2040. We will create a detailed decarbonization plan with our building manager and energy consultant so that we have a plan in place should there be a systems failure that needs replacing before 2035.

Table 4.8: Pilot and Priority Projects for Initial Implementation

Project	Description	Timeline
Replace gas kitchen equipment with electric	Start with replacing one piece of gas kitchen equipment to allow for feedback from kitchen staff and to help kitchen staff become familiar with the differences before switching completely.	5–10 Years

Project Funding and Incentives

CalSTRS will fund decarbonization measures by budgeting for equipment end-of-life. We will also take advantage of any future incentive programs, especially for electric kitchen equipment.

CHAPTER 5—WATER EFFICIENCY AND CONSERVATION

CalSTRS' Mission and Water Use

As mentioned in earlier chapters of this report, CalSTRS operates two headquarters buildings. The building we are focusing on for this report is our original 409,000 square-foot headquarters office building, 100 Waterfront Place. We opened an adjacent 266,500 square-foot expansion office building in late 2024. The headquarters complex has an estimated 46,000 square feet of landscaping. The headquarters building is where we conduct most of our business, securing the financial future and sustaining the trust of California's educators.

Our building uses water in a way that is typical of an office building. Water is used for sinks and toilets, HVAC systems, hot water, and landscape irrigation. The building also houses a cafe that has typical restaurant uses for water. During this reporting window cycle, while the neighboring expansion project was under construction, the construction team also used water from our headquarters building.

Reporting on Total Purchased Water

Table 5.1: Total Purchased Water

Purchased water	2023 quantity (gallons)	2024 quantity (gallons)	2023 cost ($/year)	2024 cost ($/ year)
Potable	3,548,802	4,833,031	$33,554	$38,878
Recycled water	none	none	none	none

Reporting Narrative on Table 5.1: Total Purchased Water

Our headquarters building used considerably more water in the 2024 reporting year over the previous year because late-stage construction of our new building used water from our existing building.

To conserve water, CalSTRS does routine systems maintenance and leak detection. We also communicate conservation strategies to our building occupants, such as not letting water taps run in the break rooms and encouraging the use of dishwashers over handwashing dishes. We also have moisture sensors as part of our irrigation so that we are only watering when necessary.

We don't currently utilize recycled water, however, in the future, our new building will use a greywater system for flushing toilets.

Water costs are recorded.

Planning Narrative on Table 5.1: Total Purchased Water

Routine water conservation strategies are in place.

Water costs are recorded.

Reporting on Properties with Largest Purchased Water Use per Capita per Day.

Table 5.2: Properties with Purchased Largest Water Use per Capita

Building name	Area (sq. ft.)	Ave. daily building occupants	Total 2024 gallons	Total 2024 irrigation in gallons (if known)	Gallons per capita/ day
100 Waterfront Pl	409,000	1,300	4,833,031	1,964,230	6.05
Total for buildings in this table	409,000	1,300	4,833,031	1,964,230	6.05
Total for all department buildings	409,000	1,300	4,833,031	1,964,230	6.05
% of totals	100%		100%	100%	

Reporting Narrative on Table 5.2: Properties with Largest Water Use per Capita

Per capita per day achieved.

Planning Narrative on Table 5.2: Properties with Largest Water Use per Capita

Per capita per day achieved.

Reporting on Properties with Largest Landscape Area Irrigated with Purchased Water

Table 5.3: Properties with Largest Landscape Area Irrigated with Purchased Water

Facility name	Landscape area (ft2)
100 Waterfront Place	46,424
Total landscaping area for facilities in this table	46,424
Total landscaping for all department facilities	46,424
% of totals that is large landscape	100%

Reporting Narrative on Table 5.3: Properties with Largest Landscape Area Using Purchased Water

CalSTRS has no turf grass.

Planning Narrative on Table 5.3: Properties with Largest Landscape Area Irrigated with Purchased Water

CalSTRS has no turf grass.

Reporting on the CalSTRS Purchased Water Use Trends from 2010 to Present

Table 5.4: CalSTRS-Wide Purchased Water Use Trends

Year	Total occupancy /year	Total amount used (gallons/year)	Percent change from 2010 baseline	Per capita gallons per person per day
Baseline year 2010	1,100	5,267,400		13.1
2018	1,300	6,217,100	18%	13.1
2019	1,300	5,648,500	7%	11.9
2020	300	3,306,700	-37%	30.2
2021	300	2,890,200	-45%	26.4
2022	1,300	3,602,800	-32%	7.6
2023	1,300	3,548,802	-33%	7.5
2024	1,300	4,833,031	-8%	10.2
2025 goal	1,300	2,810,695	-47%	6

Reporting Narrative on Table 5.4: Purchased Water Use Trends from 2010 to Present

Apart from the two years that CalSTRS staff worked remotely as a response to the COVID-19 pandemic, our water use has remained stubbornly consistent. This is a result of the building's original highly-efficient water fixtures and an efficient drip irrigation system with drought-tolerant landscaping. This makes it difficult to meet the mandatory reductions. In 2024, we saw a notable increase in water usage caused by construction usage. We set a goal for 2025 to be slightly below our 2023 water usage.

Planning Narrative on Table 5.4: Purchased Water Use Trends from 2010 to Present

Now that construction is completed on our Headquarters Expansion building, we expect water usage will return to normal. We also installed a rain capture system for supplemental landscape irrigation.

Reporting on Table 5.5 Total Purchased Water Reductions from 2010 to Present

Table 5.5: Total Purchased Water Reductions Achieved in Gallons

Purchased water use	2023 totals (gallons) Y	2024 totals (gallons) Z
2010 baseline totals (gallons) X	5,267,400	5,267,400
Enter each year's total water use in gallons. Y= total gallons for 2023, Z=total gallons for 2024.	3,548,802	4,833,031
+ or -gallons compared to baseline year	1,718,598	434,369
CalSTRS-wide reduction as a % from 2010 baseline	-33%	-8%

Reporting Narrative on Table 5.5: Purchased Water Use Trends from 2010 to Present

Prior to 2024, we achieved the state mandated goal of 20% potable water use reduction from the 2010 baseline. In 2024 we missed the target due to construction usage of water. Since construction completed in late 2024, we anticipate meeting our water use reduction target once again in 2025.

Planning Narrative on Table 5.5: Purchased Water Use Trends from 2010 to Present

CalSTRS anticipates meeting our water reduction goal again in 2025 by continued systems maintenance, including irrigation, and HVAC systems. We will continue to monitor our highly-efficient water fixtures for leaks and replacement if necessary.

CalSTRS Indoor Water Use

Fixtures and Water-Using Appliances Needs Inventories

Reporting on Building Indoor Water Fixtures and Water-Using Appliances Needs

Table 5.6: Building Indoor Water Fixtures and Water-Using Appliances Needs Inventories Summary

# of toilets to be replaced	# of urinals to be replaced	# of faucet aerators to be replaced	# of showerheads to be replaced	# of clothes washers to be replaced	# of garbage disposals to be replaced	# of pre-rinse valves to be replaced
Water conservation requirements achieved	Water conservation requirements achieved	Water conservation requirements achieved	Water conservation requirements achieved	N/A	15	Water conservation requirements achieved

Reporting Narrative on Table 5.6: Indoor Building Water Fixtures and Water-Using Appliances Needs

The Facilities Management division is responsible for assessing indoor water fixtures and water-using appliance needs. Most of our water fixtures meet the water conservation requirements. We still have garbage disposals in all the employee kitchens.

Planning Narrative on Table 5.6: Indoor Building Water Fixtures and Water-Using Appliances Needs

Except for the garbage disposals, all water fixtures and appliances meet the water conservation requirements. We are considering the use of sink strainers as a low-cost answer to avoiding the use of garbage disposals. To be successful, this will require a well-thought-out communications campaign for employees.

Water Conservation and Water Efficiency Projects for Purchased Water

Reporting on Current Indoor Water Efficiency Projects 2020 to Present

Table 5.7: Summary of Current Indoor Water Efficiency Projects Completed 2020 to Present or in Progress

Completed projects per year	Water saved (gallons/yr.)	Number of indoor water efficiency projects completed	Cost savings per year
2022	No current projects		
2023	No current projects		
2024	No current projects		

Reporting Narrative on Table 5.7 Current Indoor Water Efficiency Projects 2020 to Present

No completed projects.

Planning for Future Indoor Water Efficiency for the Next Five Years—Building Priority Projects

Planning Outline PO5:a: Building Indoor Water Efficiency Priority Projects for the Next Five Years

Building name	Type of project	Est water savings	Est. start date
100 Waterfront Place	No projects planned		

Planning Narrative for PO5a: Future Indoor Water Efficiency—Building Priority Projects

As explained earlier in this chapter, we achieved the required indoor water efficiency prior to 2024. We expect to go back to our previous water efficiency now that the construction that caused an increase in water usage is complete.

General Water Management

Reporting Narrative on General Water Management BMP

General water management BMP achieved.

Planning Narrative on General Water Management BMP

General water management BMP achieved.

Leak Detection and Repair

Reporting Narrative on Leak Detection and Repair BMP

Leak detection and repair BMP achieved.

Planning Narrative on Leak Detection and Repair BMP

Leak detection and repair BMP achieved.

Kitchen Water Conservation

Reporting Narrative on Kitchen Water Conservation BMPs, Fixtures

Kitchen water conservation BMP achieved.

Planning Narrative on Kitchen Water Conservation BMPs, Fixtures

Kitchen water conservation BMP achieved.

Laundry Facilities Water Conservation

Reporting Narrative on Laundry Facilities Water Conservation BMPS

No laundry facilities.

Planning Narrative on Laundry Facilities Water Conservation BMPS

No laundry facilities.

CalSTRS Total Nonpurchased Water Excluding Water Reuse or Recycling

Reporting on Total Nonpurchased Water Excluding Water Reuse or Recycling

Table 5.8: CalSTRS-Wide Nonpurchased Water Use

Year	Groundwater basin(s) name	Number of domestic or irrigation wells	Ground water use in gallons	Surface water use in gallons	Total (gallons/ Year)
Baseline year 2020	Non purchased water not used.				
2023					
2024					

Reporting Narrative for Table 5.8: Nonpurchased Water Excluding Water Reuse or Recycling

Nonpurchased water not used.

Planning Narrative on Table 5.8: Nonpurchased Water Excluding Water Reuse or Recycling

Nonpurchased water not used.

Reporting Narrative for Nonpurchased Water Use Trends Excluding Water Reuse or Recycling

Nonpurchased water not used.

Planning Narrative on Nonpurchased Water Unavailability.

Nonpurchased water not used.

CalSTRS Water-Energy Nexus Reporting

Reporting on Annual Amount of Boiler Makeup Water Used

Table 5.9: Annual Amount of Boiler Makeup Water Used

Boiler water use	Year 2023	Year 2024
Amount of water used for makeup (gallons)	557	456
Amount of water currently reused. (gallons)	6,203	6,203
Remaining additional water suitable for other purposes (gallons)	0	0
Totals for all facilities	6,760	6,659

Reporting Narrative on Table 5.9: Boiler Water Reuse Opportunities

Boiler water reuse achieved.

Planning Narrative on Table 5.9: Boiler Water Reuse Opportunities

Boiler water reuse achieved.

Reporting Narrative for Boiler Efficiency

Boiler water use efficiency achieved.

Planning Narrative for Boiler Efficiency

Boiler water use efficiency achieved.

Reporting on Cooling Tower Water Use

Table 5.10: Cooling Tower Water Use

Cooling tower water use	Year 2023	Year 2024
Amount of water used for make-up (gallons)	13,429	15,292
Totals for all facilities	13,429	15,292

Reporting Narrative on Table 5.10: Cooling Tower Water Use.

Our cooling tower water use is not excessive and there is very little variance from year to year. Our engineering team continues to operate and maintain them in a highly efficient manner.

Planning Narrative on Table 5.10: Cooling Tower Water Use.

We will continue regular maintenance to keep current efficiency.

Reporting Narrative on Cooling Tower Water Reuse.

Our air handler supply air temperature does not get cold enough to condensate the air in quantities that would make it worthwhile for reuse.

Planning Narrative on Cooling Tower Water reuse.

We are not planning to do this because the amount of reclaimed water would be minimal.

Reporting Narrative on Cooling Tower Efficiency

Cooling towers water use efficiency achieved.

Planning Narrative for Cooling Tower Efficiency

Cooling towers water use efficiency achieved.

Reporting on Boiler Needs Inventories Summary

Table 5.11: Summary of 2024 Boiler Needs Inventory

Number of meters to purchase and install	Water treatment to install, repair, or upgrade	Other
Totals	No boiler water treatment needs.	

Reporting Narrative on Table 5.11: Boiler Needs

No boiler water treatment needs.

Planning Narrative on Table 5.11: Boiler Needs

No boiler water treatment needs.

Reporting on Cooling System Equipment Needs Inventory Summary

Table 5.12: Summary of 2024 Cooling System Needs Inventory

Equipment needed	Equipment totals for all facilities
Meters	No cooling system needs.
Water Treatment	
Other	

Reporting Narrative for Table 5.12: Cooling System Needs

No cooling system needs.

Planning Narrative for Table 5.12: Cooling System Needs

No cooling system needs.

Reporting on Efficiency Projects for Boilers and Cooling System 2020 to Present

Table 5.13: Summary of Efficiency Projects for Boilers and Cooling Systems

Project type	Water saved (gallons/yr.)	Number of completed projects	Number of projects in progress
2022	No projects		
2023	No projects		
2024	No projects		

Reporting Narrative on Table 5.13: Efficiency Projects for Boilers and Cooling Systems

No current projects.

Reporting Narrative for BMPs for Building Boilers and Cooling Systems

Building boilers and cooling systems BMPs achieved.

Planning Narrative for BMPs for Building Boilers and Cooling Systems

Building boilers and cooling systems BMPs achieved.

CalSTRS Outdoor Water Use

Reporting on Outdoor Irrigation Hardware Inventory

Table 5.14: Summary of 2024 Outdoor Irrigation Hardware Needs Inventory

Irrigation Hardware Type	Total Hardware Needed
Separate meters or sub-meters	0
Irrigation controllers required with weather or soil moisture adjustment and flow sensing capabilities	0
Backflow prevention devices	0
Flow sensors to be purchased and installed	0
Automatic rain shut-off devices	0
New pressure regulators	0
New hydrozone(s)	0
New valves	0
Filter assemblies	0
Drip irrigation emitters	0
Booster pumps	0
Rotary nozzles or other high efficiency nozzles	0

Reporting Narrative for Table 5.14: Outdoor Irrigation Hardware Needs

CalSTRS uses a well-maintained drip irrigation system with soil moisture sensors and automatic rain shut-off. The system is in good working order and regularly inspected. We do not have any hardware needs beyond typical maintenance of the system at this time.

The CalSTRS Facilities Operations unit works with our property management partners, JLL, to collect hardware data.

Planning Narrative for Table 5.14: Outdoor Irrigation Hardware Needs

No irrigation hardware needs.

Reporting on Outdoor Irrigation Hardware Water Efficiency Projects

Table 5.15: Summary of Outdoor Hardware Water Efficiency Projects Completed 2020 to Present or in Progress

Year funded	Water saved (gallons/yr.)	Completed hardware water efficiency projects	Hardware water efficiency projects in progress
2022			
2023			
2024	No current projects		

Planning Narrative for Table 5.15: Irrigation Hardware Water Efficiency Projects

Upgrades to irrigation hardware achieved.

Reporting Narrative on Irrigation Hardware Maintenance BMPs

CalSTRS hires a landscaping company that performs irrigation hardware maintenance BMP.

Planning Narrative on Irrigation Hardware Maintenance BMPS

CalSTRS hires a landscaping company that performs irrigation hardware maintenance BMP.

Reporting on Living Landscape Inventory

Table 5.16: All Facilities With > 500 sq. ft. of Living Landscape Inventory

Facilities with landscape >500 sq. ft.	Total turf (sq. ft.)	Number of historic sites or memorials	MWELO landscape area (sq. ft.)	Climate appropriate landscape area (sq. ft.) e	Groundwater basin name	Irrigation source is ground water (yes or no)	Irrigation source is surface water (yes or no)	Irrigation source is re-use or recycled water
46424	0	0	46424	46424	n/a	No	No	46424

Reporting Narrative on Table 5.16: Living Landscape Inventory

The CalSTRS landscape inventory includes a large, mature valley oak tree and several mature sycamores which offer shade, beauty and carbon sequestration.

All landscaped areas are irrigated using satellite-monitored drip irrigation that reduces use of potable water. Only native and adaptive plants and mulch are present in landscaping at CalSTRS Headquarters, which positions us well to deal with drought and climate change. The only exception to the native and adaptive plants is the 230 square feet dedicated to the Waterfront Garden, which provides produce for the on-site cafes.

Reporting on Living Landscape Upgrades for the Next Five Years

Planning Outline PO5:b: Planned Projects for Living Landscape Upgrades for the Next Five Years

Landscape >500 sq. ft.) facility name	Replace turf (sq. ft.)	MWELO landscape area upgrade (sq. ft.)	Climate appropriate landscape upgrade area (sq. ft.)	Date for achieving upgrades
				MWELO landscape achieved.

Planning Narrative on PO5.b Living Landscape Upgrades for the Next Five Years

MWELO landscape achieved.

Planning Narrative for Remaining non MWELO Compliant Living Landscape Upgrades

MWELO landscape achieved.

Reporting on Living Landscape Water Efficiency Projects 2020 to Present

Table 5.17: Summary of Completed Living Landscaping Water Efficiency Projects

Year Funded	Est Annual Water Savings (Gallons)	Sum of MWELO Landscape installed (sq. ft.)	Sum of Climate Appropriate Landscape Installed (sq. ft.)
2022			
2023			
2024	No current projects		

Reporting Narrative on Living Landscape BMPs

Living landscape BMPs achieved.

Planning Narrative on Living Landscape BMPs

Living landscape BMPs achieved.

Reporting on Large Living Landscape Inventory (>20,000 sq. ft.)

Table 5.18: Large Landscape Inventory (>20,000 sq. ft.) and the Required Associated Landscape Water Budget Schedule

Name of facility sites/locations with > 20,000 sq. ft. of landscaping	Landscape area per facility (sq. ft.)	Water budget per facility (gallons)	EPA WaterSense or irrigation association certified staff per facility
100 Waterfront Place	46,424	560,000	2

Reporting on Achieving Large Living Landscape Requirements (>20,000 sq. ft.)

Large living landscape requirements achieved.

Planning Outline PO5:c: Achieving Large Living Landscape Area Requirements (>20,000 sq. ft.)

Facility name	Landscaping sq. ft. to be upgraded to MWELO standards	Water budget per facility (gallons)	Ground water basin	# of staff needing EPA WaterSense certification	Date for achieving
100 Waterfront Place	0	560,000	Sacramento Valley	0	

Planning Narrative on PO5.c: Achieving Large Living Landscape Requirements (>20,000 sq. ft.)

Large living landscape requirements achieved.

Critically Over drafted Groundwater Basins and Water Shortage Contingency Plans

Reporting on Buildings in Critically Over drafted Groundwater Basins

Table 5.19: Buildings in Designated Critically Over drafted Groundwater Basins

Building name	Basin name	Amount of water used 2023 (gallons)	Amount of water used 2024 (gallons)
No facilities			

Reporting on Buildings with Urban Water Shortage Contingency Plans

Table 5.20: Buildings with Urban Water Shortage Contingency Plans

Building name	Name of water supplier with urban water shortage contingency plans	Year of publication or update
100 Waterfront Place	City of West Sacramento	2020

Reporting Narrative for Table 5.20: Urban Water Shortage Contingency Plans

CalSTRS Headquarters building is subject to the City of West Sacramento's urban water shortage contingency plan. Water reduction would not greatly impact our operations. CalSTRS workforce is highly adaptable and critical operations can be conducted remotely, if necessary. As best management practices, we already implement the suggested steps for water reduction listed in the city's contingency plan.

CalSTRS Urban Water Shortage Contingency Plan

Reporting Narrative for CalSTRS Contingency Plan

CalSTRS Headquarters building is subject to the City of West Sacramento's urban water shortage contingency plan. Water reduction would not greatly impact our operations. CalSTRS workforce is highly adaptable and critical operations can be conducted remotely, if necessary. As best management practices, we continue to implement the suggested steps for water reduction listed in the city's contingency plan.

Planning Narrative on CalSTRS Contingency Plan

Urban water shortage contingency plan achieved.

CHAPTER 6—FACILITIES' CONSTRUCTION AND OPERATIONS

CalSTRS' Mission and Facilities Construction and Operations

CalSTRS' mission does not require construction often. However, we recently completed construction of a new Headquarters Expansion building to accommodate organizational growth. Design and construction of the new building was guided by CalSTRS core values as well as state sustainability goals and requirements. Our new building is currently undergoing review for LEED New Construction, WELL, and the Living Building Challenge certifications. These are rigorous building sustainability and occupant health certifications.

All CalSTRS operations occur in an office building setting, as well as employee homes, as a part of our hybrid work model. As assets of the Teachers' Retirement Fund, the buildings are operated in a sustainable way that not only meets the state sustainability goals but also protects the buildings and saves money through efficiency.

Our core values also align with state mandates for green purchasing typical of an office building setting as well as a robust waste diversion program.

Building Design and Construction

New Building LEED Certification

Table 6.1: New Building Construction since July 1, 2012

Facility name	LEED certification type & level achieved	Commissioning performed (Y/N)
200 Waterfront Place	LEED-NC Platinum (pending)	Y

Reporting Narrative for Table 6.1: New Building Construction since July 1, 2021

CalSTRS started construction in 2020 on an expansion building adjacent to our current headquarters building in West Sacramento. It opened in late 2024 and is still undergoing LEED certification review for New Construction. CalSTRS was intentional in its design plans and remains optimistic that the expansion building

will be certified at the Platinum level, well above the Silver level required by Executive Order B-18-12.

Planning Narrative for Table 6.1: New Building Construction since July 1, 2012

LEED certification in progress.

LEED for Existing Buildings Operations and Maintenance

Table 6.2: Large Building LEED Certification for Existing Buildings

Number of buildings over 50,000 sq. ft. and eligible for LEED EBOM	Number of buildings over 50,000 sq. ft. that have achieved LEED EBOM	Percentage of existing buildings over 50,000 sq. ft. that have achieved LEED EBOM
1	1	100%

Reporting Narrative for Table 6.2: Large Building LEED Certification

CalSTRS' existing headquarters building maintains its LEED certification for Existing Buildings and Operations, most recently at the Platinum level.

Planning Narrative for Table 6.2: Large Building LEED Certification

LEED EBOM requirements achieved for the 100 Waterfront building. We will also be obtaining LEED EBOM certification for the 200 Waterfront building.

Indoor Environmental Quality (IEQ)

Daylighting and Views in New Construction

Reporting Narrative for Daylighting and Views in New Construction

Our new building has abundant floor-to-ceiling windows to allow plentiful daylight and quality views for occupants. Although we opted for the Indoor Environmental Quality(IEQ) Quality Views credit rather than the Daylight credit in our LEED New Construction certification, 84% of the regularly occupied area has access to views. We don't have data on actual daylight percentage.

Planning Narrative for Daylighting and Views in New Construction

We do not anticipate any new construction for the foreseeable future; however, we will consider daylighting in any future projects.

CALGreen Tier 1 Indoor Environmental Quality Measures

Reporting Narrative for CALGreen Tier 1 Indoor Environmental Quality Measures

Indoor environmental quality, CALGreen measures achieved.

Planning Narrative for CALGreen Tier 1 Indoor Environmental Quality Measures

Indoor environmental quality, CALGreen measures achieved.

IEQ-New Buildings and Renovation Measures

Reporting Narrative for IEQ-New Buildings and Renovation Measures

IEQ-New buildings and renovation measures achieved.

Planning Narrative for IEQ-New Buildings and Renovation Measures

IEQ-New buildings and renovation measures achieved.

Furnishing Standards

Reporting Narrative for Compliance with Furnishing Standards

Furnishing standards achieved.

Planning Narrative for Compliance with Furnishing Standards

Furnishing standards achieved.

Green Seal Cleaning Products

Reporting Narrative on Using Green Seal Cleaning Products

Green cleaning products standards achieved.

Planning Narrative on Using Green Seal Cleaning Products

Green cleaning products standards achieved.

Cleaning Procedures – Various Standards

Reporting Narrative for Cleaning Procedures – Various Standards

Cleaning procedures standards achieved.

Planning Narrative for Cleaning Procedures – Various Standards

Cleaning procedures standards achieved.

Cleaning Procedures – Title 8, Section 3362

Reporting Narrative for Cleaning Procedures TITLE 8 SECTION 3362

Title 8, Section 3362 cleaning procedures standards achieved.

Planning Narrative for Cleaning Procedures TITLE 8 SECTION 3362

Title 8, Section 3362 cleaning procedures standards achieved.

HVAC Operation Requirements

Reporting Narrative for HVAC Operations

HVAC operations achieved.

Planning Narrative for HVAC Operations

HVAC operations achieved.

HVAC Inspection Requirements

Reporting Narrative for HVAC Inspection Requirements

HVAC inspection requirements achieved.

Planning Narrative for HVAC Inspection Requirements

HVAC inspection requirements achieved.

Integrated Pest Management (IPM)

Table 6.3: Self-Managed Pest Control

Table 6.3: Self-Managed Pest Control

Self-managed pest control	Y/N	Is there an IPM plan? (Y/N)
Does your department self-manage pest control for any and or all Department buildings and the associated building landscapes?	No	No
Does your department self-manage pest control for any and or all Department mission-related infrastructure including, but not limited to, highway medians and shoulders, levees, reservoirs, canals, campgrounds and recreation areas?	N/A	N/A

Reporting Narrative for Table 6.3: Self-Managed Pest Control

No self-managed pest control.

Planning Narrative for Table 6.3 Self-Managed Pest Control

No self-managed pest control.

Table 6.4: External Pest Control Contracts

Table 6.4: External Pest Control Contracts

External pest control contract	Y/N	Is there an IPM plan? (Y/N)	Contract renewal date
Does your department externally contract pest control for any and or all Department buildings and the associated building	Yes	Yes	6/30/2029

landscapes? List all pest control contracts below. Add extra lines as required.			
Building Pest Control Contracts	All Day West Pest Solutions		
Does your department externally contract pest control for any and or all Department mission-related infrastructure including, but not limited to, highway medians and shoulders, levees, reservoirs, canals, campgrounds and recreation areas? List all pest control contracts below. Add extra lines as required.	N/A	N/A	N/A
Infrastructure Pest Control Contracts	N/A	N/A	

Reporting Narrative for Table 6.4: Pest Management Contracts

Integrated pest management requirements achieved.

Planning Narrative for Table 6.4 Pest Management Contracts

Integrated pest management requirements achieved.

Table 6.5: Top 5 Pests Requiring Pest Control

Table 6.5: Top 5 Pests Requiring Pest Control

Pest name (common)	Pest control method(s)
ants	Advion ant bait and Essentria spray
gnats	sticky stakes

Reporting Narrative for Table 6.5: Top 5 Pests Requiring Pest Control

In general, we do not have much of a pest problem in our buildings. Occasionally we have issues with ants. Although not a concern, ants can be an annoyance to employees. As a first response, we thoroughly clean the affected area and that often solves the issue. If the ant issue persists, then it becomes

necessary for our pest management contractor to use Advion ant bait and Essentria spray, which are more environmentally friendly solutions than harsher chemical sprays.

Gnats commonly occur in the indoor plants that line the workstations of our new building. They are an annoyance for employees and are contained by using non-toxic sticky stakes installed by our plant maintenance vendor.

Planning Narrative for Table 6.5 Top 5 Pests Requiring Pest Control

We will continue to use IPM methods for pest control whenever possible.

Fossil Fuel Landscaping Equipment Replacement with Low Emitting Landscaping Equipment

Reporting Narrative for Replacing Fossil Fuel Landscaping Equipment

No fossil fuel landscaping equipment.

Planning Narrative for Replacing Fossil Fuel Landscaping Equipment

No fossil fuel landscaping equipment.

Location Efficiency

Smart Location Score for New Leases after January 1, 2020

Table 6.6: Smart Location Score for New Leases after January 1, 2020

Facility name	Smart Location calculator score
No new leases	
Average	
Baseline	
% change from baseline	

Reporting Narrative for Table 6.6: Smart Location Score after January 1, 2020

No new leases.

Planning Narrative for Table 6.6: Smart Location Score after January 1, 2020

No new leases.

Current (non-expired) Leases Prior to 2020—Lowest Smart Location Score

Table 6.7: Current (non-expired) Leases Prior to 2020—Lowest Smart Location Score

Facility name	Smart Location calculator score	Lease renewal date
Irvine MSC: 2010 Main St, Irvine	2	4/30/2034
San Diego MSC: 9095 Rio San Diego Dr, San Diego	22	10/31/2026
Fresno MSC: 2440 Tulare St, Fresno	25	10/31/2026
Riverside MSC: 3390 University Ave, Riverside	26	7/31/2026

Reporting Narrative on Table 6.7: Current (non-expired) Leases Prior to 2020—Lowest Smart Location Score

Leasing sites for our Member Service Centers that are centrally located and have ample parking is important to our visiting members. As such, a low Smart Location Score is not the most important factor in determining our lease locations.

Planning Narrative on Table 6.7: Current (non-expired) Leases Prior to 2020—Lowest Smart Location Score

One way we counteract these low Smart Location score lease locations is by allowing our employees to work a hybrid schedule which means fewer solo car trips into the office. We also increased our remote benefits counseling services for members, further reducing vehicle miles travelled to these locations.

CHAPTER 7—WASTE MANAGEMENT AND RECYCLING

Department Mission and Waste Management and Recycling

In support of CalSTRS' mission, our operations generate waste typical of an office building such as paper and e-waste. As financial stewards, recycling and waste reduction align with our goal to conserve resources.

Our top waste types include paper, business services ongoing consumables, and ongoing consumables from our on-site cafes such as take-out containers.

Occupant behavior remains the biggest challenge to our waste reduction and recycling efforts.

Waste and Recycling Programs

Designated Waste and Recycle Coordinator and Program Basics

Reporting Narrative on Designated Waste and Recycle Coordinator and Program Basics

CalSTRS' facilities have all the required receptacles and bin signage for waste and recycling. There are four different waste streams including mixed recycling, organics, certified destruct paper and landfill. CalSTRS contracts with a waste management company to haul all mixed recycling, organic and landfill waste and a certified destruct paper company for pickup and shredding of paper. We also have on-going employee outreach and training, including waste bin instruction for newly hired staff and ongoing communication through the intranet. The Facilities Environmental Coordinator performs annual reviews to make sure that the number and condition of the receptacles are appropriate. Signage is refreshed as needed.

Planning Narrative on Designated Waste and Recycle Coordinator and Program Basics

Designated waste, recycle coordinator, and program basics achieved.

SARC Report

Table 7.1: State Agency Reporting Center (SARC) Report on Total Waste per Capita

Per capita disposal rate	2023	2024	Total waste 2023	Total waste 2024	% change from 2022/2024
	.05	.05	14.34 tons	14.27 tons	17%

Reporting Narrative on Table 7.1: SARC Report on Total Waste per Capita

The number of employees at our headquarters building fluctuates around 1,300. Our successful waste and recycling program is reflected in our low per capita disposal rate. Most of our waste is diverted from the landfill via compost, mixed recycling and paper shredding. Our diversion rate hovers around 90%. This is a direct result of well-marked bin signage and ongoing communication with employees and visitors.

The years 2020 and 2021 were impacted by the COVID-19 pandemic. While most employees worked full-time remotely, our waste totals decreased significantly. As our employees started a hybrid model of work, with most people working two days in the office, waste totals started to increase again, however they remain well below the pre-pandemic amounts. This has helped us with source reduction, which is highest on the solid waste management hierarchy established by the California Integrated Waste Management Act.

Planning Narrative on Table 7.1: SARC Report on Total Waste per Capita

Per capita disposal rate achieved.

Annual Report Summary: SARC

Recycling Program and Practices

Reporting Narrative on Recycling Program and Practices

CalSTRS recycles most of the waste materials it generates with mixed recycling collection and paper collection. Recycling is hauled off-site by a contracted hauler. Some of the more common mixed recycling generated includes cardboard, glass bottles, plastic food and drink containers, and metal cans and beverage containers. Paper is collected and shredded by a certified destruct vendor. Some other common items that are recycled through e-waste pickup include laptops and monitors.

Planning Narrative on Recycling Program and Practices

Film plastics, associated with packaging and individual employee use, continue to be a challenge to recycle. In the future, CalSTRS will create an educational campaign for employees on ways to reduce or swap out single use and film plastics for more sustainable items.

Organics Recycling

Reporting Narrative on Organic Recycling Program and Practices

We implemented an organics recycling program at the CalSTRS Headquarters building when it opened in 2009. Organic waste is delivered to Yolo County's landfill composting facility by our waste hauler. In our cafes, educational bin signage directs employees and visitors to sort all food waste, soiled paper and compostable items—such as bagasse containers—into food waste (compost) bins.

Key players in CalSTRS' organics recycling program include building management, the recycling coordinator, the waste hauler, custodial staff and employees.

Planning Narrative on Organic Recycling Program and Practices

Organic recycling requirements achieved.

Edible Food Recover Program

Table 7.2: Edible Food Recovery Program Elements

Building Name	Cafeteria >5,000 sq. ft.	Cafeteria +250 Seats	Cafeteria Open in 2023?	Cafeteria Open in 2024?	Food Recovery Agreement (Y/N)
100 Waterfront Place	less than 5,000	157	yes	yes	yes
200 Waterfront Place	5,500	259	no	yes	yes

Reporting Narrative on Table 7.2: Edible Food Recovery Program Elements

CalSTRS follows the Edible Food Recovery requirement by using the Chefs to End Hunger program. Kits are delivered to our cafe and picked up on regularly scheduled days.

Planning Narrative on Table 7.2: Edible Food Recovery Program

Edible food recovery program achieved.

Food Service Items Program

Reporting Narrative on Food Service Items Program

Table 7.3: Food Service Concessionaire Items Program Elements

Building name	Prepared food service operations type	Food service packaging meets requirements	Process in place for selecting food services that meet packaging requirements
100 Waterfront	restaurants	yes	yes
200 Waterfront	restaurants	yes	yes

Reporting Narrative on Table 7.3: Food Service Items Program

Our cafes use primarily compostable bagasse and paper-based food service packaging. We reduced the amount of plastic drink containers for sale by prioritizing drinks sold in recyclable cans or glass.

Planning Narrative on Table 7.3: Food Service Items Program

Food service items program achieved.

Hazardous Waste Materials

Reporting on Hazardous Waste Materials

Table 7.4: Hazardous Waste Materials

CalSTRS-wide hazardous material name	CalSTRS total hazardous material amount (lbs.)
No hazardous waste	

Reporting Narrative for Table 7.4: Hazardous Waste Materials

No hazardous waste.

Planning Narrative for Table 7.4: Hazardous Waste Materials

No hazardous waste.

Universal Waste Program

Reporting on Department-Wide Universal Waste Materials

Table 7.5: Reporting on CalSTRS- Wide Universal Waste Materials

Category	Universal waste contract in place Y/N
Electronic waste	Yes
Batteries	Yes
CRTS	No
CRT glass	No
Lamps	Yes
Mercury wastes	No
Non-empty aerosol cans	No
Photovoltaic modules	No

Reporting Narrative for Table 7.5: CalSTRS-Wide Universal Waste Materials

Typical hazardous waste for CalSTRS includes e-waste, lightbulbs and batteries. We dispose of these items using licensed hazardous waste disposal vendors. The categories listed as having no contract in Table 7.5 are because we do not

currently generate that type of waste. If a need arises to dispose of those categories, we will get a contract in place for proper disposal.

Planning Narrative for Table 7.5: CalSTRS-Wide Universal Waste Materials

Department-wide universal waste materials disposal achieved.

Material Exchange Programs

Reporting Narrative on CalSTRS-Wide Material Exchange

CalSTRS did not participate in Material Exchange for 2023 or 2024. We have found it extremely cumbersome to donate items, such as laptops, to local schools. The requirements make it an immensely time-consuming process for both CalSTRS and the school district.

Planning Narrative on CalSTRS-Wide Material Exchange

We will continue to review this process in the future if we have a large quantity of items to donate that might still have value to other users.

Waste Prevention Program

Reporting Narrative on CalSTRS-Wide Waste Prevention

Examples of CalSTRS waste prevention programs include our use of the GovDeals auction website for retired assets that still have value to other users. We have great success selling items through this site which helps divert them from landfills and continue their useful life elsewhere. Defaulting all the printers at CalSTRS to double sided is another small action that has a big impact on waste prevention.

Planning Narrative on CalSTRS-Wide Waste Prevention

As with most things, communication is the key to making employees aware of these programs. When people understand why a program is in place, they are more likely to use it. We will continue to communicate these programs to our employees.

Reuse Program

Reporting Narrative for CalSTRS-Wide Material Reuse

CalSTRS reuse programs include the used office supplies exchange run by our Business Services unit. Before ordering new items, employees are directed to check the used inventory for gently used office supplies.

Planning Narrative for CalSTRS-Wide Material Reuse

To address the inadvertent employee noncompliance with the reuse directive, we plan on using intranet communications targeted for employee education and awareness. If we communicate to employees why it is better to choose used products first, they may be more likely to adopt the strategy.

Employee Waste and Recycling Training and Education

Reporting Narrative for Employee Waste and Recycle Training and Education

We conduct onboarding for all new employees that includes education on the different waste stream bins throughout the building for recycling, compost, paper shredding and landfill. There is also signage posted in all core areas and cafe waste bin stations to help guide users. Our intranet is used for ongoing communications to employees about efforts to reduce waste, reuse materials, recycle, compost and buy recycled products. CalSTRS provides purchasing guidelines for suppliers to educate them on buying recycled materials and other environmentally preferred purchasing requirements.

Signage is reviewed yearly by the Facilities Environmental Coordinator to see if changes are needed. The coordinator also communicates directly with janitorial staff on an ongoing basis to identify any areas of concern.

Planning Narrative for Employee Waste and Recycle Training and Education

Employee training and education achieved.

CHAPTER 8—PROCUREMENT

CalSTRS' Mission and Procurement

Our fiduciary responsibility to our members guides our purchasing decisions at CalSTRS. Purchasing is done only when necessary, which aligns with the state's direction for waste reduction first in the hierarchy of reduce, reuse, recycle.

CalSTRS purchases and needs are typical of an office building and support our work done at headquarters. As such, we can utilize many statewide contracts for purchasing which have Environmentally Preferable Purchasing (EPP) and State Agency Buy Recycled Campaign (SABRC) requirements built in, such as leveraged procurement agreements for laptops that include a minimum requirement of an EPEAT Silver rating.

The top commodities purchased by CalSTRS include paper for member communications printing, ongoing consumables, such as office supplies, and durable IT goods such as laptops and monitors.

The top SABRC categories for CalSTRS' purchasing include paper products, printing and writing papers, plastic products, and metal products.

Reporting Narrative for Measure and Report Progress on EPP Spend

State agencies are required to purchase and use environmentally preferable products (EPP) that have a reduced effect on human health and the environment when compared with competing goods that serve the same purpose.

Some strategies CalSTRS has implemented to increase EPP spend are incorporating EPP criteria in goods and services purchasing and educating buyers on the benefits of EPP products. We have a Sustainable Purchasing policy which buyers can reference before starting the procurement process. We also embedded a step in the shopping cart process for goods purchasing that requires the requestor to complete EPP information before submitting their shopping cart for approval.

EPP language is also included in contracts. A good example of this is the contract for construction of the newly completed Headquarters Expansion building. That contract contained robust EPP requirements that allowed us to pursue multiple sustainability certifications for the building, including the stringent Materials petal of the Living Building Challenge.

EPP data is pulled from our accounting/purchasing system for tracking purposes.

Planning Narrative for Measure and Report Progress on EPP Spend

EPP spend achieved.

Goods and Services Categories with the Greatest Potential to Green:

Reporting on Goods and Services Categories with the Greatest Potential to Green

Table 8.1: Goods and Services Categories with the Greatest Potential to Green

Good or service	2024 total spend ($)	2024 percent EPP spend (%)	EPP target (%)
Printing, copy and writing paper	103,595.40	59%	75%
Paper	40,616.18	95%	75%
Plastic	76,613.06	91%	75%
Metal	1,394.56	100%	75%

Reporting Narrative on Table 8.1: Goods and Services with the Greatest Potential to Green

Although we made gains since the last reporting cycle, one area CalSTRS struggles to meet the 75% requirement is the printing and writing paper category. CalSTRS sends its members, both retirees and current teachers, many communications per year via mail. As fiduciaries of the Teachers' Retirement Fund, CalSTRS must weigh the additional cost of printing on minimum 30% recycled content paper, which is quite significant for large mailing print orders. For smaller, more targeted orders, CalSTRS purchases the costlier, minimum content paper. For larger orders, it is more economically responsible for CalSTRS to order 10% recycled content paper. CalSTRS continues to review this issue yearly and is looking at ways to decrease mailings overall and convert more member communication to a digital format.

Planning Narrative on Table 8.1: Goods and Services with the Greatest Potential to Green

CalSTRS will continue to make purchases of 30% post-consumer recycled content printing paper for CalSTRS communications when it aligns with our fiduciary responsibility.

EPP BMPs

Reporting Narrative for EPP BMPS

First and foremost, purchasing decisions at CalSTRS start with the question: "Is this purchase necessary?" The best way to reduce environmental impacts and to promote natural resource conservation is to reduce purchasing all together. When purchases are necessary, we consider EPP and SABRC requirements. Vendors are given the SABRC requirements before they bid or provide quotes and CalSTRS buyers are required to complete SABRC and other EPP information such as EPEAT or EnergyStar in their shopping carts before submitting them for review and approval.

Planning Narrative for EPP BMPs

The only purchasing standard that CalSTRS does not yet comply with is the purchase of remanufactured toner cartridges. We used remanufactured cartridges in the past but found they caused problems with our printers that required repeated service calls. We will review this standard as technology progresses.

Reporting on EPP Training and Outreach

Table 8.2: 2024 EPP Basic Training Completions

CalHR classification	Total number of staff	EPP basic training completion	Percent trained	2025 EPP training goal
SSA	2	2	100%	100%
AGPA	9	9	100%	100%
SSMI	6	6	100%	100%
SSMII	5	5	100%	100%

Table 8.3: 2024 EPP Executive Training Completions for Executive Members

Executive member	Title	Date completed
No executives have completed training		

Reporting Narrative on Tables 8.2-3: EPP Training and Education

CalSTRS uses an array of communications to promote the understanding and advancement of sustainable procurement internally. Sustainable procurement

information is shared through our intranet, as well as quarterly procurement forums targeted at all staff who make purchasing decisions in the organization.

CalSTRS Procurement works with all business areas within the organization on EPP language for the various contracts needed for operation. Additionally, CalSTRS Procurement has a dedicated EPP staff member.

SABRC reporting is built into the SAP purchasing system. All purchasing is tracked by Procurement Management and the facilities environmental coordinator and reported to management.

Planning Narrative on Tables 8.2-3: EPP Training and Education

EPP Training and education achieved.

Reporting on State Agency Buy Recycled Campaign (SABRC), and Reducing Impacts

Reporting on SABRC Progress

Table 8.4: State Agency Buy Recycled Campaign (SABRC) FY 24/25 Performance

Product category	SABRC reportable dollars	SABRC compliant dollars	% SABRC compliant
75% total purchase requirement			
Building finishes	0	0	
Carpet	0	0	
Erosion control products	0	0	
Glass products	0	0	
Lubricating oils	0	0	
Metal products	1,394.56	1,394.56	100%
Paper products	40,616.18	38,504.93	95%
Pavement surfacing	0	0	
Plastic products	76,613.06	69,803.20	91%
Printing and writing paper	103,595.40	61,160.58	59%
Soil amendments and soil toppings	0	0	
Textiles	0	0	
Tire derived products	0	0	
50% total purchase requirement			
Antifreeze	0	0	
Paint	0	0	
Tires	0	0	

Reporting Narrative for Table 8.4: Measure and Report SABRC Progress

As mentioned previously, it is difficult for us to reach the 75% goal in the Printing and Writing Paper category. Even though we didn't reach our 75% target, we increased our compliance from 21% to 59% in the most recent cycle.
Our current efforts to increase recycled content purchasing are working well and we plan to continue sharing sustainable procurement information through our intranet, as well as quarterly procurement forums targeted at all staff who make purchasing decisions in the organization.

Planning Narrative for Table 8.4: Measure and Report SABRC Progress

Although we significantly increased our percentage of SABRC compliant Printing and Writing Paper purchases, our goal is to meet the 75% target, as we did with the other SABRC categories. We will continue reviewing all communications printing purchases of paper and make the decision to buy the minimum recycled content paper whenever it is the fiscally sound choice.

Reducing Impacts

Reporting Narrative for Reducing Impacts

CalSTRS is committed to reducing the environmental impact of the goods and services we purchase, since procuring EPP containing post-consumer recycled content and minimizing waste can have a positive impact on the environment.

We strive to meet requirements from both the State Agency Buy Recycled Campaign (SABRC) as well as LEED Purchasing. While SABRC focuses on making purchases with a minimum post-consumer recycled content in 16 reportable categories, LEED Purchasing has a wider scope which includes post-consumer recycled content as well as purchasing extended use items, sustainable agriculture, local sourcing of food and beverages, bio-based materials and Forest Stewardship Council certified paper and wood products. Following these requirements, when possible, lessens impacts to public health, natural resources, economy and environment.

Service contracts are written to include information about CalSTRS' EPP requirements. Contractors are also provided with a Sustainable Purchasing Guidelines and Reporting Procedures document to help guide them.

All purchases will continue to be tracked and analyzed to see if they meet the current Department of General Services purchasing standards and specifications available from the DGS Buying Green website. Any purchases that

do not meet purchasing standards will be identified, and an action plan will be created to meet minimum requirements.

CHAPTER 9—FUNDING OPPORTUNITIES

Funding Opportunity Climate Change Adaptation

Table 9.1: Climate Change Priority Projects

Building name	project	Funding source	Est. begin date	Est. completion date
No priorities.				

Funding Opportunities for ZEVs and EV Infrastructure

Table 9.2: EV Priority Projects

Building name	Project	Funding source	Est. begin date	Est. completion date
No priorities.				

Funding Opportunities for Building Energy Conservation and Efficiency

Table 9.3: Building Energy Conservation and Efficiency Priority Projects

Building name	Project	Funding source	Est. begin date	Est. completion date
100 Waterfront Place	LED lighting retrofit	5-Year Infrastructure Plan	2026	2028

Funding Opportunities for Decarbonization

Table 9.4: Funding Opportunities for Decarbonization

Building name	Project	Funding source	Est. begin date	Est. completion date
100 Waterfront Place	Retro-commissioning	Maintenance Budget	2026	2027
200 Waterfront Place	Retro-commissioning	Maintenance Budget	2026	2027

Funding Opportunities for Water Conservation and Efficiency

Table 9.5: Water Conservation and Efficiency Priority Projects

Building name	Project	Funding source	Est. begin date	Est. completion date
No priorities				

Funding Opportunities for Facilities Construction and Maintenance

Table 9.6: Sustainable Operations Priorities

Building name	Project	Funding source	Est. begin date	Est. completion date
No priorities.				

Funding Opportunities for Waste Management and Recycling

Table 9.7: Waste Management and Recycling Priorities

Building name	Project	Funding source	Est. begin date	Est. completion date
No priorities.				

Funding Opportunities for Procurement

Table 9.8: Procurement Priorities

Building name	Project	Funding source	Est. begin date	Est. completion date
No priorities.				

Full Life Cycle Cost Accounting

Reporting on Life Cycle Cost Accounting

CalSTRS conducted life cycle cost accounting prior to construction of our Headquarters Expansion building and although we don't have any immediate, future infrastructure investments planned, life cycle cost accounting will be utilized.

Life cycle cost accounting is directed by the Teachers' Retirement Board.

Planning for Implementing Life Cycle Cost Accounting

No infrastructure investments.

CHAPTER 10—PUBLIC EDUCATION AND OUTREACH

We are proactive in reducing our carbon footprint and environmental impact. We continue our commitment to sustainability and have achieved and maintained LEED Platinum certification for Operations and Maintenance in our main headquarters building.

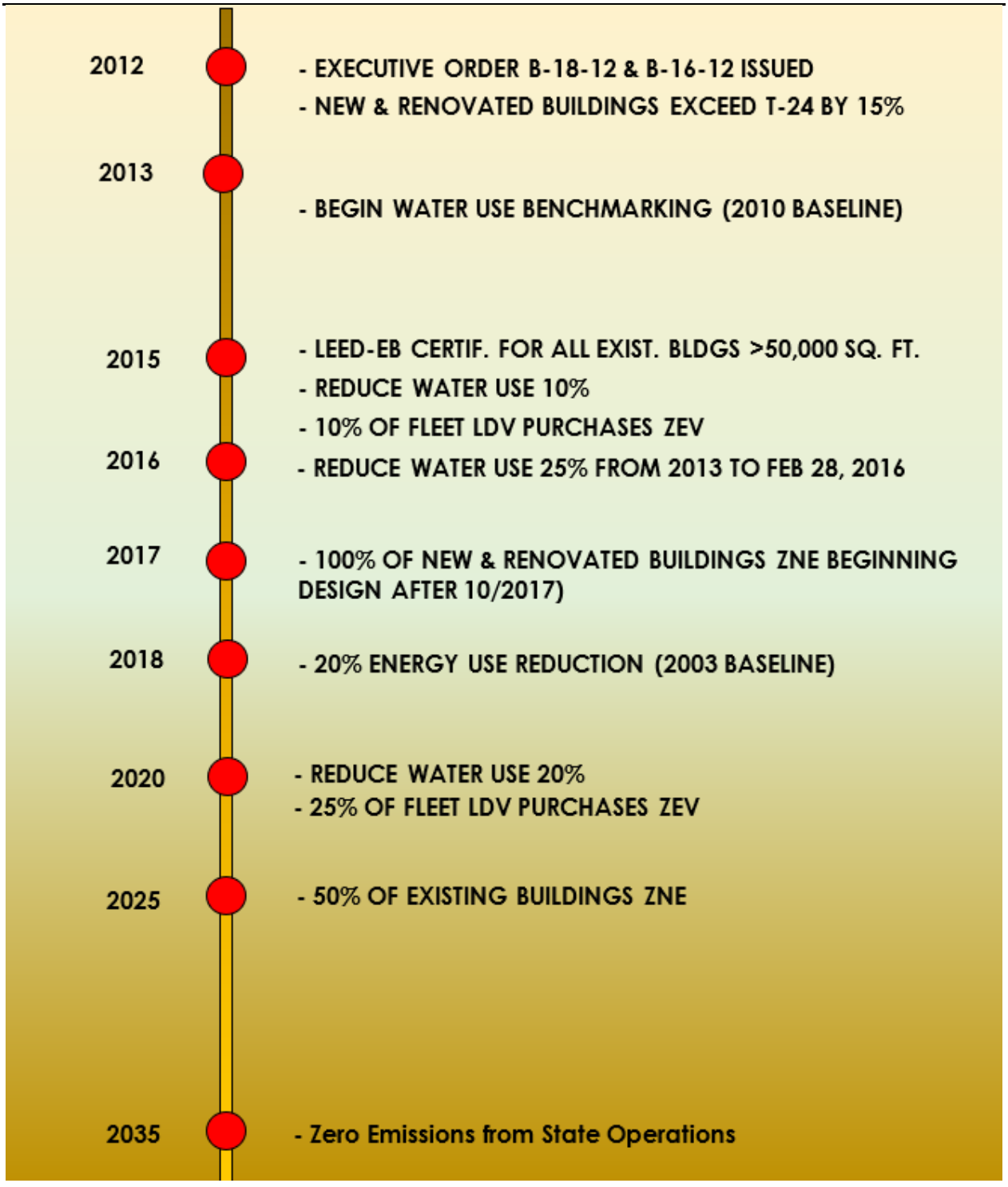
We believe climate change is one of the greatest threats to our future with undeniable links to business and financial investments. In September 2021, the Teachers' Retirement Board pledged to achieve net zero greenhouse gas emissions across the CalSTRS Investment Portfolio by 2050, or sooner. In August 2022, the board approved a package of investment actions to enhance our efforts to achieve a net zero investment portfolio, address climate change and support the retirement security of California's public educators. This included a decision to set an interim goal to reduce emissions from the portfolio by 50% by 2030.

CalSTRS will continue our efforts to meet or exceed the sustainability requirements set forth by the State of California. We remain committed to exploring opportunities that integrate more advanced conservation strategies into our facilities operations.

APPENDIX A—SUSTAINABILITY LEADERSHIP

CalSTRS Enterprise Sustainability	
Chief Executive Officer Cassandra Lichnock	
Chief Operating Officer Lisa Blatnick	
Chief Administrative Officer Melissa Norcia	
Director Jeff Isham	Director Vaishali Dwarka
Facilities Operations Manager Christopher Porter	Manager Noelle Ploof
Facilities Environmental Coordinator Heather Conway	Enterprise Sustainability Manager Ronda Lenci

APPENDIX B—SUSTAINABILITY MILESTONES AND TIMELINE



APPENDIX C—ACRONYMS

ACRONYM	DEFINTION
AB	Assembly Bill
ADR	Automated Demand Response
AMB	Asset Management Branch (at DGS)
BEV	Battery electric vehicle
BMP	Best management practices
CA	California
CALGREEN	California Green Building Code (Title 24, Part 11)
CalSTRS	California State Teachers' Retirement System
CEC	California Energy Commission
CRT	Cathode ray tube
DGS	Department of General Services
DWR	Department of Water Resources
EPD	Environmental Product Declarations
EHT	Extreme heat threshold
EMS	Energy management system (aka EMCS)
EMCS	Energy management control system (aka EMS)
EO	Executive order
EPP	Environmentally preferable purchasing
ESCO	Energy service company
ESPM	Energy Star Portfolio Manager
ETS	Enterprise Technology Solutions (a division at DGS)
EUI	Energy use intensity (source kBtu/sq. ft.)
EVSE	Electric Vehicle Supply equipment (charging equipment)
FMD	Facilities Management Division (at DGS)
GCM	Global circulation model

GHG	Greenhouse gas
GHGe	Greenhouse gas emissions
GSP	Groundwater Sustainability Plan
HD	Heavy-duty vehicles
IEQ	Indoor environmental quality
kBtu	Thousand British thermal units (unit of energy)
LCM	Landscape Coefficient Method
LD	Light-duty vehicles
LEED	Leadership In Energy and Environmental Design
MAWA	Maximum applied water allowance
MD	Medium-duty vehicles
MM	Management Memo
MPG	Miles per gallon
MWELO	Model Water Efficient Landscape Ordinance
OBAS	Office of Business and Acquisition Services (at DGS)
OBF	On-bill financing
OFAM	Office of Fleet and Asset Management (at DGS)
OS	Office of Sustainability (at DGS)
PHEV	Plug-in hybrid electric vehicle
PMDB	Project Management and Development Branch (at DGS)
PPA	Power purchase agreement
PUE	Power usage effectiveness
PV	Photovoltaic
RCP	Representative Concentration Pathway
SABRC	State Agency Buy Recycled Campaign
SAM	State Administrative Manual
SB	Senate Bill

SCM	State Contracting Manual
SGA	Sustainable groundwater agency
SGMA	Sustainable Groundwater Management Act
SUV	Sport utility vehicle
WMC	Water management coordinator
VHSP(s)	Vehicle home storage permits
WUCOLS	Water Use Classifications of Landscape Species
ZEV	Zero emission vehicle
ZNE	Zero net energy

APPENDIX D—GLOSSARY

Backflow: The undesirable reversal of the flow of water or mixtures of water and other undesirable substances from any source (such as used water, industrial fluids, gases, or any substance other than the intended potable water) into the distribution pipes of the potable water system.

Backflow prevention device: A device that prevents contaminants from entering the potable water system in the event of back pressure or back siphonage.

Blowdown, boilers: The periodic or continuous removal of water from a boiler to remove accumulated dissolved solids and/or sludge. Proper control of blowdown is critical to boiler operation. Insufficient blowdown may lead to deposits or carryover. Excessive blowdown wastes water, energy, and chemicals.

Blowdown, cooling towers: The water discharged to remove high mineral content system water, impurities, and sediment.

Building Best Management Practices (BMPs): Ongoing actions that establish and maintain building water use efficiency. BMPs can be continuously updated based on need and tailored to fit the facility depending on occupancy and specific operations.

Compost: The product resulting from the controlled biological decomposition of organic material from a feedstock into a stable, humus-like product that has many environmental benefits. Composting is a natural process that is managed to optimize the conditions for decomposing microbes to thrive. This generally involves providing air and moisture, and achieving sufficient temperatures to ensure weed seeds, invasive pests, and pathogens are destroyed. A wide range of material (feedstock) may be composted, such as yard trimmings, wood chips, vegetable scraps, paper products, manures and biosolids. Compost may be applied to the top of the soil or incorporated into the soil (tilling).

Cooling degree day (CDD): Is a day when the outside temperature is higher than a reference temperature (typically 65 degrees Fahrenheit although different utilities and planning entities can use different reference temperatures) which loosely presents a day in which space cooling (e.g., air conditioning) is needed.

Critically overdrafted: A condition in which significantly more water has been taken out of a groundwater basin than has been put in, either by natural recharge or by recharging basins. Critical overdraft leads to various undesirable conditions such as ground subsidence and saltwater intrusion.

Ecosystem services: The direct and indirect contributions of ecosystems to human well-being. They support directly or indirectly our survival and quality of life. Ecosystem services can be categorized in four main types:

- Provisioning services: the products obtained from ecosystems such as food, fresh water, wood, fiber, genetic resources, and medicines.
- Regulating services: the benefits obtained from the regulation of ecosystem processes such as climate regulation, natural hazard regulation, water purification and waste management, pollination, or pest control.
- Habitat services: provide living places for all species and maintain the viability of gene-pools.
- Cultural services: non-material benefits such as spiritual enrichment, intellectual development, recreation, and aesthetic values.

Erosion control product – Products that help prevent erosion, like compost filter socks, compost blankets and hydraulic mulch.

Environmental Product Declarations (EPD): Third-party verified reports that detail a product's impacts on the environment. The International Standards Organization (ISO) 14025 defines EPDs as a Type III declaration that "quantifies environmental information on the life cycle of a product to enable comparisons between products fulfilling the same function." EPDs can be product-specific, factory-specific, or industry-wide.

Grass cycling - An aerobic (requires air) method of handling grass clippings by leaving them on the lawn when mowing. Because grass consists largely of water (80% or more), contains little lignin, and has high nitrogen content, the grass clippings easily break down, acting as a fertilizer supplement and, to a much smaller degree, mulch. Grass cycling can provide 15 to 20% or more of a lawn's yearly nitrogen requirements.

Heating degree day (HDD): A day when the outside temperature is lower than a reference temperature (typically 65 degrees Fahrenheit although different

utilities and planning entities can use different reference temperatures) which loosely represents a day in which space heating is needed.

Hydrozone: A portion of a landscaped area having plants with similar water needs that are served by one irrigation valve or set of valves with the same schedule.

Landscape Coefficient Method (LCM): A method of estimating irrigation needs of landscape plantings in California. It is intended as a guide for landscape professionals.

Landscape water budget: The calculated irrigation requirement of a landscape based on landscape area, local climate factors, specific plant requirements and the irrigation system performance.

Lifecycle cost accounting: Includes initial investment costs, as well as lifetime operation and maintenance costs under changing climate conditions, including changing average conditions and increases in extreme events. It may involve applying non-market evaluation methods such as travel cost, avoided costs or contingent valuation to capture hard to quantify benefits and costs

Makeup water: The water replacing evaporated or leaked water from the boiler, is first drawn from its source, whether raw water, city water, city-treated effluent, in-plant wastewater recycle (cooling tower blowdown recycle), well water, or any other surface water source.

Model Water Efficient Landscape Ordinance (MWELO): The Water Conservation in Landscaping Act was signed into law on September 29, 1990. The premise was that landscape design, installation, and maintenance can and should be water efficient. Some of the provisions specified in the statute included plant selection and groupings of plants based on water needs and climatic, geological, or topographical conditions, efficient irrigation systems, practices that foster long term water conservation and routine repair and maintenance of irrigation systems. The latest update to MWELO was in 2015. MWELO applies to all state agency landscaping.

Mulch: A soil topping consisting of a layer of material applied on top of soil. Examples of material that can be used as mulch include wood chips, grass clippings, leaves, straw, cardboard, newspaper, rocks, and even shredded tires. Benefits of applying mulch include reducing erosion and weeds and increasing water retention and soil vitality. Whenever possible,

look for mulch that has been through a sanitization process to kill weed seeds and pests.

Natural infrastructure: The "preservation or restoration of ecological systems or the utilization of engineered systems that use ecological processes to increase resiliency to climate change, manage other environmental hazards, or both. This may include, but need not be limited to, flood plain and wetlands restoration or preservation, combining levees with restored natural systems to reduce flood risk, and urban tree planting to mitigate high heat days" [See Public Resource Code Section 71154(c)(3)].

Nonpurchased water: Water that a department uses that does not come from a third-party supplier. It may be water from domestic wells owned by the department or water that is taken from a river, lake, canal, or other source and used by the department. The water may be returned to source after use.

Trickle flow: A device that allows users to reduce flow to a trickle while using soap and shampoo. When the device is switched off, the flow is reinstated with the temperature and pressure resumes to previous settings.

Soil amendments and soil toppings: Soil amendments include adding ingredients such as sulfur, or sand to change the original soil, soil conditioner for potting or plant mix. Soil toppings include organic materials used for water conservation; organic materials such as biosolids or other comparable substitutes such as livestock, horse, or other animal manure, food residues or fish processing byproducts; mechanical breakdown of materials.

Sprinkler system backflow prevention devices: Devices to prevent contaminants from entering water supplies. These devices connect to the sprinkler system and are an important safety feature. They are required by the California Plumbing Code.

Submeter: A metering device installed to measure water use in a specific area or for a specific purpose. Also known as dedicated meters, landscape submeters are effective for separating landscape water use from interior water use, evaluating the landscape water budget and for leak detection within the irrigation system.

Urban heat islands: Areas with localized spikes in temperature, which impact human health, increase pollution, and increase energy demand. Urban

heat islands occur during the hot summer months in areas with higher percentages of impervious surface and less vegetation. This is likely in areas with large parking lots, dense development, and lower tree density and shading. Urban heat islands can be mitigated (i.e., reduced) through tree planting and other greening measures, cool roofs (e.g., lighter roofing materials that reflect light), cooler pavements, and other measures.

Water budget: The calculated irrigation requirement of a landscape based on landscape area, local climate factors, specific plant requirements and the irrigation system performance.

Water energy nexus: The important link between the use of water in the creation of energy and the use of energy in the operation of water delivery and waste water system. Water and energy are often managed separately despite this inevitable link. Water is used in the production of nearly every major energy source. Further, twelve percent of California's energy use is related to water use with nearly 10% being used at the end water usage stage.

Water shortage contingency plans: A plan detailing how a community would react to a reduction in water supply of up to 50% for droughts lasting up to three years. Urban water purveyor serving more than 3,000 connections or 3,000 acre-feet of water annually must have an urban water shortage contingency plan.

Water Use Classification of Landscape Species (WUCOLS): A tool which lists plants for each region based on plant water needs. It can also be used to help determine water budgets and irrigation schedules. Use this link to access the necessary information for your landscaping needs. WUCOLS Plant Search Database (ucdavis.edu)

Zero energy buildings: An "energy-efficient building where, on a source energy basis, the actual annual delivered energy is less than or equal to the on-site renewable exported energy".

APPENDIX E—DEPARTMENT STAKEHOLDERS

List individuals, offices, and divisions responsible for leading efforts related to each initiative identified in this report. Include their respective titles, roles, responsibilities.

Climate Change Adaptation

Understanding Climate Risk at Existing Facilities
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Understanding Climate Risk at Planned Facilities
Facilities Operations **Facilities operations manager – Christopher Porter; facilities environmental coordinator – Heather Conway**

Integrating Climate Change into Department Planning and Funding Programs
Facilities Operations **Facilities operations manager – Christopher Porter; facilities environmental coordinator – Heather Conway**

Measuring and Tracking Progress
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Zero Emission Vehicles

Incorporating ZEVs Into the Department Fleet
Business Services; Facilities Operations **Business services analyst – Cheehlu Xiong; facilities environmental coordinator – Heather Conway**

Telematics
Business Services **Business services manager – Tosha Bernatene**

Outside Funding Sources for ZEV Infrastructure
Facilities Operations **Facilities operations manager – Christopher Porter; facilities environmental coordinator – Heather Conway**

Comprehensive Facility Site and Infrastructure Assessments
Facilities Operations **Facilities environmental coordinator – Heather Conway**

EVSE Construction Plan
Facilities Operations **Facilities transportation coordinator – Miguel Ballesteros**

EVSE Operation
Facilities Operations **Facilities transportation coordinator – Miguel Ballesteros**

Energy

Zero Net Energy (ZNE)
Facilities Operations **Facilities environmental coordinator – Heather Conway**

New Construction Exceeds Title 24 by 15%
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Existing Buildings Energy Efficiency
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Energy Savings Projects
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Demand Response
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Renewable Energy
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Monitoring-Based Commissioning (MBCx)
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Building Controls
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Decarbonization

Greenhouse Gas Emissions
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Water Efficiency and Conservation

Indoor Water Efficiency Projects in Progress First initiative
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Boilers and Cooling Systems Projects in Progress
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Landscaping Hardware Water Efficiency Projects in Progress
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Living Landscaping Water Efficiency Projects in Progress
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Buildings with Urban Water Shortage Contingency Plans in Progress
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Facilities Construction and Operations

Building Design and Construction
Facilities Operations **Facilities environmental coordinator – Heather Conway**

LEED for Existing Buildings Operations and Maintenance
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Indoor Environmental Quality
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Integrated Pest Management
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Fossil Fuel Landscaping Equipment Replacement
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Location Efficiency
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Waste Management and Recycling

Waste and Recycling Programs
Facilities Operations **Facilities environmental coordinator – Heather Conway**

SARC Report
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Recycling Program and Practices
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Organics Recycling
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Hazardous Waste Materials
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Universal Waste Program
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Material Exchange Programs
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Waste Prevention Program
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Reuse Program
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Employee Waste and Recycling Training and Education
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Procurement

Goods and Services with the Greatest Potential to Green
Facilities Operations **Facilities environmental coordinator – Heather Conway**

EPP BMPs
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Reporting on EPP Training and Outreach
Facilities Operations **Facilities environmental coordinator – Heather Conway**

Reporting on State Agency Buy Recycled Campaign
Procurement Management **Procurement analyst – Grecia Soto**

Reducing Impacts
Facilities Operations **Facilities environmental coordinator – Heather Conway**

APPENDIX F—SUSTAINABILITY STATUTORY REQUIREMENTS, EXECUTIVE ORDERS, AND MANAGEMENT MEMOS REFERENCES

The following legislative actions, executive orders, State Administrative Manual (SAM) management memos, resources, and guidance documents provide the sustainability criteria, requirements, and targets tracked and reported herein.

Recent Legislative Actions

Several pieces of legislation were signed in 2023 that codified several elements of the executive orders, or provided further requirements included in the policies. These include the following:

SB 416 (Laird, 2023)**:** Requires all new building and major renovation projects larger than 10,000 gross square feet undertaken by state agencies, and for which the project schematic design documents are initiated by the state agency on or after January 1, 2024, to obtain the Leadership in Energy and Environmental Design (LEED) Gold or higher certification, except as provided. Requires the state agency to obtain LEED Silver certification if the state agency concerned makes a finding that achieving LEED Gold conflicts with critical operational or security requirements, is demonstrably cost ineffective, or conflicts with California Building Code requirements. Authorizes certification to an alternative equivalent or higher rating system or standard, if any, only when approved by the Director of General Services.

SB 837 (Archuleta, 2023): The State Energy Resources Conservation and Development Commission as of January 1, 2024, shall consider revising the definition of "conditioned space, indirectly" for purposes of those regulations to include sealed and unvented attics, where the space is enclosed by the primary thermal and air barrier and directly adjoining conditioned space.

AB 43 (Holden, 2023): Authorizes the state board to establish an embodied carbon trading system. Authorizes the state board to integrate the embodied carbon trading system into the framework for measuring the average carbon intensity of the materials used in the construction of new buildings, as described above, on or before December 31, 2026, and to implement the system on and after January 1, 2029. Authorizes the state board to adopt rules and regulations for the credit allocation approach, the anticipated carbon price in the scheme, and trading periods. Requires the state board to periodically review and update its emission reporting and compliance standard requirements, as necessary.

Other Significant Legislative Actions

AB 661 (Bennet, 2022): Requires a state agency, if fitness and quality are equal, to purchase recycled products instead of nonrecycled products whenever recycled products are available at no more than 10% greater total cost than nonrecycled products, and specified circumstances exist. Requires the Department of Resources Recycling and Recovery, in concurrence with the DGS and in consultation with impacted agencies, to update a list of products and minimum recycled content percentages, as determined to be appropriate, commencing January 1, 2026, and every three years thereafter. Requires the Department of Resources Recycling and Recovery to report a state agency that does not meet SABRC purchasing requirements in each product category to the DGS. The bill requires all state agency procurement and contracting officers, or their designees, to participate in mandatory annual training, as prescribed, conducted by the Department of Resources Recycling and Recovery. The bill requires the DGS and the Prison Industry Authority to prioritize the use of recycled content products.

SB 1020 (Laird, 2022): *Clean Energy, Jobs, and Affordability Act of 2022*. States that eligible renewable energy resources and zero-carbon resources supply 90% of all retail sales of electricity to California end-use customers by December 31, 2035, 95% of all retail sales of electricity to California end-use customers by December 31, 2040, 100% of all retail sales of electricity to California end-use customers by December 31, 2045, and 100% of electricity procured to serve all state agencies by December 31, 2035, as specified.

AB 2446 (Holden, 2022): Require the Air Resources Board, by July 1, 2025, to develop, in consultation with specified stakeholders, a framework for measuring and then reducing the average carbon intensity of the materials used in the construction of new buildings, including those for residential uses. The bill would require the framework to include a comprehensive strategy for the state's building sector to achieve a 40% net reduction in greenhouse gas emissions of building materials, as determined from a baseline calculated using a certain 2026 report, if that report is adequate, or as specified. The bill would require the strategy to achieve this target as soon as possible, but no later than December 31, 2035, with an interim target of 20% net reduction by December 31, 2030.

SB 1203 (Becker, 2021): Requires the Department of General Services, in consultation with the state board, and to the extent feasible, to publish, on its internet website or other publicly available location, an inventory of the greenhouse gas emissions of state agencies for the prior calendar year, on or before July 1, 2024, and annually thereafter until the goal has been achieved. Requires DGS to develop and publish a plan, on or before January 1, 2026, that describes required actions and investments for achieving net-zero emissions of

greenhouse gases and an estimate of the costs associated with the planned actions and ensure that the required actions and investments are incorporated into the sustainability roadmaps of all state agencies. Requires the department to update the plan beginning June 30, 2028, and every two years thereafter until the goal has been achieved. Requires that, subject to an appropriation by the Legislature, the department to provide information, training, coordination, best practices, and other technical assistance to state agencies to help those state agencies implement the required actions and investments. Requires state agencies to incorporate the required actions and investments into their future budget proposals, as provided. Requires the department, beginning December 31, 2027, and biennially thereafter until the achievement of the above stated goal, to report to the Legislature on progress toward achieving that goal, as provided.

SB 1335 (Allen, 2018): Enacts the Sustainable Packaging for the State of California Act of 2018, which would prohibit a food service facility located in a state-owned facility, operating on or acting as a concessionaire on state property, or under contract to provide food service to a state agency from dispensing prepared food using a type of food service packaging unless the type of food service packaging is on a list that CalRecycle publishes and maintains on its Internet Web site that contains types of approved food service packaging that are reusable, recyclable, or compostable.

AB 739 (Chau, 2017): Requires, beginning December 31, 2025, at least 15% of newly purchased vehicles with a gross vehicle weight rating of 19,000 pounds or more purchased by the department and other state entities for the state fleet to be zero-emission, and beginning December 31, 2030, at least 30% of those vehicles to be zero-emission. The bill would require, if the department finds, in a public hearing on or after December 31, 2026, that it cannot meet the needs of the state while meeting this requirement, the department to disclose this finding at the hearing and to the Legislature.

AB 2800 (Quirk, 2016): Requires state agencies to take the current and future impacts of climate change into planning, designing, building, operating, maintaining, and investing in state infrastructure. Requires that the California Natural Resources Agency (CNRA) will establish a Climate-Safe Infrastructure Working Group to determine how to integrate climate change impacts into state infrastructure engineering. (Public Resources Code Section 71155)

AB 2812 (Gordon, 2016): Provide adequate receptacles, signage, education, staffing, and arrange for recycling services. Report annually on how each of these is being implemented.

SB 1383 (Lara, 2016): 50% reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020, a 75% reduction by 2025, and 20% of currently disposed edible food is recovered for human consumption by 2025.

- Agencies already in compliance with AB 1826 may need to further expand their organic waste recycling service to comply with the new requirements
- Jan. 1, 2024, Tier 2 Commercial Edible food Generators will be required to donate edible food to a recovery organization.

AB 1482 (Gordon, 2015): Requires that the California Natural Resources Agency (CNRA) update the state's adaptation strategy safeguarding California every three years. Directs state agencies to promote climate adaptation in planning decisions and ensure that state investments consider climate change impacts, as well as the use of natural systems and natural infrastructure. (Public Resources Code Section 71153)

SB 246 (Wieckowski, 2015): Established the Integrated Climate Adaptation and Resiliency Program within the Governor's Office of Planning and Research to coordinate regional and local efforts with state climate adaptation strategies to adapt to the impacts of climate change. (Public Resources Code Section 71354)

AB 1826 (Chesbro, 2014): Implement mandatory commercial organics recycling program (if meet threshold) as specified in section 42649.81 of the Public Resources Code. Report annually on organics recycling program.

AB 2583 (Blumenfield, 2012): Requires reduced consumption of petroleum products by the state fleet compared to a 2003 baseline. Mandates a 10% reduction or displacement by Jan. 1, 2012, and a 20% reduction or displacement by Jan. 1, 2020. Requires DGS to: 1) track and report out annually to the Legislature and the Department of Finance on progress; 2) encourage operation of state alternatively fueled vehicles on the alternative fuel of which the vehicle is designed and the development of commercial infrastructure, like alternative fuel pumps and charging stations at or near state vehicle fueling or parking sites; and 3) work with other public agencies to incentivize and promote state employee operation of alternatively fueled vehicles through preferential or reduced-cost parking, access to charging, or other means.

AB 341 (Chesbro, 2011): Implement mandatory commercial recycling program (if threshold is met). Report annually on recycling program.

SB 1106 (Lowenthal, 2005): Have at least one designated waste management coordinator. Report annually on how your designated waste and recycling coordinator meets the requirement.

AB 75 (Strom-Marting,1999): Implement an integrated waste management program and achieve 50% disposal reduction target. State agencies report annually on waste management program.

Chapter 4: Passed in 1989. The State Agency Buy Recycled Campaign (SABRC) statutes are in Public Contract Code Section 12153-12217. The intent of SABRC is to stimulate markets for materials diverted by California local government and agencies. It requires state agencies to purchase enough recycled-content products to meet annual targets, report on purchases of recycled and nonrecycled products, and submit plans for meeting the annual goals for purchasing recycled-content products.

Executive Orders

The governor issued the following executive order relevant to chapters of this roadmap:

EO B-16-12: Directs state agencies to integrate zero-emission vehicles (ZEVs) into the state vehicle fleet. It also directs state agencies to develop the infrastructure to support increased public and private sector use of ZEVs. Specifically, it directs state agencies replacing fleet vehicles to replace at least 10% with ZEVs, and by 2020 to ensure at least 25% of replacement fleet vehicles are ZEVs.

EO B-18-12: EO B-18-12 and the companion *Green Building Action Plan* require state agencies to reduce the environmental impacts of state operations by reducing greenhouse gas emissions, managing energy and water use, improving indoor air quality, generating on-site renewable energy when feasible, implementing environmentally preferable purchasing, and developing the infrastructure for electric vehicle charging stations at state facilities. The Green Building Action Plan also established two oversight groups—the staff-level Sustainability Working Group and the executive-level Sustainability Task Force—to ensure these measures are met. Agencies annually report current energy and water use into the Energy Star Portfolio Manager (ESPM).

EO B-29-15: Directs state agencies to take actions in response to the ongoing drought and to the state of emergency due to severe drought conditions proclaimed on January 17, 2014. Governor Brown directed numerous state agencies to develop new programs and regulations to mitigate the effects of the drought and required increased enforcement of water waste statewide. Agencies were instructed to reduce potable urban water use by 25% between 2013 and February 28, 2016.

EO B-30-15: In 2015, the governor issued EO B-30-15, which declared climate change to be a "threat to the well-being, public health, natural resources,

economy and environment of California." It established a new interim statewide GHG emission reduction target of 40% below 1990 levels by 2030 and reaffirms California's intent to reduce GHG emissions to 80% below 1990 levels by 2050. To support these goals, this order requires numerous state agencies to develop plans and programs to reduce emissions. It also directs state agencies to take climate change into account in their planning and investment decisions and employ life-cycle cost accounting to evaluate and compare infrastructure investments and alternatives. State agencies are directed to prioritize investments that both build climate preparedness and reduce GHG emissions; prioritize natural infrastructure; and protect the state's most vulnerable populations.

EO B-37-16: The Department of Water Resources (Department) shall work with the Water Board to develop new water use targets as part of a permanent framework for urban water agencies. These new water use targets shall build upon the existing state law requirements that the state achieve a 20% reduction in urban water usage by 2020. (Senate Bill No. 7 (7th Extraordinary Session, 2009-2010).) These water-use targets shall be customized to the unique conditions of each water agency, shall generate more statewide water conservation than existing requirements, and shall be based on strengthened standards for:

- Indoor residential per capita water use.
- Outdoor irrigation, in a manner that incorporates landscape area, local climate, and new satellite imagery data.
- Commercial, industrial, and institutional water use; and
- Water lost through leaks.

The Department shall strengthen requirements for urban Water Shortage Contingency Plans, which urban water agencies are required to maintain. These updated requirements shall include adequate actions to respond to droughts lasting at least five years, as well as more frequent and severe periods of drought. While remaining customized according to local conditions, the updated requirements shall also create common statewide standards so that these plans can be quickly utilized during this and any future droughts.

State Administrative Manual and Management Memos

The following sections of the State Administrative Manual (SAM), and associated management memos (MMs) currently impose sustainability requirements on the department under the governor's executive authority:

SAM Chapter 1800: Energy and Sustainability

SAM Chapter 1900

SAM Chapter 4100

SAM Chapter 3600, Section 3627

MM 15-03: Minimum Fuel Economy Standards Policy

MM 16-07: Zero-Emission Vehicle Purchasing and EVSE Infrastructure Requirements

MM 14-07: Standard Operating Procedures for Energy Management in State Buildings

MM 14-09: Energy Efficiency in Data Centers and Server Rooms AND Standard Operating 14-09

Statewide Action Plans

2016 Zero-Emission Vehicle Action Plan: The plan establishes a goal to provide electric vehicle charging to 5% of state-owned parking spaces by 2022. It also advances the ZEV procurement target to 50% of light-duty vehicles by 2025.

Safeguarding California Implementation Action Plans: Directed under EO B-30-15, the Implementation Action Plans outline the steps that will be taken in each sector to reduce risks from climate change.

AB 32 Scoping Plan: The scoping plan assumes widespread electrification of the transportation sector as a critical component of every scenario that leads to the mandated 40% reduction in GHG by 2030 and 80% reduction by 2035.

State Resources and Guidance Documents

California has invested significant resources in understanding the risks of climate change, water efficiency, strategic growth, and state actions available to respond to and reduce these risks. These include the following:

Safeguarding California: The state's climate adaptation strategy organized by sector. Each sector identifies risks from climate change and actions to reduce those risks.

Planning and Investing for a Resilient California: Prepared under direction of EO B-30-15, this document provides a framework for state agencies to integrate

climate change into planning and investment, including guidance on data selection and analytical approach.

California's Climate Change Assessments: California has completed three comprehensive assessments of climate change impacts on California. Each assessment has included development of projections of climate impacts on a scale that is relevant to state planning (i.e., downscaled climate projections). These data are available through **Cal-Adapt**, an online data visualization and access tool.

Water Use Reduction Guidelines and Criteria: Issued by the California Department of Water Resources February 28, 2013, pursuant to Executive Order B-18-12. Each applicable agency was required to take actions to reduce water use in facilities and landscapes that are operated by the state, including owned, funded, or leased facilities. State-operated facilities are defined as facilities where the agency has direct control of the building's function, maintenance, and repair. For leased facilities, the Green Building Action Plan directed at that time that new and renegotiated leases include provisions for water conservation, reporting water use, and installation of sub-meters to the extent possible and economically feasible.

Strategic Growth Council (SGC) Resolution on Location Efficiency: Location efficiency refers to the greenhouse gas emissions arising from the transportation choices of employees and visitors to a building as determined by the Smart Location Calculator. Adopted on December 6, 2016, the resolution directs members of the SGC to achieve a 10% improvement in the Smart Location Score of new leases compared to the average score of leased facilities in 2016.

EDP Compliance Guide Environmental Product Declarations (EPD) are third-party verified reports that detail a product's impacts on the environment.

Tables of Applicable Statutory Requirements, Executive Orders and SAM and Management Memos

Table F-1 Statutory Requirements, Executive Orders, Management Memos, and the State Administrative Manual and the Applicable Roadmap Chapters

Legislation, executive orders, and mgmt. memos	Year	Climate adapt	ZEV	Energy	Decarb	Water	Facilities	Waste	Procurement
SB 32	2015	X			X				
SB 246	2015	X							
SB 416	2023						X		
SB 837	2023						X		
SB 1016	2008						X		
SB 1020	2022	X		X	X				
SB 1106	2005							X	
SB 1168	2014					X			
SB 1203	2021	X			X				
SB 1319	2014					X			
SB 1335	2018							X	
AB 32	2006	X	X		X				
AB 43	2023	X			X				
AB 75	1999							X	
AB 197	2016	X			X				
AB 262	2017								X
AB 341	2011						X	X	
AB 498	2002								X
AB 661	2022							X	
AB 739	2017		X						
AB 939	2021							X	
AB 1343	2010							X	
AB 1482	2015	X							
AB 1739	2014					X			
AB 1826	2014							X	
AB 2396	2016						X	X	
AB 2446	2022				X				
AB 2800	2016	X							
AB 2812	2016						X		
EO B-16-12	2012		X				X		
EO B-18-12	2015		X	X		X	X		
EO B-29-15	2015					X			

EO B-30-15	2015	X	X	X			X		
EO B-37-16	2016					X			
MM 15-03:	2015		X						
MM 16-07	2016		X						
Public Resources Code 25722.8	2001		X						

Table F-2 Action Plans, and State Resources and Guidance Documents and the Applicable Roadmap Chapters

Action plans, and state resources and guidance documents	Year	Climate adapt.	ZEV	Energy	Decarb	Water	Facilities	Waste	Procurement
2016 ZEV Action Plan	2016		X						
Cal-Adapt website		X							
California's 4th Climate Change Assessment	2018	X							
Planning and Investing for a Resilient California	2018	X							
Safeguarding California	2014	X							

APPENDIX G—LIST OF TABLES AND GRAPHS