

# **Sustainability Roadmap 2020-2021**

## **California Prison Industry Authority**

Progress Report and Plan for Meeting  
the Governor's Sustainability Goals

for California State Agencies

California Prison Industry Authority  
Gavin Newsom, Governor



**December 31, 2021**

# California Prison Industry Roadmap

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## Sustainability Road Map 2020-2021

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## Executive Summary

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California Prison Industry Authority (CALPIA) was created by Chapter 1549 in 1982. CALPIA is a self-supporting state agency within California's prisons. CALPIA manages over 100 manufacturing, service, and consumable enterprises. On the following page is a statewide map of all CALPIA's enterprises. The goods and services produced by CALPIA are sold predominately to departments of the State of California, as well as other government entities. CALPIA provides work opportunities for incarcerated individuals while maintaining working conditions, much like those in private industry. Incarcerated Individuals have the opportunity to learn valuable job skills while earning wages.

CALPIA provides employment for approximately 7,000 incarcerated individuals positions in all 34 California Department of Corrections and Rehabilitation (CDCR) institutions. CALPIA prepares incarcerated individuals for productive lives and reduces incarceration costs. Participants of CALPIA return to prison far less than the average CDCR incarcerated individuals. The lower recidivism rate of CALPIA participants saves the state money. Some CALPIA incarcerated individual workers contribute 55% of their wages to pay court-ordered restitution and fees.

CALPIA is overseen by the Prison Industry Board. The 11-member Board sets general policy for CALPIA and oversees the performance of existing CALPIA industries, determines which new industries shall be established, approves operating budgets, and appoints and monitors the performance of the General Manager. The Board serves as a public hearing body charged with ensuring that CALPIA enterprises do not create a substantial adverse impact to California industry.

CALPIA's infrastructure includes a headquarters location in Folsom, California; staffed by approximately 300 employees. The majority of CALPIA staff is located throughout the 34 CDCR institutions across the state.

CALPIA's challenge is the ability to report water usage due to the nature in which CALPIA receives water from Folsom State Prison. This makes it difficult to set accomplishable goals.

### *Executive Director Signature*

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**William Davidson**

Executive Director





# CHAPTER 1 - CLIMATE CHANGE ADAPTATION

## Climate Change Risks to Facilities

CALPIA's facilities have a 20 to 30-year lifetime. CALPIA continues to maintain our facilities for longevity. When making improvements CALPIA has included step 1-5 in our project management template task list to ensure we are considering the reduction in traditional resources and trading them for renewable resources such as: solar and natural gas, and a reduction in water consumption whenever possible.

As described in our 2020-21 Roadmap, CALPIA's maintenance team completed the resurfacing of the central office roof. This project will preserve the roof for 30+ years. The product is reflective which will reduce energy costs by keeping the attic cool, it also sealed holes and cracks which will reduce leaks. CALPIA is also keeping all the building roofs and gutters debris free which will preserve the life of the roof and gutters.

## Natural Infrastructure to Protect Facilities

### Understanding the Potential Impacts of Facilities on Communities

CALPIA uses our project management task list template to consider and identify natural infrastructure and CALPIA's mission before initiating a project.

## Understanding Climate Risk to Existing Facilities

**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)	Avg. # days above EHT (2070-2099)	Change from historical to projected average # of days above EHT (2070-2099)	Increase in # of days above EHT by mid-century (2031-2060)	Increase in Avg. # days above EHT by end of century (2070-2099)
Central Office	103.9	4	21	17	33	29	17	33
Camp 12	103.9	4	21	17	33	29	17	33

**Table 1.2 a: 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)
Central Office	22.7	25	2.3	24.2	1.5
Camp 12	22.7	25	2.3	24.2	1.5

**Table 1.2 b: Top 5-10 Facilities Most Affected by Changing Temperature- Annual Mean Min Temp**

Facility Name	Historical Annual Mean Min. Temp. (1961 – 1990)	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)
Central Office	74.1	78.7	4.6	80.5	6.4
Camp 12	74.1	78.7	4.6	80.5	6.4

**Heating and Cooling Degree Days****Table 1.3: Top 5-10 Facilities that will be Most Impacted by Projected Changes in Heating and Cooling Degree Days (HDD/CDD)**

Facility Name	Heating/Cooling Degree Days (1961-1990) (HDD/CDD)	Heating/Cooling Degree Days (2031-2060) (HDD/CDD)	Heating/Cooling Degree Days (2070-2099) (HDD/CDD)
Central Office	1423	2181	2586
Camp 12	1423	2181	2586

CALPIA employs civil service staff and incarcerated individuals. Incarcerated individuals work outside in trades such as carpentry, roofing, construction, landscaping, and welding. These participants will be the most exposed to the increased or decreased temperatures. CALPIA provide fresh drinking water, multiple breaks, and shade to those working outside. CALPIA teaches those working outside and their supervisors the signs of heat related illnesses, and how to respond.

The nature of institutional grounds is primarily concert, asphalt, and roads. These materials are susceptible to heat absorption which can exacerbate the impact on staff and facilities. CALPIA central office has planted trees and placed bark in the landscape to provide shade and establish cooling in these hardscape areas.

**Urban Heat Islands**

**Table 1.4: Facilities Located in Urban Heat Islands**

Facility Name	Located in an urban heat island (yes/no)
Central Office	no
Camp 12	no

Neither of CALPIA's reporting sites are in an urban heat island. Our facilities are made up of one large parking lot at each location.

**Risks from Changes in Precipitation**

**Table 1.5: Top 5-10 Facilities that will be Most Impacted by Projected Changes in Precipitation**

Facility Name	Annual Mean Max. Precip. (1961 – 1990) (in/yr)	Annual Mean Precip. (2031 – 2060) (in/yr)	Percent Change by mid-century	Annual Mean Precip. (2070 – 2099) (in/yr)	Percent change by end of century	Extreme Precip (1961-1990) (in/day)	Extreme Precip (2031-2060) (in/day)	Extreme Precip (2070-2090) (in/day)
Central Office	22.7	25	.10%	24.2	3.2% -			
Camp 12	22.7	25	.10%	24.2	3.2%-			

Due to the institutional nature of our facility, precipitation hits the ground and moves away from the buildings into drainage ditches via slopped sidewalks and asphalt parking lot.

CALPIA will keep landscaping and grass areas maintain to prevent the potential for flooding. CALPIA will be most impacted by the reduced precipitation due to drought. The less rain and snow that falls in the Sierra's will be less water for facilities needs and/or will be mandated to use less ongoing.

**Risks from Sea Level Rise**

CALPIA is not at risk for rising sea levels. The institutional facility is located at a high point in Sacramento County; 220' above sea level. CALPIA does not foresee any changes for this type of event based on all data for Sacramento County.

**Table 1.6 : All Facilities at Risk from Rising Sea Levels**

Facility Name	Tide Chart Region	2050 Water Level (ft)	Exposed at 2050? (y/n)	2100 Water Level (ft)	Exposed at 2100? (y/n)
N/A	N/A	N/A	N/A	N/A	N/A

**Risks from Wildfire**

**Table 1.7 : Top 5-10 Facilities Most at risk to current wildfire threats**

Facility Name	Fire Hazard Severity Zone (low, medium, high, very high)
Central Office	Low
Camp 12	Medium

**Table 1.8: Top 5-10 Facilities that will be Most Impacted by Projected Changes in Wildfire**

Facility Name	Acres Burned (1961-1990)	Acres Burned (2031-2060)	Acres Burned (2070-2099)
Central Office	0	N/A	N/A
Camp 12	0	N/A	N/A

The largest threat to CALPIA's Central office and Camp 12 is the smoke from local fires and how that affects our outside work crews and staff that commute to work and walk outside. Additionally, due to Folsom proximity to the foothills of El dorado County where many staff live the threat of wildfires affects our staff personally. This year we had several staff absent due to the personal threat of the Caldor Fire in the El dorado and Tahoe National Forest.

Camp 12 is more susceptible for a wildfire as it is on a hill surrounded by trees this explains the medium rating listed above.

CALPIA is making every effort to maintain the health of the trees we do have on the property to further reduce the fire threat by dead and dying trees.

**Summarizing Natural Infrastructure Actions to Protect Existing Facilities**

CALPIA will continue to maintain the facilities structures and natural infrastructure such as plant life and trees for health. The health of the plant life at our central office and camp 12 will ensure shade for the facilities structures, staff, outside work crews, and wildlife. Budgeting for and increasing drought tolerate plants and trees will reduce Co2 emissions.

**Understanding the Potential Impacts of Facilities on Communities**

**Disadvantaged Communities**

**Table 1.9: Facilities located in disadvantaged communities**

Facility Name	CalEnviroScreen Score	Is it located in a disadvantaged community? Yes/No
Central Office	21-30%	No
Camp 12	21-30%	No

\*CALPIA 's facilities are not located in disadvantaged communities; however we are on prison grounds.

## Understanding Climate Risk to Planned Facilities

\*CALPIA does not have a plan for new facilities/locations.

**Table 1.10 a-g: Climate Risks to New Facilities a.1**

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)
N/A	N/A	N/A	N/A	N/A	N/A

### a.2

Facility Name	Historical Annual Mean Min. Temp. (1961 – 1990)	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)
N/A	N/A	N/A	N/A	N/A	N/A

### b.

Facility Name	Annual Mean Maximum precipitation (1961-1990) (in/yr)	Annual Mean precipitation (2031-2060) (in/yr)	Extreme Precip (1961-1990) (in/day)	Extreme Precip (2031-2060) (in/day)
N/A	N/A	N/A	N/A	N/A

### c.

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
N/A	N/A	N/A	N/A	N/A

### d.

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
N/A	N/A	N/A	N/A	N/A	N/A

e.

Facility Name	Current Fire Hazard Severity Zone (low, medium, high, very high)
N/A	N/A

f.

Facility Name	Acres Burned (1961-1990)	Acres Burned (2031-2060)
N/A	N/A	N/A

g.

Facility Name	Heating/Cooling Degree Days (1961-1990) (HDD/CDD)	Heating/Cooling Degree Days (2031-2060) (HDD/CDD)
N/A	N/A	N/A

CALPIA will has no infrastructure growth planned at this time.

**Table 1.11: 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)
N/A	N/A	N/A

**Natural Infrastructure**

CALPIA will has no infrastructure growth planned at this time.

**Full Life Cycle Cost Accounting**

**Integrating Climate Change into Department Planning and Funding Programs**

**Table 1.12: Integration of Climate Change into Department Planning**

Plan	Have you integrated climate?	If no, when will it be integrated?	If yes, how has it been integrated?
N/A	N/A	N/A	N/A



**Table 1.13: Engagement and Planning Processes**

<b>Plan</b>	<b>Does this plan consider impacts on vulnerable populations?</b>	<b>Does this plan include coordination with local and regional agencies?</b>	<b>Does this plan prioritize natural and green infrastructure?</b>
N/A	N/A	N/A	N/A

**Table 1.14: Climate Change in Funding Programs**

<b>Grant or funding program</b>	<b>Have you integrated climate change into program guidelines?</b>	<b>If no, when will it be integrated ?</b>	<b>Does this plan consider impacts on vulnerable populations?</b>	<b>Does this program include coordination with local and regional agencies?</b>
N/A	N/A	N/A	N/A	N/A

## Measuring and Tracking Progress

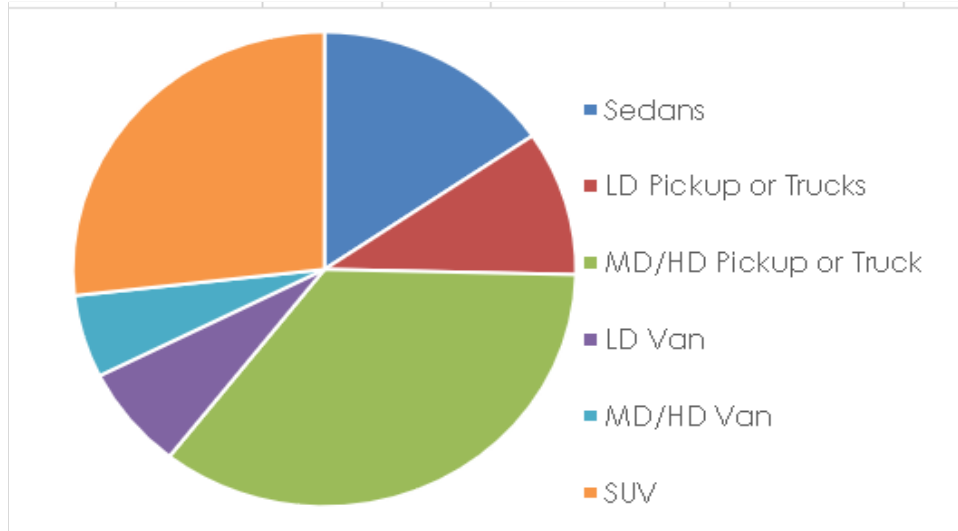
CALPIA has no infrastructure growth planned at this time.

# CHAPTER 2 – ZERO-EMISSION VEHICLES

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## Department Mission and Fleet

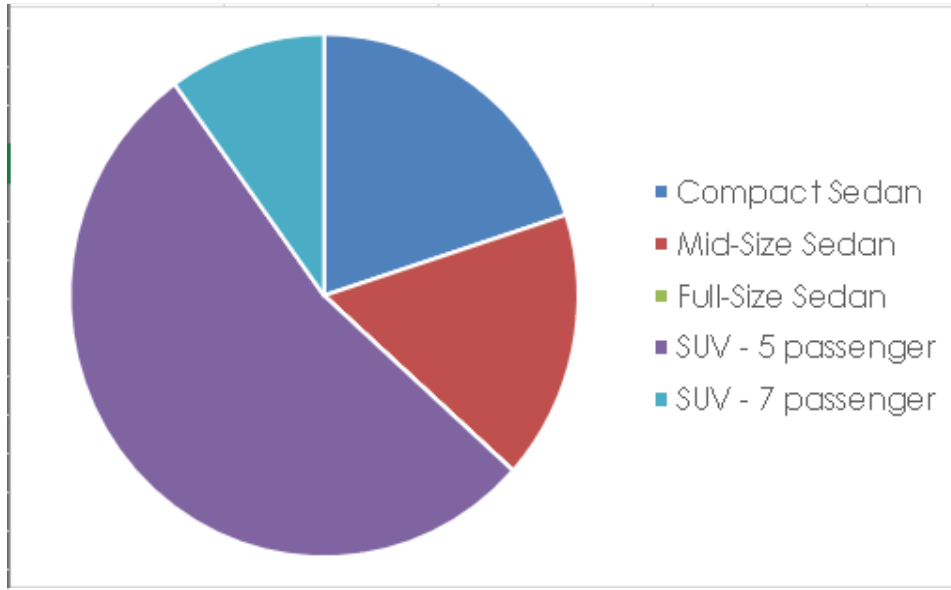
**Graph 2.1: 2020 Composition of Vehicle Fleet**



### Light Duty Fleet Vehicles

CALPIA uses our light duty fleet for trips to field enterprises at correctional facilities across the state, conferences, and training. Most of the travel is on paved roads highways in cities. Sometimes the employees are traveling for many days, but also short one-day trips. All day trips would be to one or more institutions at a time. Short trips may be to our neighboring institution Folsom State Prison, or to CDCR or trainings in downtown Sacramento.

**Graph 2.2: Composition of Light Duty Vehicle Fleet**

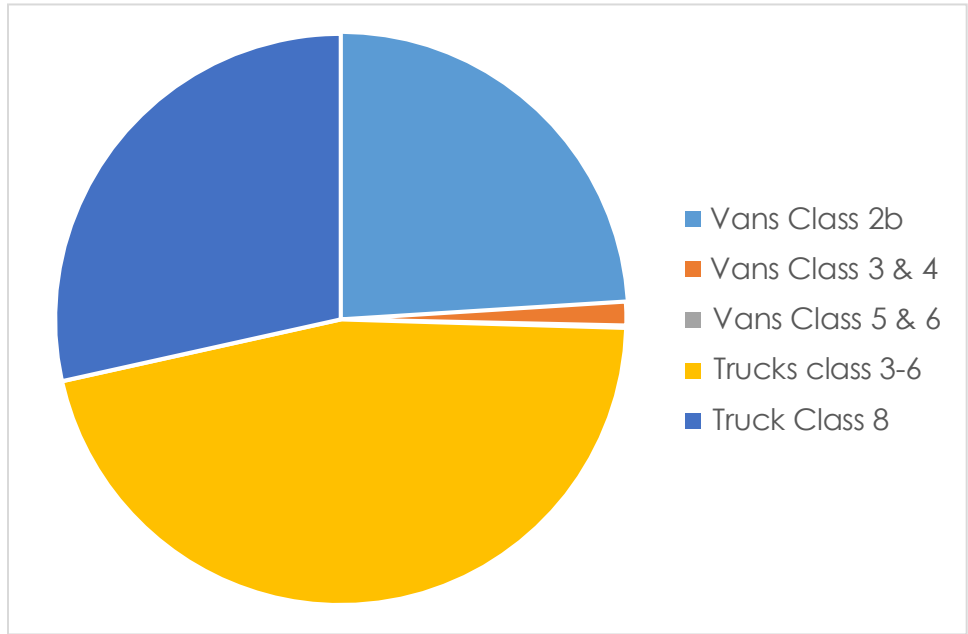


The average of MPG light duty fleet CALPIA vehicles is 32 MPG. The average has increased due to the additions of hybrids.

### Medium and Heavy-Duty Fleet Vehicles

CALPIA uses our medium and heavy-duty fleet for construction projects, site visits, and board meetings. Most of the travel is on paved roads highways in cities. Sometimes the employees are traveling for many days, but also short one-day trips. All day trips would be to one or more institutions at a time. Short trips may be to our neighboring institution Folsom State Prison, or to CDCR or trainings in downtown Sacramento.

### Graph 2.3: Composition of Medium and Heavy-Duty Vehicle Fleet Subject to the ZEV First Purchasing Mandate



The average MPG for CALPIA fleet is 26 MPG. The average has increased due to the addition of hybrid vehicles.

**Table 2.1: Total Fuel Purchased in 2020**

	Diesel		Gasoline	Renewable Diesel
<b>Fuel Amount Gallons</b>	613.39		17237.86	N/A

## Incorporating ZEVs into the State Fleet

### Light-Duty ZEV Adoption

CALPIA currently meets the 25% ZEV mandate. We will continue to replace older vehicles with ZEV as necessary to continue to meet future mandates. CALPIA currently has 1 PZEV, 3 plug in Hybrids, and 14 non plug in hybrids. ZEV's are an excellent choice especially because several institutions are in southern California and the saving money on fuel and the reduction in emission is best realized during these long distance trips. One challenge is the cost of ZEV's and the fact that our department simply doesn't require a large fleet. We recently surplus three older vehicles that could not pass smog testing. We did not have to replace them due to our current demand for travel has been reduced and our fleet size is currently adequate.

**Table 2.2: Light Duty Vehicles in Department Fleet Currently Eligible for Replacement**

Table Header Name	Sedans	Minivans	Pickups	SUVs, 5 passengers	SUVs, 7 passengers	Total
# of vehicles eligible for replacement	3	N/A	0	1	0	4

**Table 2.3: Light Duty ZEV Additions to the Department Fleet**

Table Header Format	21/22	22/23	23/24	24/25	25/26
Battery Electric Vehicle	N/A	1	0	1	1
Plug-in Hybrid Vehicle	N/A	0	0	0	0
Fuel Cell Vehicle	N/A	0	0	0	0
<b>Percent of total purchases</b>	0%	0%	0%		
<b>Required ZEV Percentage</b>	15%	20%	25%	30%	35%
<b>Total number of ZEVs in Fleet*</b>	18	19	19	20	21

**Medium- Heavy-Duty ZEV Adoption**

CALPIA uses heavy duty trucks for the construction staff. When we must replace these trucks CALPIA will make every effort to purchase ZEV.

**Table 2.4: MD/HD Vehicles in Department Fleet Currently Eligible for Replacement**

	Vans, Class 2b	Vans, Class 3 & 4	Vans, Class 5 & 6	Trucks, Class 3-6	Truck, Class 8	Total

<b># of vehicles eligible for replacement</b>	0	0	0	0	0	0
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**Table 2.5: ZEV Additions to the Department Fleet**

<b>Table Header Format</b>	<b>21/22</b>	<b>22/23</b>	<b>23/24</b>	<b>24/25</b>	<b>25/26</b>
Battery Electric Vehicle	N/A	N/A	N/A	N/A	N/A
Plug-in Hybrid Vehicle	N/A	N/A	N/A	N/A	N/A
Fuel Cell Vehicle	N/A	N/A	N/A	N/A	N/A
<b>Percent of total purchases</b>	0				
<b>Total number of ZEVs in Fleet</b>	18				

## ZEV Take-home Vehicles

CALPIA monitors all vehicle home storage permits per SAM, and when replacing fleet vehicles will purchase based on Governor's Executive Order (EO) B-16-12. This effort is not based on take home vehicles or those that stay onsite.

## Telematics Plan

At this time CALPIA is working to use telematics to monitor our ZEV, however GPS is not installed on our older vehicles. As we continue to purchase new vehicles into the fleet we will have GPS installed for monitoring purposes.

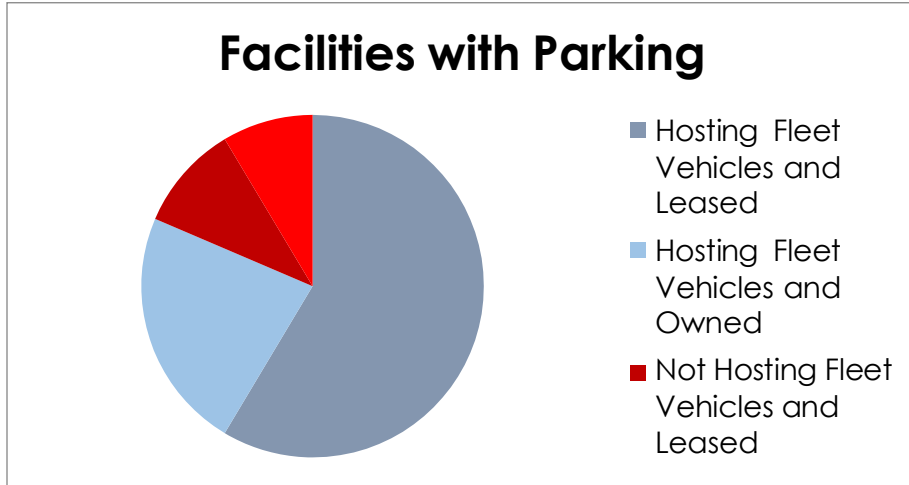
## Public Safety Exemption

CALPIA does not employ sworn peace officers.

## Department of California Prison Industry Parking Facilities

CALPIA maintains two parking facilities at Central Office in Folsom, CA. The most common use of the central office, 560 East Natoma parking lot is for fleet, CALPIA staff, and visitors. The parking lot at 995 Folsom Crossing is for the training center participants, CALPIA staff, and visitors. The fleet parking lot at Central Office is separate from CALPIA staff, and visitor parking. 100% of the facility and parking is state owned. CALPIA owns all of its fleet vehicles.

**Graph 2.4: Parking Facilities**



CALPIA has determined based on the number of employees and visitors to our central office, and the requirement we must install six L2 dual head chargers which we are working on funding for. CALPIA has one dual head charger for both fleet vehicles, staff, and visitors to utilize. CALPIA has eight L1 chargers in our fleet parking for our fleet vehicles.

**Table 2.6: High Priority EVSE Projects**

Facility Name	Total Parking Spaces	Existing L1 Charging Ports (2020)	Existing L2 Charging Ports (2020)	Existing L3 Charging Ports (2020)	Total Charging Ports (2020)	EV Charging Ports Needed by 2025
Central Office	226	0	8	0	8	20
Camp 12	93	0	2	0	2	0
<b>Total</b>	319	0	10	0	10	20

### Outside Funding Sources for EV Infrastructure

CALPIA has not requested funding for EV infrastructure at this time. We believe we will be able to fund the chargers needed by FY 2025.

### Hydrogen Fueling Infrastructure

CALPIA has no intentions of installing hydrogen fueling infrastructure.

## **Comprehensive Facility Site and Infrastructure Assessments**

CALPIA has not had a comprehensive facility site assessment.



**Table 2.7: Results of Site Assessments**

<b>Facility Name</b>	<b>L1 Chargers with Current Electrical System</b>	<b>L2 Chargers with Current Electrical System</b>	<b>Total cost for Project using Current Electrical System</b>	<b>L1 Chargers with Electrical System Upgrades</b>	<b>L2 Chargers with Electrical System Upgrades</b>
Central Office	N/A	N/A	N/A	N/A	N/A
Camp 12	N/A	N/A	N/A	N/A	N/A
<b>Total</b>					

## **EVSE Construction Plan**

CALPIA currently has the EV infrastructure in place.

## **EVSE Operation**

CALPIA currently has one charging station at Camp 12 that both CALPIA fleet, staff, and visitors may use. CALPIA's Business Services Section (BSS) monitors its use, and collects the data, and cost recovery from the unit. CALPIA's BSS maintains the EVSE, set time-limit, and has implemented a cost recovery policy.

## CHAPTER 3 - ENERGY

**Table 3.1: Total Purchased Energy 2020**

Purchased Energy	2003 Baseline Quantity		2020 Quantity		% Qty. Change
	Quantity	Unit	Quantity	Unit	
<b>Electricity</b>	179,856,224	kWh	171,958,446	kWh	-4%
<b>Less EV Charging</b>	-	kWh	(230,670)	kWh	
<b>Natural Gas</b>	5,877,559	therms	3,780,814	therms	-36%
<b>Propane</b>	-	gallons	4,216	gallons	N/A
<b>Fuel Oil</b>	N/A	gallons	N/A	gallons	N/A
<b>Steam</b>	8,895,701	pounds	7,481,000	pounds	-16%
<b>Chilled H2O</b>	-	kBtu	-	kBtu	-100%
<b>TOTALS</b>	<b>1,210,677,364</b>	<b>kBtu Site</b>	<b>971,796,812</b>	<b>kBtu Site</b>	<b>-20%</b>

**Table 3.2: Properties with Largest Energy Consumption**

Building Name	Floor Area (ft <sup>2</sup> )	Site Energy (kBTU)	Source Energy (kBTU)	Source EUI (kBTU/ft <sup>2</sup> -yr)
Central Office	30,000	9,7950,351	19,771,555	659
Camp 12	17,785	19,637,236	53,310,712	2998
Total for Buildings in This Table	47,785	148,921,644	134,811,710	3,657
Total for All Department Buildings	47,785	148,921,644	134,811,710	3,657
% of Totals	A/X %	B/Y %	C/Z %	---

### Zero Net Energy (ZNE)

CALPIA has not initiated a zero net energy plan.

**Table 3.3: Zero Net Energy Buildings**

Status of ZNE Buildings	Number of Buildings	Floor Area (ft <sup>2</sup> )	% of Building Area
Buildings Completed and Verified	0	0	
Building in Design or Under Construction	0	0	
Building Proposed for Before 2025 (but not yet in design)	0	0	
Addtl. Exist. Bldg. Area within 15% w/ EE projects	0	0	
Totals for ZNE Buildings by 2025	0	0	
Totals for All Department Buildings by 2025	0	0	
% ZNE by 2025	0	0	

## New Construction Exceeds Title 24 by 15%

CALPIA has no plans for any new construction at this time.

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

Buildings Exceeding Title 24 by 15%	Number of Buildings	Floor Area (ft <sup>2</sup> )
Completed Since July 2012	1	8000
Under Design or Construction	N/A	N/A
Proposed Before 2025	N/A	N/A

## Reduce Grid-Based Energy Purchased by 20% by 2018

- CALPIA sends out an energy memo/plug load annually. The last was sent on April 2021.
- Ensuring all lights and equipment are turned off at the end of each workday. Yes
- How does your department ensure this is happening? We have designated staff that ensures this happens, this list is refreshed quarterly.
- Describe any employee engagement efforts or office shut down procedures and how they are implemented. We have assigned each department to have a primary and secondary staff to complete this task.
- All computers, copiers and printers are set to utilize their Energy Saver mode during periods of inactivity. Yes

- Energy Star rated equipment is purchased whenever practical. Yes
- What steps does your department take to ensure that Energy Star equipment is being purchased whenever it's available? The purchasing agents are aware of the policy.
- Lighting and HVAC electric usage is minimized outside of normal building hours. Yes
- How does your department ensure that buildings are thoroughly shut down outside of normal operating hours? Please describe policies and procedures used. The plug load memo is sent out annually, and designated department staff are refreshed quarterly.
- Building HVAC controls are set to allow for a +2- or -2-degree fluctuation from the temperature set point. Yes
- Is this currently implemented on every EMS system and thermostat throughout your building portfolio? Yes. It is set and locked. BSS staff are charged with monitoring.
- Ensure that data centers are operated at the maximum temperature allowed by equipment manufacturers. Yes, our MIS staff are responsible for this function.
- Ensure that HVAC ducts, filters and equipment are inspected and maintained at maximum effectiveness. Yes, quarterly this is completed by an outside vendor.
- Ensuring that lights are turned off in all unoccupied rooms. Yes
- Describe plans for occupancy sensor installation or employee engagement. This has been accomplished in two of newer buildings at central office. Our older central office building does not have this capability. We manually accomplish this task.
- Replace all incandescent light bulbs and any remaining magnetic fluorescent ballasts in fluorescent light fixtures- attach replacement plan as appendix. CALPIA's lighting has been switched to auto shut-off LED or manual LED lighting.
- Ensure that state employees not plug in any personal devices other than cell phone and Tablet chargers and task lights, and that any personal space heaters, microwaves, refrigerators and coffee makers are removed from the workplace. Yes
- Ensure that employees are not using personal heaters without written reasonable accommodation permission. Provide a link to any department policy that disallows personal heaters and other

personal devices or describe how your department implements this requirement. We provide a plug load memo annually to staff guiding them on personal devices and appliances.

- Ensure that any new equipment purchased for employee kitchens and break rooms has an Energy Star rating. Strive to replace refrigerators manufactured prior to the year 2000 with more efficient models. Yes
- Provide a link to any policy implementing this requirement. The link is our internal website.
- What percent of refrigerators in your buildings were manufactured prior to the year 2000? None
- What's your department's plan and timeline to replace them? CALPIA will replace as necessary and only with the newest energy star models.
- How will you overcome barriers to replacing employee funded refrigerators?
  - Ensure that all vending machines on-site are certified to Energy Star version 3.0, section 3(B) or are equipped with after-market occupancy sensor or sales-based energy management hardware. CALPIA will check into this with our vending machine vendor.
- Please report the total number of refrigerated and non-refrigerated vending machines in your building portfolio, and the percentage of each (refrigerated and non-refrigerated vending machines) that are Energy Star V 3.0 compliant or have after-market energy management hardware.
  - Ensure that all coffee makers shut off automatically. Yes
  - Ensure that kitchen, break room, and lunchroom equipment is cleaned regularly and maintained to optimize efficiency. Yes
  - Ensure that timers are installed on all equipment including paper shredders, lighted snack vending machines, and water coolers, so the equipment will be turned off automatically during non-working hours. These items turn off or sleep automatically.
  - Establish an annual email from Department directors to educate all employees on the importance of minimizing electrical plug loads. This is completed annually via our energy memo/plug load memo.
- When was the last email sent? April 2021
- Describe its contents and any responses. CALPIA copied the memo DGS provided.
- [Management Memo 14-09 "Energy Efficiency in Data Centers and Server Rooms"](#):

- All state-owned and leased data centers and server rooms greater than 200 square feet must be operated within the ASHRAE-TC 9.9, Class A1-A4 guidelines, including operating at temperatures between 73-81 degrees Fahrenheit. Yes
- Discuss whether all server rooms are being operated at the recommended temperature and any barriers to achieving this standard. Yes
  - All state-owned data centers over 1,000 square feet must report their power usage effectiveness (PUE) to the Department of Technology each year. CALPIA's data center is not over 200 sqft.
  - All purchases of network switches and routers meet the Energy Efficient Ethernet IEEE 802.3-2012 Section 6 standard. Yes
- Describe how this is being implemented

**Table 3.5: Department-Wide Energy Trends (if available)**

Year	Floor Area (ft <sup>2</sup> )	Total kBtu Consumption	Department Average EUI
Baseline Year 2003			
2013	47,785	36,458,703	90
2014	47,785	36,297,179	92
2015	47,785	36,686,210	93
2016	47,785	28,666,677	97
2017	47,785	29,250,169	98
2018	47,785	32,569,742	110
2019	47,785	8,917,541	187
2020	47,785	8,019,475	168
% Change 2003-2020	(Y-W)/W %	-89%	(B-A)/A %

CALPIA has consistently reduced energy consumption through extensive conservation, retrofit efforts and energy management efforts. The continuation of the energy efficiency program are integral ways for CALPIA to meet the Governor's sustainability goals. CALPIA does not have 2003 data to come up with % of change.

**Table 3.6: Summary of Energy Projects Completed or In Progress**

<b>Year Funded</b>	<b>Estimated Energy Savings (kBTU/yr)</b>	<b>Floor Area Retrofit (sq.ft.)</b>	<b>Percent of Department Floor Area</b>
2015	N/A	N/A	N/A
2016	N/A	N/A	N/A
2017	N/A	N/A	N/A
2018	N/A	N/A	N/A
2019	N/A	N/A	N/A
2020	N/A	N/A	N/A
2021	N/A	N/A	N/A

CALPIA has no plans for energy projects soon.

### **Table 3.7: Energy Surveys**

CALPIA will not be conducting an energy survey at this time.

<b>Year</b>	<b>Total Department Floor Area (sq.ft.)</b>	<b>Energy Surveys Under Way (sq.ft.) Level 1</b>	<b>Energy Surveys Under Way (sq.ft.) Level 2</b>	<b>Percent of Department Floor Area Level 1</b>	<b>Percent of Department Floor Area Level 2</b>
2014	N/A				
2015	N/A				
2016	N/A				
2017	N/A				
2018	N/A				
2019	N/A				
2020	N/A				

## **Demand Response**

CALPIA cannot volunteer for demand response since we employ and train offenders and cannot be out of power to continue our mission.

### **Table 3.8: Demand Response**

<b>Demand Response Participation</b>	<b>Number of Buildings</b>	<b>Estimated Available Energy Reduction (kW)</b>
Number of Buildings Participating in 2020	N/A	N/A
Number of Buildings That Will Participate in 2021	N/A	N/A
All Department Buildings (Totals)	N/A	N/A
All Department Buildings (Percent)	N/A	N/A

## Renewable Energy

**Table 3.9: On-Site Renewable Energy**

<b>Status</b>	<b>Number of Sites</b>	<b>Capacity (kW)</b>	<b>Estimated Annual Power Generation (kWh)</b>	<b>Percent of Total Annual Department Power Use</b>
Current On-Site Renewables in Operation or Construction	N/A	N/A	N/A	N/A



Status	Number of Sites	Capacity (kW)	Estimated Annual Power Generation (kWh)	Percent of Total Annual Department Power Use
On-Site Renewables Proposed	N/A	N/A	N/A	N/A
On-Site Renewables Operational or Proposed Totals	N/A	N/A	N/A	N/A
Total Department-Wide ZNE-Targeted Facilities & Energy Current & Proposed On-Site Totals	N/A	N/A	N/A	N/A
Off-Site Renewable Current Totals	N/A	N/A	N/A	N/A
Off-Site Renewables Planned	N/A	N/A	N/A	N/A
Off-Site Renewables Combined Current & Planned	N/A	N/A	N/A	N/A
<b>Current Combined On-Site and Off-Site Renewable Energy</b>	N/A	N/A	N/A	N/A
Additional Planned On-Site and Off-Site Renewable	N/A	N/A	N/A	N/A

CALPIA is not planning any renewable energy projects at this time.

## Monitoring Based Commissioning (MBCx)

CALPIA has no monitoring projects planned.

**Table 3.10: Planned MBCx Projects**

Facility	Building Name	Location	Floor Area (sq. ft.)	EMS Make, Model, Installation/ Upgrade	EMS Year	MBCx Capable, Difficult, or No EMS	MBCx Projected to Start	MBCx Projected Cost (\$)
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

## **Financing**

CALPIA uses funds generated by our enterprises to complete capital projects. These projects must meet our Mission, Values, and Goals to be approved by the CALPIA board.

CALPIA have been past recipients of grant funds by the State of California to complete sustainability projects.

In the fall of 2021, CALPIA completed a grant survey which was submitted to DGS for future water saving projects. If the grant is approved, we will complete the tasks listed on the survey.

# CHAPTER 4 - WATER EFFICIENCY AND CONSERVATION

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## Best Management Practices

CALPIA makes every effort to reduce water by implementing water reduction measures, installing low flow toilets, drip systems, motion faucets, etc. where possible. CALPIA is supplied with water from California State Prison Sacramento (CSP-FSP) and is unable to report on usage.

## Department Mission and Built Infrastructure

**Table 4.1: 2020 Total Purchased Water**

Purchased Water	Quantity	Cost (\$/yr)
Potable	N/A	\$ N/A
Recycled Water	N/A	\$ N/A

**Table 4.2: Properties with Largest Water Use Per Capita**

Building Name	Area (ft <sup>2</sup> )	# of Building Occupants	Total 2020 Gallons	Total 2020 Irrigation in Gallons (if known)	Gallons per Capita
N/A	N/A	N/A	N/A	N/A	N/A

**Table 4.3: Properties with Largest Landscape Area**

Building Name	Landscape Area (ft <sup>2</sup> )
N/A	N/A

**Table 4.4: Department Wide Water Use Trends**

Year	Total Occupancy /year	Total Amount Used (Gallons/year)	Per capita Gallons per person per day
Baseline Year 2010	1523 W	5,000,000 X	
N/A	N/A	N/A	N/A
<b>2020 Goal</b>			

**Table 4.5: Total Water Reductions Achieved**

<b>Total Water Use Compared to Baseline</b>	<b>Total Amount Used (gallons per year)</b>	<b>Annual Gallons Per capita</b>
20% Reduction Achieved	N/A	N/A
Less than 20% Reduction		
Totals		
Department-Wide Reduction		

CALPIA is supplied with water from California State Prison Sacramento (CSP-FSP) and is unable to report on usage.

### Building Water Management BMPS

**Table 4.6: Summary of Indoor Water Efficiency Projects Completed 2014-2020 or In Progress**

<b>Year Completed</b>	<b>Water Saved (Gallons/yr.)</b>	<b>Number of Indoor Water Efficiency Projects Completed</b>	<b>Cost Savings per Year</b>
2014	N/A		
2015	N/A		
2016	N/A		
2017	N/A		
2018	N/A		
2019	N/A		
2020	N/A		

### Building Heating and Cooling Systems BMPs

CALPIA's maintenance team completes weekly water equipment checks.

**Table 4.7: Summary of Boilers and Cooling Systems Projects Completed or In Progress**

<b>Year Completed</b>	<b>Water Saved (Gallons/yr.)</b>	<b>Number of Systems with Water Efficiency Projects</b>
2014	N/A	N/A
2015	N/A	N/A
2016	N/A	N/A
2017	N/A	N/A
2018	N/A	N/A
2019	N/A	N/A
2020	N/A	N/A

CALPIA does not have Boiler or Cooling system projects at this time.

**Table 4.8: Summary of Landscaping Hardware Water Efficiency Projects Completed or In Progress**

<b>Year Funded</b>	<b>Water Saved (Gallons/yr.)</b>	<b>Estimated Annual Cost Savings</b>	<b>Total Number of Projects per Year</b>
2014	N/A	N/A	N/A
2015	N/A	N/A	N/A
2016	N/A	N/A	N/A
2017	N/A	N/A	N/A
2018	N/A	N/A	N/A
2019	N/A	N/A	N/A
2020	N/A	N/A	N/A

**Table 4.9: Summary of Living Landscaping Water Efficiency Projects Completed or In Progress**

<b>Year Funded</b>	<b>Water Saved (Gallons/yr.)</b>	<b>Landscape Area MWEO (ft<sup>2</sup>)</b>	<b>Climate Appropriate Landscape Area (ft<sup>2</sup>)</b>
2014	N/A	N/A	N/A
2015	N/A	N/A	N/A
2016	N/A	N/A	N/A
2017	N/A	N/A	N/A
2018	N/A	N/A	N/A
2019	N/A	N/A	N/A
2020	N/A	N/A	N/A

## Water Shortage Contingency Plans and Critical Groundwater Basins

**Table 4.10: Number of Buildings with Urban Water Shortage Contingency Plans and in Critical Groundwater Basins**

Number of Buildings with urban water shortage contingency plans.	Number of buildings in critical groundwater basins	Total Amount of water used by buildings in critical groundwater basins (Gallons)
N/A	N/A	N/A

**Building Inventories Summary****Table 4.11: Summary of Building Inventory Needs**

Number of toilets to be replaced	Number of urinals to be replaced	Number of faucet aerators to be replaced	Number of showerheads to be replaced * Changing to 1.8 gallons in 2020	Number of clothes washers to be replaced	Number of garbage disposals to be replaced.	Number of pre-rinse valves to be replaced
4	2	5	0	0	0	0

**Heating and Cooling Systems Inventories Summary****Table 4.12: Summary of Boilers and Cooling Systems Inventory**

Amount of Water Used for make-up (Gallons)	Number of flash tanks to purchase and install	Number of meters to purchase and install	Amount currently reused? (Gallons)	Remaining additional water suitable for other purposes (Gallons)
N/A	N/A	N/A	N/A	N/A

**Irrigation Hardware Inventories Summary**

CALPIA's maintenance team completes weekly irrigation hardware checks during the summer months and monthly during winter months to be sure hardware is working as designed.

**Table 4.13: Summary of Irrigation Hardware Inventory**

Number of separate meters or sub-meters needed	Number of irrigation controllers required with weather or soil moisture adjustment and flow sensing capabilities needed.	Number of backflow prevention devices needed.	Number of flow sensors to be purchased and installed	Number of automatic rain shut-off devices needed	Number of new pressure regulators needed.	Number of new hydrozones needed.	Number of new valves needed.	Number of filter assemblies needed.	Amount of drip irrigation needed (area covered)	Number of booster pumps needed	Number of rotary nozzles or other high efficiency nozzles needed
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**Landscaping Hardware Maintenance BMPs**

**Living Landscape Inventory**

CALPIA has a small, landscaped area <300sq ft. It is made up of drought tolerant pollinating plants, and two very large old redwood trees. We make every effort to keep them alive.

**Table 4.14: Summary of Living Landscape Inventory**

Landscape >500Sq. ft.)	Turf (Sq. ft.)	Number of historical sites or memorials	MWELo landscape area (Sq. Ft.)	Climate appropriate landscape area (Sq. Ft.)
0	0	0	300 Sq. Ft.	300 Sq. Ft.

**Living Landscape BMPs**

CALPIA has accomplished the following:

- Prioritize and assign value to plants within a landscape.
- During drought or other water shortages, give trees and large shrubs highest priority for survival.

- CALPIA has a landscape team that tracks the days of last rain to irrigate as necessary.
- Continue to water trees and shrubs as needed.
- Refresh mulch as needed. All bare soil must be covered by a minimum of 3 inches of mulch.
- Use gorilla hair mulch, a plant-based mulch that naturally deters weeds, repels insects, retains moisture, provides longevity and offers a distinctive appearance.
- Drip irrigation which deliver’s water directly to the root zone of the plants and substantially conserves water, produces healthier plants and naturally reduces weeds.
- Adjust the irrigation schedule for seasonal changes.
- Test irrigation system monthly to check for leaks and misalignment, and other malfunctions. Repair immediately with the correct parts. Adjust irrigation systems as needed.
- Water early in the morning or in the evening when wind and evaporation are lowest. Never water between 10am and 6pm which reduces evaporation.
- Prevent runoff! Make sure sprinklers are directing water to only landscape areas, avoiding hardscapes such as parking lots, sidewalks, or other paved areas. No irrigation water should ever be permitted to leave the site.
- Use WUCOLS to find plant water use requirements and only water landscapes according to the plant water needs.
- Plant species native to the climate zone.
- Incorporate plantings for pollinators
- When planting new areas or replacing plants, add compost to the soil (entire planting areas, not just planting holes) at a rate of 4 cubic yards per 1000 square feet to a depth of six inches unless contradicted by a soil test. Fix leaks immediately

**Large landscape Water Use**

**Table 4.15: Summary of Large Landscape Inventory and Water Budget**

CALPIA does not have a large landscape inventory to provide.

<b>Number of Facility Sites/Locations with &gt; 20,000 sq. ft. of Landscaping</b>	<b>Total Landscape Area all Facilities</b>	<b>Total Water Budget all Facilities</b>	<b>Total EPA WaterSense or Irrigation Association Certified Staff</b>
<b>N/A</b>	<b>300 Square Feet</b>	<b>N/A</b>	<b>N/A</b>



**Table 4.16: Summary of Completed Living Landscaping Water Efficiency Projects**

<b>Total of all Facilities</b>	<b>Est Annual Water Savings (Gallons)</b>	<b>Est Annual Cost (\$) Savings</b>	<b>Sum of MWEL0 Landscape installed (Sq. Ft.)</b>	<b>Sum of Climate Appropriate Landscape Installed (Sq. Ft.)</b>
<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N?A</b>

### **Monitoring, Reporting and Compliance**

CALPIA is unable to report on water use due to the nature of the prison facilities and the nature in which we receive our water from California State Prison – Sacramento.

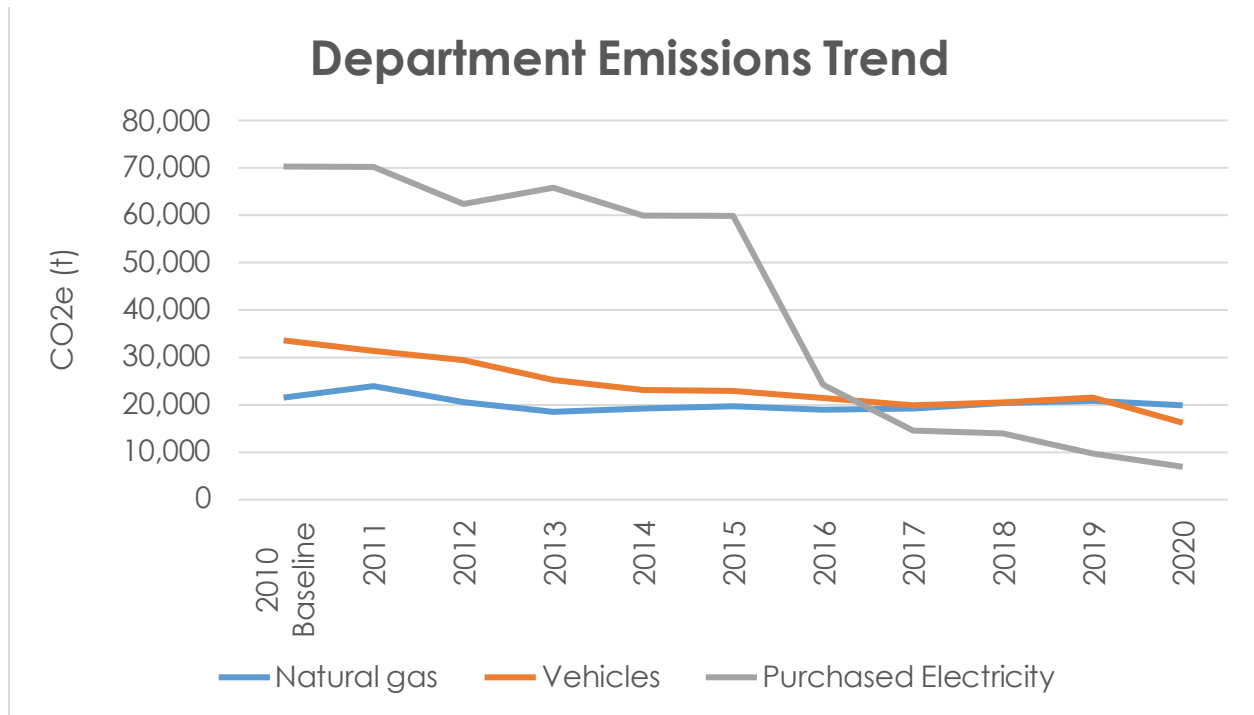
# CHAPTER 5 - GREEN OPERATIONS

## Greenhouse Gas (GHG) Emissions

Table 5.1: GHG Emissions since 2010

Emissions Source	2010 Baseline	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Percent Change since Baseline
Natural gas	21,556	23,962	20,587	18,516	19,233	19,741	18,996	19,210	20,361	20,841	19,906	-8%
Vehicles	33,588	31,380	29,461	25,251	23,165	22,954	21,460	19,901	20,533	21,533	16,214	-52%
Purchased Electricity	70,272	70,225	62,340	65,778	59,956	59,870	24,234	14,570	13,956	9,717	6,938	-90%
<b>Total</b>	<b>125,416</b>	<b>125,567</b>	<b>112,388</b>	<b>109,545</b>	<b>102,354</b>	<b>102,565</b>	<b>64,690</b>	<b>53,681</b>	<b>54,850</b>	<b>52,091</b>	<b>43,058</b>	<b>-66%</b>

Graph 5.1: GHG Emissions since 2010



## Low Emitting Landscaping Equipment

CALPIA has incarcerated individuals that work onsite. We have landscapers, and they use a broom for daily clean up or battery powered leaf blowers as necessary. All of our maintenance equipment has been transitioned to electric or battery powered.

## Building Design and Construction

**Table 5. 2: New Construction since July 1, 2012**

Facility Name	LEED Certification Type & Level Achieved	Commissioning Performed (Y/N)
N/A	N/A	N/A

CALPIA has no new construction projects planned at this time.

## LEED for Existing Buildings Operations and Maintenance

CALPIA has no new building projects planned at this time. Buildings are under 50K square feet.

**Table 5.3: LEED for Existing Buildings and Operations**

Number of Buildings over 50,000 sq. ft. and eligible for LEED EBOM	Number of Building over 50,000 sq. ft. that have achieved LEED EBOM	Percentage of buildings over 50,000 sq. ft. required to achieve LEED EBOM that have achieved it
N/A	N/A	N/A

## Indoor Environmental Quality

### New Construction and Renovation

CALPIA's sustainable guidelines help our MBE/CTE construction program understand the project requirements in relation to sustainability which include all relevant and feasible voluntary measures from Divisions A4.5 and A5.5 of the California Green Buildings Standards Code should be implemented.

Voluntary measures for Tier 1 for EQ CALGREEN include increased testing of indoor air quality, more stringent formaldehyde requirements, VOC limits and verification for acoustical ceilings and wall panels, use of entryway systems

and isolation of pollutant sources, increased air filtration (MERV 13), additional lighting and thermal comfort controls, increased consideration for additional daylight and view requirements, no hydrochlorofluorocarbons (HCFCs), and requirements for hydrofluorocarbons (HFCs). Mandatory Tier 1 measures include additional requirements for resilient flooring and thermal information together with verification of code compliance.

Describe how your department will ensure that all new construction and renovation projects include:

CALPIA ensures MBE/CTE construction program understand the project requirements in relation to sustainability.

### **Furnishings**

Discuss how your department ensures or will ensure that all furniture and seating purchased by the department complies with either:

Per MM 14-05, office furniture and seating are required to comply with either:

DGS' Purchasing Standard and Specifications (Technical Environmental Bid Specification 1-09-71-52, Section 4.7) or

The American Society of Heating, Refrigerating and Air-Conditioning Engineers' (ASHRAE) Standard 189.1-2011 (Section 8.4.2.5).

CALPIA manufacturing and associated products are compliant with DGS' Purchasing Standard and Specifications (Technical Environmental Bid Specification 1-09-71-52). CALPIA systems furniture has been third party certified to meet the most aggressive standards for volatile organic compound (VOC) emissions. We tested our products through SCS Global. Indoor Advantage Gold certification is SCS Global Services' highest level of indoor air quality performance for furniture. The certification assures that furniture products support a healthy indoor environment by meeting strict chemical emission limits for volatile organic compounds (VOCs). To be certified, products must be tested by independent labs for compliance with the ANSI/BIFMA X7.1, and either ANSI/BIFMA e.3 or CDPH/EHLB Standard Method V1-1 for VOC emissions of concerns.

- The DGS' Purchasing Standard and Specifications (*Technical*

*Environmental Bid Specification 1-09-71-52, Section 4.7) or*

- ii. The American Society of Heating, Refrigerating and Air-Conditioning Engineers' (ASHRAE) *Standard 189.1-2011* (Section 8.4.2.5).
- iii. CALPIA manufacturing and associated products are compliant with the DGS' Purchasing Standard and Specifications (*Technical Environmental Bid Specification 1-09-71-52*)

### **Cleaning Products**

CALPIA makes the stated Green Seal products our enterprises. We use these products exclusively within our Health Care facilities maintain program statewide. CALPIA practices International Sanitary Supply Association (ISSA) guidelines.

### **Cleaning Procedures**

CALPIA employees Health Care Facilities Maintenance custodial staff and incarcerated individuals accomplish a list of cleaning procedures two times daily (more during COVID precautions). CALPIA meets all Title 8 Section 3362 cleaning procedures.

### **HVAC Operation**

CALPIA

- During normal operations, CALPIA staff ensures Quarterly HVAC system maintenance and repair tasks as they arise. CALPIA is currently in a contract with Golden Aire the activities include:
  - Confirmation that air filters are clean and replaced based on the manufacturer's specified interval.
  - Air filters should have the highest Minimum Efficiency Reporting Value (MERV) of MERV 13.
  - Verification that all outdoor dampers, actuators, and linkages operate properly.
  - Checking condition of all accessible heat exchanger surfaces for fouling and microbial growth, with action taken if growth is found.
  - Checking the first 20 feet of ductwork downstream of cooling coils for microbial growth, with action taken if growth is found.

## Integrated Pest Management

CALPIA currently uses a IPM to manage pests. The vendor uses Tier 3 material Essentria IC3.

**Table 5.4: Pest control contracts**

Pest Control Contractor	IPM Specified (Y/N)
Advanced IPM	Yes

## Waste and Recycling Programs

The California Integrated Waste Management Act (Assembly Bill 939, Sher, Chapter 1095, Statutes of 1989 as amended) established the solid waste management hierarchy. Source reduction is at the top of the state's waste management hierarchy; recycling and composting is next, followed last by environmentally safe disposal. California's Department of Resources Recycling and Recovery (CalRecycle) administers the state's recycling and waste management programs. State agencies must report their waste and recycling efforts by May 1 of each year covering activities conducted during the prior calendar year. Using your agency's most recent annual report ([State Agency Reporting Center \(SARC\) Report](#)), give a waste management overview of your agency's waste, recycling and organics recycling efforts. You can search for your agency recycling coordinator using the search feature of the website linked above.

Pursuant to [SB 1106](#) each state agency shall have at least one designated waste and recycle coordinator. The coordinator shall perform the duties imposed pursuant to this chapter using existing resources. The coordinator shall be responsible for implementing the integrated waste management plan and shall serve as a liaison to other state agencies and coordinators. In addition, each state agency is required to provide adequate receptacles, signage, and education and outreach to staff.

- Describe how your designated waste and recycling coordinator meets this statutory requirement.
- If your agency has multiple facilities, describe how the recycling coordinator ensures each facility has waste and recycling services and how the recycling coordinator ensures disposal tonnage for each facility is included in the annual report.

CALPIAs' coordinator has purchased a 3-can system for compostable waste, recycling waste, and landfill waste for each of our breakrooms. CALPIA recycles compostable waste into a compost bin and uses it on-site.

**Table 5.5: State Agency Reporting Center (SARC) Report on Total Waste per Capita**

<b>Per Capita Baseline</b>	<b>2019</b>	<b>2020</b>	<b>Total Waste 2019</b>	<b>Total Waste 2020</b>	<b>% Change from 2019/2020</b>
0.40	4.81	3.21	288 tons	192 tons	-33%

### **Recycling**

CALPIA recycles as much waste as possible. CALPIA recycles cardboard into our City of Folsom recycle bin. CALPIA breaks down pallets, uses a shredding company to reduce paper in the landfills, and we compost. Toners are recycled with Office Depot. Recycle cans are placed in each break room with allowable item list, items then get placed into the recycle bin or composted, City of Folsom handles our waste pick up.

### **Organics Recycling**

CALPIA recycles and composts wherever possible. Composting bins are located in each break room with a list of allowable items, contents are then placed in an on-site composter, once fully composted the compost is distributed amongst the landscape.

Using your agency's most recent annual report, describe your agency's program process for organics recycling.

- CALPIA's utilizes a 3-can system for compostable waste, recycling waste, and landfill waste for each of our breakrooms. CALPIA recycles compostable waste into a compost bin and uses it on-site. The organics waste can is serviced twice daily. None of our sites generate more than two cubic yards per week. CALPIA employs three landscape incarcerated individuals. We have taught the organics program and how it can help plants on our campus.

### **Edible Food Recovery Program**

CALPIA does not have a cafeteria to employ this program.

### **Hazardous Waste Materials**

CALPIA runs an E-waste program at our On-time delivery North. Hazardous such as fluorescent bulbs, batteries, paint are transferred to CSP SAC for disposal.

## **Material Exchange**

- CALPIA breaks down all recyclable items and either reuses or has them removed via our City of Folsom recycle bin. Surveyed vehicles are sent to DGS auction.

## **Waste Prevention/Reuse**

- CALPIA whenever possible attempts to recycle or reuse office supplies and keeps a small storage area for this purpose. We have a staff that repairs broken chairs to a safe condition to allow for reuse, CALPIA is continuously working to integrate Docu Sign and digital storage when feasible. Additionally, CALPIA is working with a vendor to scan stored documents to alleviate paper storage or even printing documents moving forward.

## **Training and Education**

CALPIA educates employees via Health and Safety meetings that occur monthly. Signage is used throughout the facility to help educate employees on recycling and composting. We also have janitorial staff that monitor recycle and compost contents.

## **Foodservice Items**

CALPIA does not have a cafeteria onsite. We have breakrooms only. The breakrooms are where the 3-can receptacles are placed.

## **Environmentally Preferable Purchasing**

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.

## **Reducing Impacts**

The environmental impact of the goods we buy is often larger than the impact of our own department operations. CALPIA is committed to reducing the environmental impact of our goods and services we purchase.

CALPIA buyers are encouraged to purchase Green/EPP-compliant goods and goods with postconsumer-recycled content whenever feasible. Additionally, all purchases contracted and non-contract purchases must require contractors and vendors to verify recycle content of purchased items on the Post Consumer Certification.



For each product category below describe what steps have already been taken to ensure purchases are EPP.

- Paint (i.e. master painter's institute certified paint and recycled paint)  
Buyers are encouraged to utilize the Green/EPP-compliant recycled paint whenever feasible.
- IT goods (energy star rated: computers, monitors and televisions DGS-52161505 Purchasing Standard or meet current specifications of statewide contracts)  
CALPIA'S Management Information Systems are encouraged to purchase Green/EPP compliant goods and goods with post-consumer recycled content, whenever feasible (per policy).
- Janitorial supplies and cleaners (EcoLogo, Greenseal certified cleaners, DGS\_471318A Purchasing Standard compliant)  
CALPIA manufactures our own line cleaning products (janitorial, laundry, and kitchen). CALPIA products meet the EPP Green Seal standard.
- Janitorial supplies, paper products (i.e. SABRC compliant and DGS\_141117A Purchasing Standard Compliant)  
In an effort to meet SABRC reporting it is within CALPIA own policy that buyers must give preference to purchasing recycled janitorial and paper products.
- Desk Lamps (DGS-391115-A Purchasing Standard compliant)  
CALPIA buyers are encouraged to purchase Green/EPP compliant goods and goods with post-consumer recycled content, whenever feasible (per policy).
- Office equipment (i.e. EPEAT compliant and EnergyStar rated printers, copiers and DGS\_432121A Purchasing Standard compliant for high-end multifunctional devices) and Paper products (i.e. Forest Stewardship Council certified, SABRC compliant copy paper, DGS-441200-A Purchasing Standard compliant)  
CALPIA purchases Green/EPP/SABRC compliant equipment and copy paper from contracted and non-contracted vendors.
- Remanufactured toner cartridges (available from CAPIA and statewide contract ID/Number: 1-15-75-61)  
CALPIA purchases SABRC compliant toners from the statewide contract and CALPIA whenever feasible.

## Measure and Report Progress

CALPIA Business Services Section manages composting on a small scale, waste tonnage is reported on the SARC report. CALPIA Business Services section trains staff in the benefits of buying EPP products and how to apply best practices and standard specifications to procurements.

CALPIA only tracks SABRC and does not currently have an EPP tracking mechanism in place. Extensive and continued efforts have been put forth to improve CALPIA SABRC compliance and reporting accuracy. BSS facilitates and includes SABRC training in annual training efforts. Policy's and user guides are published on the CALPIA BSS Intranet page for staff to reference.

BSS trains staff all entities with sub-delegated purchasing authority to submit Post Consumer Certification to central office BSS. BSS verifies and monitors each entity's Post Consumer Certification data and overall compliance. This process enables BSS to identify and address non-compliant categories more efficiently. CALPIA ongoing strategy to achieve the 50-75 percent minimum goal in each category is to:

- Work with field locations to enhance reporting capabilities and accuracy in.
- Increase oversight of locations with sub-delegated purchasing authority through a quarterly review process.
- Research commonly purchased non-SABRC compliant commodities and identify comparable SABRC compliant products.
- Inform buyers of the research results and encourage them to purchase the SABRC compliant products.

This strategy, in conjunction with enhancing the use of SABRC compliant specifications, will assist CALPIA in achieving the 50-75 percent annual SABRC goal.

**Table 5.5: State Agency Buy Recycled Campaign 2020 Performance**

Product Category	SABRC Reportable Dollars	SABRC Compliant Dollars	% SABRC Compliant
Antifreeze	0.00	0.00	0.00
Compost and Mulch	18100.00	18100.00	100%
Glass Products	0.00	0.00	0.00
Lubricating Oils	2906.01	2670.31	91.89%
Paint	764.97	637.99	83.40%
Paper Products	71739.65	53989.73	75.26%
Plastic Products	316917.42	212517.43	67.06%

Printing and Writing Paper	15854.84	15401.63	97.14%
Metal Products	1082463.76	914183.34	84.45%
Tire Derived Products	4747.75	4747.75	100%
Tires	840.54	682.72	81.22%

Discuss your agency's efforts to achieve SABRC compliance for the non-compliant categories and increase procurement of recycled products across all categories.

CALPIA requires all vendors we do business with to complete Post Consumer Certification form Cal Recycle 74 form with their submitted bid/quote. This has allowed CALPIA to capture all recycled data from items being purchased. CALPIA will use [DGS Buying Green website](#) to accomplish the goals below.

**Table 5.6: Commodities categories with the greatest Potential to Green**

Commodity	2020 Total Spend (\$)	2020 Percent EPP Spend (%)	EPP Target (%)
Plastic	\$316,917.42	\$212,517.43	80%
Paper	\$71,739.65	\$53,989.73	85%

### Sustainability Development and Education

CALPIA requires all vendors we do business with to complete Post Consumer Certification form Cal Recycle 74 with their submitted bid/quote. This has allowed CALPIA to capture all recycled data from items being purchased. CALPIA will use [DGS Buying Green website](#) to accomplish the goals below. CALPIA will send its' seven procurement staff to EPP training.

**Table 5.7: Buyers who have completed EPP Training**

CalHR Classification	Total Number of Buyers	Percent Completing EPP Training	Commitment to have buyers complete EPP training (%)
Associate Governmental Program Analyst	3	2	100%
Staff Services Analyst	1	0	100%
Industrial Supervisor	1	0	100%
Business Services Officer	1	0	100%

<b>CalHR Classification</b>	<b>Total Number of Buyers</b>	<b>Percent Completing EPP Training</b>	<b>Commitment to have buyers complete EPP training (%)</b>
Business Services Assistant	1	0	100%

Business Services staff are alerted via Sustainability whenever training is available in the areas of Sustainability and those interest attend.

## Location Efficiency

CALPIA is located in Folsom, we have a showroom downtown and when possible, staff that live closer to downtown are encouraged to work from the showroom as their position permits. This activity reduces the drive to Folsom. CALPIA is finalizing a long-term telework program which will increase location efficiencies. CALPIA is currently under the emergency COVID order and is maximizing telework as available based on work duties.

CALPIA is in the process of negotiating a renewal of the lease for the showroom site with DGS RESDE office.

**Table 5.8: Smart Location Score for new Leases**

<b>Facility name</b>	<b>Smart Location Calculator Score</b>
CALPIA Showroom	We do not report on this location.

CALPIA only has the above-mentioned lease.

**Table 5.9: Lowest Smart Location Score Leases**

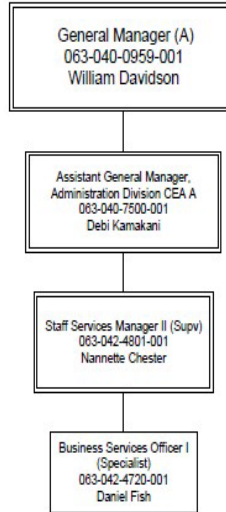
<b>Facility name</b>	<b>Smart Location Calculator Score</b>
Lease 1	N/A

# Appendix A – Sustainability Leadership

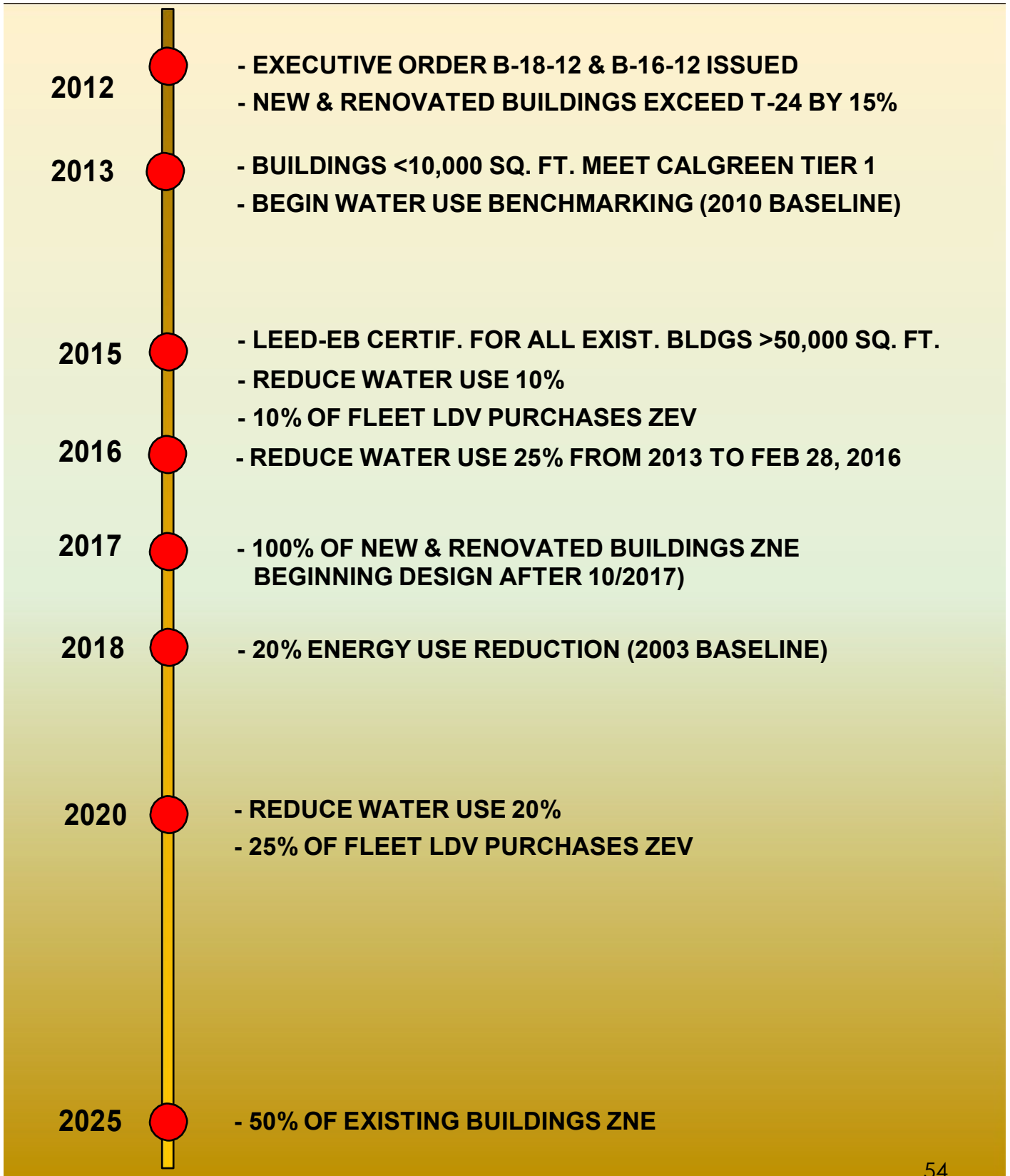
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CALIFORNIA PRISON INDUSTRY AUTHORITY  
ADMINISTRATION DIVISION

SUSTAINABILITY TEAM



## Appendix B - Sustainability Milestones & Timeline



# Appendix C – Roadmap Checklists

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## 1 - Climate Adaptation Roadmap Checklist

Policy References: Executive Order B-30-15

### Executive Summary:

- Summary of status and actions underway to meet sustainability objectives related to climate adaptation.
- Include summary of changes from previous roadmap.

(This executive summary can be a paragraph in a single, comprehensive executive summary including all roadmap chapters if combined into one document.)

### Past Performance:

- Describe how screening process will integrate facility operations and planning processes
- Describe approach and steps taken to integrate climate considerations in planning and investment, and how this will address changes
- Use Cal-Adapt to collect data and characterize anticipated climate change
- Report Top 5 facilities most affected by changing temperature in Table 1.2a
- Discuss how temperature and extreme heat events affect your facilities and operations, and what facilities and regions are most affected
- Describe strategies to reduce impacts of changing temperatures
- Describe ways you could employ natural infrastructure to reduce risks of climate change
- Report facilities located in disadvantaged communities in Table 1.5 and discuss how these facilities can interact with the community or serve as a resource
- Report facilities located in urban heat islands in Table 1.4

- Describe whether these facilities have large parking lots or impervious surface
- Describe actions that can be or are being taken to reduce urban heat island affect at these facilities

**Future Planning:**

- Report five facilities that will experience the largest increase in extreme heat events in Table 1.1
- List facilities most impacted by projected changes in precipitation in Table 1.5, and describe strategies to reduce these impacts
- Identify facilities at risk from rising sea levels in Table 1.6
- Discuss actions that can be taken to minimize risks of sea level rise
- List facility climate risks in Table 1.10
- Identify new facilities anticipating future extreme heat events in Table 1.10
- Discuss how new facilities siting, design, construction and operation are accounting for these changing conditions
- Report new facilities and disadvantaged communities and urban heat islands in Table 1.11
- Describe how climate change will affect useful life of each planned facility
- Verify the integration of a Climate Change Plan into department planning in Table 1.12
- Verify the engagement and planning processes in Table 1.13
- Report if climate change is integrated into funding programs in Table 1.14
- Describe what climate impacts are of most concern to your facilities and plans, and how department will track how they are changing
- Describe which office or branch will develop a policy to integrate climate change into infrastructure, how it will prioritize, and when the policy will be completed





## 2 - Zero-Emission Vehicle Roadmap Checklist

**Policy References:** [EO B-18-12](#), [EO B-16-12](#), [2016 ZEV Action Plan](#)

### Executive Summary:

- Summary of status and actions underway to meet sustainability objectives related to fleet operations and Zero Emission Vehicles.
- Include summary of changes from previous roadmap.

(This executive summary can be a paragraph in a single, comprehensive executive summary including all roadmap chapters if combined into one document, signed by the department executive director.)

### Department Fleet Status:

- Describe fleet composition and uses
- Edit Graph 2.1 to reflect Department fleet vehicle composition
- Edit Graph 2.2 to reflect Department light duty vehicle fleet composition
- Edit Graph 2.3 to reflect Department medium and heavy duty vehicle fleet composition

### Past Performance:

- Report all prior year Total Purchased Fuel in Table 2.1
- Describe any successes or challenges encountered by your department as it seeks to incorporate ZEVs into its portfolio
- Report on department light duty fleet eligible for replacement in Table 2.2
- Report recent and planned light duty ZEV fleet additions in Table 2.3
- Report on facilities with parking and whether hosting fleet vehicles & modify Graph 2.2 to reflect this

### Future Planning:

- Identify facilities with the most urgent need for EV charging in Table 2.4

- Describe department's engagement with utility and other funding programs for EVSE's and infrastructure
- List any hydrogen fueling stations that could serve as any primary refueling stations for fleet vehicles, and any plans to install hydrogen refueling infrastructure at department facilities
- List site and infrastructure assessment results for ZEV parking in Table 2.5
- Describe plan to design, bid, construct and activate EVSE infrastructure
- Describe department's operation plan for EVSE infrastructure and how it will collect and report EVSE use data and maintain equipment
- Identify department stakeholders for ZEVs and EVSE efforts in Appendix

### 3 - Energy Efficiency Roadmap Checklist

**Policy References:** [EO B-18-12](#), [MM 14-07](#), [MM 14-09](#), [MM 15-04](#), [MM 15-06](#), [MM 17-04](#)

#### Executive Summary:

- Summary of status and actions underway to meet sustainability objectives related to energy use and efficiency.
- Include summary of changes from previous roadmap.

(This executive summary can be a paragraph in a single, comprehensive executive summary including all roadmap chapters if combined into one document, signed by the department executive director.)

#### Department Energy Status:

- Describe mission of your department
- Describe built infrastructure supporting department mission that consumes energy (electricity, natural gas, propane, etc.). Include number and total square footage of department facilities.
- Complete summary of actions and timeframes to meet requirements (can be bullet points)

#### Past Performance:

- Report 2020 Total Purchased Energy in Table 3.1
- List department properties with largest energy consumption in Table 3.2
- Describe any successes or challenges encountered by your department and solutions as it seeks to achieve energy efficiency
- Identify specific challenges to achieving ZNE, T-24+15%, reducing grid-based energy, demand response, renewable energy or monitoring-based commissioning
- Describe department's 5-year capital improvement program
- List department zero net energy buildings in Table 3.3 and department's plans to achieve ZNE at 50% of building portfolio area

- Report department wide energy trends in Table 3.5
- Report yearly energy surveys in Table 3.7
- Discuss energy survey status and efforts over past 5 years

**Future Planning:**

- Describe efforts to reduce plug loads and comply with energy standard operating procedures
- List status of new buildings exceeding Title 24 by 15% in Table 3.4, and describe strategy for ensuring this minimum level of efficiency in future
- Identify department energy projects in Table 3.6
- Identify department demand response in Table 3.8
- Describe demand response programs available, and positive or negative experiences or lessons learned, and department benefits for participation
- Discuss steps department is taking to implement DR in more buildings
- Identify department on-site renewable energy in Table 3.9
- Discuss proposed increases in on-site renewable energy
- Report department planned Monitoring-Based Commissioning (MBCx) projects in Table 3.10
- Summarize department's MBCx experience, challenges, successes, and whether MBCx is incorporated as required, or plans to implement
- Discuss how energy efficiency Best Management Practices have been implemented, how they were institutionalized, and quantify repairs and replacements with estimated energy savings, if possible.
- Describe department steps to finance energy goals and requirements, and what programs it is using



## 4 - Water Efficiency and Conservation Roadmap Checklist

**Policy References:** [Executive Order B-37-16](#)

### **Executive Summary:**

- Summary of status and actions underway to meet sustainability objectives related to water efficiency and conversation.
- Include summary of changes from previous roadmap.

(This executive summary can be a paragraph in a single, comprehensive executive summary including all roadmap chapters if combined into one document.)

### **Past Performance:**

- Describe built infrastructure supporting department mission that consumes purchased water. Include number and total square footage of department facilities.
- Report all 2020 Total Purchased Water in Table 4.1
- List department properties with largest water use per capita in Table 4.2
- List facilities with largest landscape areas in Table 4.3
- Describe any successes or challenges encountered by your department, and solutions as it seeks to achieve water efficiency and conservation
- Report department wide water use trends in Table 4.4
- Report total water reductions achieved in Table 4.5
- Describe major water efficiency project over past five years or underway
- Identify indoor water efficiency projects in Table 4.6
- Identify boilers and cooling systems projects in Table 4.7
- Identify landscaping hardware water efficiency projects in Table 4.8
- Identify living landscaping water efficiency projects in Table 4.9

### **Future Planning:**

- Report the number of buildings with urban water shortage contingency plans and in critical groundwater basins in Table 4.10, and discuss steps to reduce water use in those facilities
- Identify building inventory interior fixture needs in Table 4.11
- Summarize water using boilers and cooling systems inventory in Table 4.12
- Identify irrigation hardware inventory in Table 4.13 and discuss how replacements will occur
- Identify living landscape inventory in Table 4.14 and discuss results
- Identify large landscape inventory and water budget, as well as certified staff in Table 4.15
- Discuss how water conservation Best Management Practices have been implemented, how they were institutionalized, and quantify repairs and replacements with estimated water savings, if possible.



## 5 - Green Operations Roadmap Checklist

**Policy References:** [Executive Order B-18-12](#)

### Executive Summary:

- Summary of status and actions underway to meet sustainability objectives related to green operations
- Include summary of changes from previous roadmap.

(This executive summary can be a paragraph in a single, comprehensive executive summary including all roadmap chapters if combined into one document.)

### Past Performance:

- Report GHG Emissions since 2010 in Table 5.1 and update Graph 5.1 to reflect department emissions trend
- Describe any successes or challenges encountered by your department as it seeks to achieve GHG Emission reductions, and how various strategies contribute
- Explain which actions your department has taken that had the largest impact on GHGe
- Identify newly constructed buildings since July 1, 2012 and LEED level achievement in Table 5.2 and list number of buildings eligible as well as have achieved LEED for Existing Buildings and Operations in Table 5.3.
- Report state agency buy recycled campaign 2016 performance in Table 5.5 and describe your department's efforts to increase green commodities
- Report the lowest smart location score leases in Table 5.9 and describe the department's measures to improve location efficiency scores

### Future Commitment:

- Discuss how your department implements efficiency measures to meet Energy Star targets and to achieve LEED EBOM for buildings >50,000 sq. ft. Describe steps to achieve these and goal dates.

- D**iscuss the steps taken to ensure new construction incorporates the IEQ provisions of CalGreen, and ensures IEQ is considered and incorporated into products, cleaning, and HVAC operation
- Identify pest control contracts in Table 5.4 and discuss the steps taken to incorporate IPM into all contracts and practices
- Describe department efforts to reduce environmental impacts through purchases of goods and services
- Identify commodities categories with the greatest potential to green in Table 5.6 and describe your department's efforts to increase green commodities
- List buyers who have completed EPP Training in Table 5.7 and discuss available training and certifications buyers may have beyond the basic training courses
- List new leases and their smart location scores in Table 5.8 and describe the department's measures to improve location efficiency scores
- Describe how you will achieve greener operations and how many GHGe reductions your department will need to achieve its goal

## Appendix D – Acronyms

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Customize to include organizations and acronyms within your specific department

<b>AB</b>	<b>Assembly Bill</b>
<b>ADR</b>	Automated Demand Response
<b>AMB</b>	Asset Management Branch (at DGS)
<b>BMP</b>	Best management practices
<b>CA</b>	California
<b>CALGREEN</b>	California Green Building Code (Title 24, Part 11)
<b>CEC</b>	California Energy Commission
<b>DGS</b>	Department of General Services
<b>DWR</b>	Department of Water Resources
<b>EHT</b>	Extreme heat threshold
<b>EMS</b>	Energy management system (aka EMCS)
<b>EMCS</b>	Energy management control system (aka EMS)
<b>EO</b>	Executive Order
<b>EPP</b>	Environmentally preferable purchasing
<b>ESCO</b>	Energy service company

<b>ESPM</b>	Energy Star Portfolio Manager
<b>ETS</b>	Enterprise Technology Solutions (a division at DGS)
<b>EUI</b>	Energy use intensity (source kBTU/sq. ft.)
<b>EVSE</b>	Electric vehicle supply equipment (charging equipment)
<b>FMD</b>	Facilities Management Division (a division at DGS)
<b>GCM</b>	Global circulation model
<b>GHG</b>	Greenhouse gas
<b>GHGe</b>	Greenhouse gas emissions
<b>GSP</b>	Groundwater Sustainability Plan
<b>IEQ</b>	Indoor environmental quality
<b>kBTU</b>	Thousand British thermal units (unit of energy)
<b>LCM</b>	The Landscape Coefficient Method
<b>LEED</b>	Leadership in Energy and Environmental Design
<b>MAWA</b>	Maximum applied water allowance
<b>MM</b>	Management Memo
<b>MWELO</b>	Model Water Efficient Landscape Ordinance
<b>OBAS</b>	Office of Business and Acquisition Services (at DGS)
<b>OBF</b>	On-bill financing

<b>OFAM</b>	Office of Fleet and Asset Management (at DGS)
<b>OS</b>	Office of Sustainability (at DGS)
<b>PMDB</b>	Project Management and Development Branch (at DGS)
<b>PPA</b>	Power purchase agreement
<b>PUE</b>	Power usage effectiveness
<b>RCP</b>	Representative Concentration Pathway
<b>SABRC</b>	State Agency Buy Recycled Campaign
<b>SAM</b>	State Administrative Manual
<b>SB</b>	Senate Bill
<b>SCM</b>	State Contracting Manual
<b>SGA</b>	Sustainable groundwater agency
<b>SGMA</b>	Sustainable Groundwater Management Act
<b>WMC</b>	Water management coordinator
<b>WUCOLS</b>	Water Use Classifications of Landscape Species
<b>ZEV</b>	Zero-emission vehicle
<b>ZNE</b>	Zero net energy

## Appendix E - Glossary

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**Backflow** - is 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, gasses, or any substance other than the intended potable water) into the distribution pipes of the potable water system.

**Back flow prevention device** – a device that prevents contaminants from entering the potable water system in the event of back pressure or back siphonage.

**Blowdown** - is 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.

**Compost** – Compost is 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).

**Critical overdraft** - 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** - are 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 are the products obtained from ecosystems such as food, fresh water, wood, fiber, genetic resources and medicines.

- Regulating services are 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 include non-material benefits such as spiritual enrichment, intellectual development, recreation and aesthetic values.

**Grass cycling** -refers to 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, grass clippings easily break down during an aerobic process. Grass cycling returns the decomposed clippings to the soil within one to two weeks acting primarily 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

**Hydrozone** – is 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)** describes a method of estimating irrigation needs of landscape plantings in California. It is intended as a guide for landscape professionals.

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

**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. DWR adopted the Model Ordinance in June of 1992. One element of the Model Ordinance was a landscape water budget. In the water budget approach, a

Maximum Applied Water Allowance (MAWA) was established based on the landscape area and the climate where the landscape is located. The latest update to MWELo was in 2015. MWELo applies to all state agencies' landscaping.

**Mulch** – Mulch is 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.

**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.

**Sprinkler system backflow prevention devices** – are 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.

**Water Budget** - A landscape water budget is 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** - Water and energy are often managed separately despite the important links between the two. 12 percent of California's energy use is related to water use with nearly 10 percent being used at the end water use. Water is used in the production of nearly every major energy source. Likewise, energy is used in multiple ways and at multiple steps in water delivery and treatment systems as well as wastewater collection and treatment.



**Water Shortage Contingency Plans** - each 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 Shortage Plan) which details how a community would react to a reduction in water supply of up to 50% for droughts lasting up to three years.

## Appendix F – Department Stakeholders

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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
Business Services SSM II, AGPA, BSO

Understanding Climate Risk at Planned Facilities
Business Services SSM II, AGPA, BSO

Integrating Climate Change into Department Planning and Funding Programs
Business Services SSM II, AGPA, BSO

Measuring and Tracking Progress
Business Services SSM II, AGPA, BSO

### Zero Emission Vehicles

Incorporating ZEVs Into the Department Fleet
Business Services SSM II and BSO

Telematics
Business Services SSM II and BSO

Public Safety Exemption
Business Services SSM II and BSO

<b>Outside Funding Sources for ZEV Infrastructure</b>
Business Services SSM II and BSO

<b>Hydrogen Fueling Infrastructure</b>
Business Services SSM II and BSO

<b>Comprehensive Facility Site and Infrastructure Assessments</b>
Business Services SSM II and BSO

<b>EVSE Construction Plan</b>
Business Services SSM II and BSO

<b>EVSE Operation</b>
Business Services SSM II and BSO

## Energy

<b>Zero Net Energy (ZNE)</b>
Business Services SSM II and AGPA

<b>New Construction Exceeds Title 24 by 15%</b>
Business Services SSM II and AGPA

<b>Reduce Grid-Based Energy Purchased by 20% by 2018</b>
Business Services SSM II and AGPA

**Server Room Energy Use**

Business Services  
SSM II and AGPA

**Demand Response**

Business Services  
SSM II and AGPA

**Renewable Energy**

Business Services  
SSM II and AGPA

**Monitoring Based Commissioning (MBCx)**

Business Services  
SSM II and AGPA

**Financing**

Business Services  
SSM II and AGPA

**Water Efficiency and Conservation**

**Indoor Water Efficiency Projects In Progress First initiative**

Business Services  
SSM II and BSO

**Boilers and Cooling Systems Projects In Progress**

Business Services  
SSM II and BSO Note: No active projects

**Landscaping Hardware Water Efficiency Projects In Progress**

Business Services  
SSM II and BSO Note: No active projects

<b>Living Landscaping Water Efficiency Projects In Progress</b>
Business Services SSM II and BSO Note: No active projects

<b>Buildings with Urban Water Shortage Contingency Plans In Progress</b>
Business Services SSM II and BSO Note: No active projects

**Green Operations**

<b>Greenhouse Gas Emissions</b>
Business Services SSM II and BSO

<b>Building Design and Construction</b>
Business Services SSM II and BSO

<b>LEED for Existing Buildings Operations and Maintenance</b>
Business Services SSM II and BSO

<b>Indoor Environmental Quality</b>
Business Services SSM II and BSO

<b>Integrated Pest Management</b>
Business Services SSM II and BSO

<b>Environmentally Preferable Purchasing</b>
Business Services SSM II and BSO

<b>Location Efficiency</b>
Business Services SSM II and BSO

<b>Greenhouse Gas Emissions</b>
Business Services SSM II and BSO

<b>Building Design and Construction</b>
Business Services SSM II and BSO

<b>LEED for Existing Buildings Operations and Maintenance</b>
Business Services SSM II and BSO

<b>Indoor Environmental Quality</b>
Business Services SSM II and BSO

<b>Integrated Pest Management</b>
Business Services SSM II and BSO

<b>Environmentally Preferable Purchasing</b>
Business Services SSM II and BSO

<b>Location Efficiency</b>
Business Services SSM II and BSO

## Appendix G – Sustainability Requirements & Goals

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Governor Edmund G. Brown Jr. directed California state agencies to demonstrate sustainable operations and to lead the way by implementing sustainability policies set by the state. Additionally, enacted legislation includes sustainability-related requirements of state facilities and operations. Specific references and background on executive orders, legislation, management memos and other requirements or actions are included in five general chapters within this roadmap, as follows:

- Climate change adaptation
- Zero-emission vehicles
- Energy
- Water efficiency and conservation
- Green operations

These general sustainability initiatives include the following:

- GHG emissions reductions
- Climate change adaptation
- Building energy efficiency and conservation
- Indoor environmental quality (IEQ)
- Water efficiency and conservation
- Monitoring-based Building Commissioning (MBCx)
- Environmentally preferable purchasing (EPP)
- Financing for sustainability
- Zero-emission vehicle (ZEV) fleet purchases
- Electric vehicle charging infrastructure
- Monitoring and executive oversight
- Zero Net Energy (ZNE)

# Appendix H – Sustainability Background

## References

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The following executive orders, Management Memos, legislative actions, resources and guidance documents provide the sustainability criteria, requirements, and targets tracked and reported herein.

### Executive Orders

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

- [Executive Order B-16-12](#)  
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 percent with ZEVs, and by 2020 to ensure at least 25 percent of replacement fleet vehicles are ZEVs.
- [Executive Order 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).
- [Executive Order B-29-15](#)  
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 percent between 2013 and February 28, 2016.
- [Executive Order 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 percent below 1990 levels by 2030 and reaffirms California’s intent to reduce GHG emissions to 80 percent 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.

- [\*\*Executive Order B-37-16\*\*](#)

EO B-37-16 builds on what were formerly temporary statewide emergency water restrictions in order to establish longer-term water conservation measures, including permanent monthly water use reporting; new permanent water use standards in California communities; and bans on clearly wasteful practices such as hosing off sidewalks, driveways and other hardscapes. The EO focuses on using water more wisely and eliminating water waste by taking actions to minimize water system leaks. The California Department of Water Resources (DWR) estimates that leaks in water district distribution systems siphon away more than 700,000 acre-feet of water a year in California – enough to supply 1.4 million homes for a year.

The EO further strengthens local drought resilience and looks to improve agricultural water use efficiency and drought planning. State agencies are to cooperate with urban water management plans, which include plans for droughts lasting for at least five years by assuring that the water efficiency and conservation plan has drought contingency actions.

### **State Administrative Manual & Management Memos**

The following section 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
- [\*\*MM 14-02\*\*](#): Water Efficiency and Conservation
- [\*\*MM 14-05\*\*](#): Indoor Environmental Quality: New, Renovated, And Existing Buildings

- [MM 14-07](#): Standard Operating Procedures for Energy Management in State Buildings
- [MM 14-09](#): Energy Efficiency in Data Centers and Server Rooms
- [MM 15-03](#): Minimum Fuel Economy Standards Policy
- [MM 15-04](#): Energy Use Reduction for New, Existing, and Leased Buildings
- [MM 15-06](#): State Buildings and Grounds Maintenance and Operation
- [MM 15-07](#): Diesel, Biodiesel, and Renewable Hydrocarbon Diesel Bulk Fuel Purchases
- [MM 16-07](#): Zero-Emission Vehicle Purchasing and EVSE Infrastructure Requirements
- [MM 17-04](#): Zero Net Energy for New and Existing State Buildings

## Legislative Actions

Several pieces of legislation were signed in 2015-16 that codified several elements of the executive orders, or provided further requirements included in the policies. These include the following:

- [Assembly Bill \(AB\) 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)
- [Senate Bill \(SB\) 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 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. 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)
- **Assembly Bill (AB) 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.
- [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 percent reduction in GHG by 2030 and 80 percent reduction by 2015.
- [AB 2583 \(Blumenfield 2012\)](#) **Public Resources Code §25722.8**: Statute requires reducing consumption of petroleum products by the state fleet compared to a 2003 baseline. Mandates a 10 percent reduction or displacement by Jan. 1, 2012 and a 20 percent reduction or displacement by Jan. 1, 2020.

## Action Plan

- [2016 Zero-Emission Vehicle Action Plan](#)

The plan establishes a goal to provide electric vehicle charging to 5 percent of state-owned parking spaces by 2022. It also advances the ZEV procurement target to 50 percent of light-duty vehicles by 2025.

## 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.
- [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.
- [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 buildings' 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 percent improvement in the Smart Location Score of new leases compared to the average score of leased facilities in 2016.

**Table G-1: Background References and Applicable Roadmap Chapters**

	Climate Adaptation	ZEV	Energy	Water	Green Operation
<b>Executive Orders:</b>					
EO B-16-12		X			X
EO B-18-12		X	X	X	X
EO B-29-15				X	
EO B-30-15	X	X	X		X
EO B-37-16				X	
<b>Management Memos</b>					
MM 14-02				X	
MM 14-05			X		X
MM 14-07			X		X
MM 14-09			X		
MM 15-03		X	X		
MM 15-04			X		X
MM 15-06			X	X	X
MM 15-07		X			
MM 16-07		X			
MM 17-04			X		
<b>Legislative Actions</b>					
SB 246	X				
SB 2800	X				

AB 4					X
AB 32		X			
AB 1482	X				
<b>Action Plans</b>					
2016 ZEV Action Plan		X			
<b>State Resources and Guidance Documents</b>					
Cal-Adapt	X				
California's Climate Change Assessments	X				
Public Resources Code §25722.8		X			
Planning and Investing for a Resilient California	X				
Safeguarding California	X				
Safeguarding CA Implementation Action Plan	X				
Sustainable Groundwater Management Act of 2014				X	

# Appendix I - List of Tables & Graphs

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