

Sustainability Roadmap 2020-2021

Department of Consumer Affairs

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

Department of Consumer Affairs

Gavin Newsom, Governor



December 2021

Department of Consumer Affairs

Sustainability Road Map 2022-2023

Department of Consumer Affairs

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Executive Summary

The Department of Consumer Affairs (DCA) issues licenses, certificates, registrations, and permits in over 280 business and professional categories through 37 regulatory entities comprised of boards, bureaus, committees, a program, and a commission (boards and bureaus). These 37 entities set and enforce minimum qualifications for the professions and vocations they regulate, which include nearly all of California's healthcare fields. The DCA's mission is to protect California consumers by providing a safe and fair marketplace through oversight, enforcement, and licensure of professions. In addition to providing regulation and oversight, DCA educates consumers by giving them the information they need to avoid unscrupulous or unqualified people who promote deceptive or unsafe services. DCA also provides many other consumer protection services to the public, including complaint resolution, license status for businesses and individuals, and enforcement of consumer protection laws.

DCA's building portfolio consists of 1.3 million square feet at 90 locations. Of these locations, six are in buildings owned and managed by the Department of General Services (DGS), 83 are leased, and one is owned by DCA. The DCA pays for all utilities at its single owned location, for electric/gas at 22 of its leased locations, and for water at three of its leased locations.

DCA is very concerned with climate change and is committed to continuing the implementation of all Executive Orders and initiatives pertaining to the effects on climate change.

DCA is pleased to highlight its accomplishment, which include:

- Increasing its Green fleet to include 388 electric vehicles, hybrids, plug-in hybrids, and vehicles powered by hydrogen. This comprises nearly 57% of the DCA fleet statewide. The 16 Hydrogen powered fuel-cell vehicles can travel over 300 miles on one tank and without producing any carbon emissions.
- Increasing its total number of EV charging stations statewide to 144 to create adequate recharging at DCA facilities. DCA is also 100% committed to installing L2 chargers or better at its facilities.
- Reducing its overall GHG emissions to 44% less than its 2010 baseline. Since 2010 DCA has reduced its purchased electricity from the grid by 46%. In that same time period, it has reduced its carbon emissions from its fleet by 52%. These reductions have helped DCA to surpass the 20% in GHG emissions made mandatory in Executive Order B-18-12.

- Increasing the number of LEED buildings it reports to lease space in by 200% beyond the previous report. DCA remains committed to using leasing, lease renewals, and construction events as opportunities to work with lessors to ensure that DCA continues to prioritize leasing space in LEED certified buildings.
- Implementing a comprehensive program to more accurately capture its waste diversion tonnage including over 310 tons diverted from the landfill in 2020 through recycling and materials exchange.
- Continuing to meet the mandated post-consumer content requirements for paper, glass, printing and writing paper, and metal products.
- Implementing a comprehensive organics recycling program at its headquarters that captures pre- and post-consumer food product. Additionally, a vermicompost bin has been installed at DCA headquarters to compost all its café's pre-consumer food waste on-site. This reduces emissions from both methane and carbon dioxide production. DCA also contributes expertise and knowledge to all its boards and bureaus at satellite offices to contract vendors or otherwise facilitate food diversion programs.

Moving forward, DCA remains committed to not only meeting, but exceeding, all sustainability goals outlined in all Governor's Executive Orders and Sustainability initiatives.



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CHAPTER 1 - CLIMATE CHANGE ADAPTATION

[Executive Order \(EO\) B-30-15](#) directs State Agencies to integrate climate change into all planning and investment. Planning and investment can include the following:

- Infrastructure and capital outlay projects
- Grants,
- Development of strategic and functional plans,
- Permitting,
- Purchasing and procurement,
- Guidance development,
- Regulatory activity,
- Outreach, and education.

The Department of Consumer Affairs (DCA) is dedicated to implementing Climate Change Adaptation into every aspect of its guidelines for the housing of the DCAs operations. With multiple offices in every part of California, the DCA recognizes several opportunities to adapt and advance its operations to better meet the challenge of climate change. DCA is committed to exploring and expanding practices that will ensure its facilities, operations, and personnel will be ready to adapt to the reality of Climate Change.

Climate Change Risks to Facilities

For all infrastructure, it is important to assess the risk that a changing climate poses to an asset or project (e.g., sea level rise or increasing daily temperatures). It is also important to recognize the impact that an infrastructure project has on the surrounding community and the impacts on individual and community resilience (e.g., heat island impacts).

Natural Infrastructure to Protect Facilities

EO B-30-15 directs State agencies to prioritize the use of natural and green infrastructure solutions. Natural infrastructure is the *“preservation or restoration of ecological systems or the utilization of engineered systems that use ecological processes to increase resiliency to climate change, manage other environmental hazards, or both. This may include, but need not be limited to, flood plain and wetlands restoration or preservation, combining levees with*

restored natural systems to reduce flood risk, and urban tree planting to mitigate high heat days” (Public Resource Code Section 71154(c)(3)).

Natural infrastructure solutions will be prioritized and fully considered when thinking through adaptation actions that can be taken for at risk facilities identified below, and in planning for future facilities. The DCA will consider urban tree planting to address high heat days and rainwater harvesting, bioswales, and downspout disconnection to address increased precipitation.

Understanding the Potential Impacts of Facilities on Communities

It is also important to recognize the impact that an infrastructure project has on the surrounding community and the impacts on individual and community resilience (e.g., heat island impacts).

Climate change disproportionately impacts vulnerable communities, with certain populations experiencing heightened risk and increased sensitivity to climate change and have less capacity to recover from changing average conditions and more frequent and severe extreme events. A number of factors contribute to vulnerability, often in overlapping and synergistic ways. These can include a number of social and economic factors, and be determined by existing environmental, cultural, and institutional arrangements. Vulnerable populations can include, but are not limited to, people living in poverty; people with underlying health conditions; incarcerated populations; linguistically or socially isolated individuals; communities with less access to healthcare or educational resources; or communities that have suffered historic exclusion or neglect.

While there is no single tool to identify vulnerable populations in an adaptation context, there are a number of state-wide, publicly available tools that when overlaid with climate projection data can help identify communities most at risk to a changing climate. Some of these tools, including a definition for vulnerable communities, are available in a [resource guide](#) developed by the Integrated Climate Adaptation and Resiliency Program in the Office of Planning and Research.

The services provided by DCA are critical and consumers rely on DCA to be present in the community to ensure the licensing and enforcement of businesses.

Understanding Climate Risk to Existing Facilities

DCA uses the latest climate change information from Cal-Adapt which has the most updated source of climate change data/projections for the State of California. DCA utilizes the data from Cal-Adapt to project climate impact at each existing facility.

Background on Climate Projections: Global Circulation Models (GCMs) are used to project future climate conditions. Models project future climate conditions under different future emission scenarios that are called Representative Concentration Pathways (RCPs). Different RCPs essentially represent different rates and magnitudes of global greenhouse gas (GHG) emission reduction.

Of the 32 internationally-recognized coarse-resolution GCMs, the State of California has chosen four models to utilize in its climate studies for the Fourth Assessment.¹ The following four models were selected to capture a range of different climate futures:

- Model 1: HadGEM2-ES characterizes a warm and dry future (warm/dry)
- Model 2: CNRM-CM5 characterizes a cool and dry future (cool/wet)
- Model 3: CanESM2 characterizes an average future condition (average)
- Model 4: MIROC5 provides a complement to the above models, and covers a range of outputs

Risk from Changing Extreme Temperatures:

Under a changing climate, temperatures are expected to increase – both at the high and low end. As a result, facilities will experience higher maximum temperatures and increased minimum temperatures. In addition to changing average temperatures, climate change will increase the number of extreme heat events across the State. Extreme events are already being experienced, and they are likely to be experienced sooner than changes in average temperatures.

Extreme heat events are the most likely of all climate change events that will impact the DCA. Utilizing data from Cal-Adapt, the Department can predict

¹ Pierce, D.W., D.R. Cayan, L. Dehann. June 2016. Creating Climate projections to support the 4th California Climate Assessment.

that the probability of extreme heat events will continue to rise in two primary regions of California in which DCA offices are located. Cal-Adapt indicates that the Central Valley and the Los Angeles basin (particularly the eastern half) should continue to have elevated occurrences of extreme heat events. The necessity for DCA representation in these areas is not likely to decrease, however, so the Department is using leasing and lease renewal events as opportunities to better prime itself to decrease its carbon footprint even in the instance of climate change. Because DCA leases all but one of its multiple offices throughout California, leasing and lease renewal events become the best opportunity to become more sustainable. Utilizing data from Cal-Adapt, DCA is attempting to consolidate offices into fewer buildings. Thusly ensuring representation is still present regionally, while budgeting out existing building resources to serve more DCA offices in fewer locations. The Department can also use existing data to determine which buildings operate most sustainably and consolidate its offices into those buildings.

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)
CSLB - Redding	107.5	3	17	14	24	21	19	28
CSLB - Bakersfield	107.1	3	15	12	21	18	20	28
DOI- Fresno	106.3	3	21	18	29	26	24	31
CSLB - Fresno	106.3	3	20	17	28	25	23	31
CSLB, DOI/ HQUI, MED BOARD Fresno	106.2	4	24	20	33	29	28	36
BAR - Fresno	106	4	24	20	33	29	26	36

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)
CSLB - San Bernardino	105.8	4	23	19	29	25	32	45
DOI/ HQUI - San Bernardino	105.8	4	23	19	29	25	32	45
BAR - Jurupa Valley	105.2	3	17	14	22	19	25	37
DOI /HQUI - Rancho Cucamonga	104.8	3	16	13	20	17	24	35

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)
CSLB - San Bernardino	79.6	84.4	4.8	85.5	5.9
DOI /HQUI- San Bernardino	79.6	84.4	4.8	85.5	5.9
BAR, DOI/ HQUI, MED BOARD- Valencia	77.5	82.2	4.7	83.8	5.7

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)
BAR - Riverside	78.1	82.8	4.7	83.8	5.7
CSLB- Santa Clarita	77.1	81.7	4.6	82.9	5.8
DOI/HQIU, MED BOARD- San Dimas	78.1	82.6	4.5	83.7	5.6
BAR - Jurupa Valley	79.6	84	4.4	85	5.4
CSLB - West Covina	79.6	84	4.4	85.1	5.5
DOI- Ontario	78	82.3	4.3	83.3	5.3
CSLB - San Bernardino	79.6	84.4	4.8	85.5	5.9

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)
BAR , DOI/ HQIU, MED BOARD- Valencia	49	53.2	4.2	54.3	5.3
CSLB - San Bernardino	51.2	55.3	4.1	56.5	5.3
DOI /HQIU- San Bernardino	51.2	55.3	4.1	56.5	5.3
DOI/ HQIU,	51.3	55.3	4	56.4	5.1

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)
MED BOARD- San Dimas					
CSLB -West Covina	54.1	54.3	4	59.5	5.2
BAR - Riverside	49.4	53.4	4	54.5	5.1
CSLB- Santa Clarita	48.1	52.1	4	53.3	5.2
DOI /HQIU, MED BOARD- Pomona	50.1	54	3.9	55.1	5.0
DOI- Ontario	50.3	54.1	3.8	55.2	4.9
DOI/HQIU- Rancho Cucamonga	51.3	55	3.7	56.1	4.8

Heating and Cooling Degree Days

A Heating Degree Day (HDD) is defined as the number of degrees by which a daily average temperature is below a reference temperature (i.e., a proxy for when heat would be needed). The reference temperature is typically 65 degrees Fahrenheit, although different utilities and planning entities sometimes use different reference temperatures. The reference temperature loosely represents an average daily temperature *above which* space heating is not needed. The average temperature is represented by the average of the maximum and minimum daily temperature. Similarly, a Cooling Degree Day (CDD) is defined as the number of degrees by which a daily average temperature exceeds a reference temperature. The reference temperature is also typically 65 degrees Fahrenheit, and different utilities and planning entities sometimes use different reference temperatures. The reference temperature loosely represents an average daily temperature *below which* space cooling (e.g., air conditioning) is not needed.

The ability to use Cal-Adapt information to accurately predict future probabilities in Heating Degree days and Cooling Degree Days is imperative for DCA so that it can prepare its heating, ventilation, and air conditioning (HVAC) resources. While figures indicate that Heating days will decrease while cooling days increase, the likelihood that any event will occur is predicted to increase. This means that HVAC systems will need to be developed, operated, and

maintained in a manner which will be more sustainable as well as durable. Conditioning indoor air for a heating or cooling event is paramount to ensuring employee comfort and safety. This type of predictive data will better guide DCA to invest in leases for buildings with HVAC systems better suited for these types of events.

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)
CSLB - Bakersfield	2054/2425	1625/2987	1383/3407
CSLB - Redding	2571/2032	1996/2741	1699/3153
CSLB - Fresno	2583/1853	2022/2576	1747/3011
DOI- Fresno	2583/1853	2022/2576	1747/3011
CSLB, DOI HQIU, MED BOARD, Fresno	2604/1795	1988/2540	1705/2981
BAR - Fresno	2597/1795	1995/2532	1709/2971
CSLB - San Bernardino	1618/1792	1049/2684	775/3201
DOI /HQIU- San Bernardino	1618/1792	1049/2684	775/3201
DOI/HQIU- Rancho Cucamonga	1507/1664	1092/2394	829/2880
BAR - South El Monte	1144/1589	662/2398	443/2947

Table 1.1 offers a study of the 10 DCA'S facilities with the expected greatest increase in extreme heat events. While the entries in this table do not represent the DCA offices with the most significant employee populations, they represent the employee populations that potentially face the greatest risk of adverse health conditions due to instances of increased heat. Prolonged heat exposure can increase health risks such as heatstroke. Extreme heat events also challenge energy grids. The increased cooling and Heating, Ventilation, and Air Conditioning (HVAC) systems activities prompted by extreme heat events collectively burden energy grids with higher energy consumption.

The facilities in Table 1.1 showcase ten buildings for which extreme heat events are expected to increase in frequency. Nine of the ten already experience an extreme heat threshold over 105 degrees Fahrenheit. Mid-century models illustrate an expected increase for all profiled sites by a minimum of 500% annually from the observed historical data. It should be noted that 50% of the sites expected to increase the most in extreme heat events are located in the

metropolitan areas of Fresno and Bakersfield. Many of these sites will also be featured in other tables illustrating climate change.

Managing the effects of extreme heat increase on DCA staff and facilities continues to be a priority that is treated with high regard and urgency. An increase in temperatures will continue to demand the need for more efficient cooling measures, potentially resulting in more energy use. DCA understands that this means to focus on improving energy efficiency in existing buildings is crucial. In addition, achieving Zero Net Energy (ZNE) status in the DCA owned facility and requesting improvements to achieve the same in leased facilities has continued to be a key initiative for DCA. Furthermore, DCA will continue to work with lessors to plant more shade trees in parking lots, install mecho window shades, and install photovoltaic solar panels in parking lots, which will help to generate energy and provide shade.

Tables 1.2a and 1.2b illustrate the DCA facilities that will experience the most significant change in the annual mean maximum and minimum temperatures, respectively. These sites are predicted to experience the greatest rise in mean temperature by the mid-century models from the observed historical data. On average, these sites will experience a 4.57 degree rise in their average annual maximum temperature ranging in increases from 4.3 degrees to 4.8. Additionally, the average minimum annual temperature will also rise by 3.98 degrees. These increases range from 3.7 degrees to 4.2. These figures indicate a mean maximum temperature for these sites to rise to 82.94 degrees by the mid-century range and as high as 84.06 by the late-century model range. According to the late-century predictions, the mean minimum temperature should rise to 54.2 by the mid-century model and even to 55.74 degrees.

While these figures do not illustrate which DCA offices will experience the highest temperatures throughout the remainder of the century, they indicate that the offices with the potential to have the greatest increase in their annual average temperatures are located in the greater Los Angeles Basin area. More specifically, all the buildings identified in Tables 1.2a and 1.2b are generally found in the eastern half of the basin, away from the coastline and marine layer. The Los Angeles Basin region is renowned for its temperate climate, and buildings here often reflect this in their energy and HVAC systems. Buildings hugging the coastline often rely on marine effects to cool or partially cool them. Buildings further inland typically utilize more conventional heating and cooling systems. However, these buildings will also need to handle the increased energy demands of greater cooling efforts. Building designs such, as better insulation, improved shading, and biophilic elements, should help to cool buildings as well

as regulate better air quality while solar panels and other photovoltaic designs should aid in the increased load demands.

The findings in Table 1.3 compliment the conclusions of the preceding tables. Because they offer projections of the number of days in which DCA would have to heat or cool the buildings in question during the model timeframes, they offer quantifiable data by which DCA may predict increased heating and cooling load demands. The buildings in this table are the DCA locations where the average heating, and cooling events are projected to increase the most. It is reasonable to assume that these increased instances of heating and cooling events would also increase the energy demands of the HVAC systems. Therefore, it is important to understand the expected demands of the systems and explore options for more efficient equipment and renewable energy sources.

In Table 1.3 the average amount of cooling and heating events for the observed historical data was 3,946.9 with an average of 2,222.9 heating and 1,692.2 cooling events. This list primarily includes locations in Table 1.1, however, the future models predict fewer heating events when the heater is turned on and a significant increase in cooling events when the air conditioner is turned on. The mid-century model, for instance, predicts an average of 4,161.2 heating/cooling events to occur in the years 2031 through 2060. This is a 5% increase on average. However, the average expectancy for a heating event is 1,550 during that timeframe and average of 2,611.2 cooling events. The end-of-century model predicts a 10% increase above the observed historical data and estimates the cooling events will continue to increase to an average of 2,756.2 events. Heating events are expected to decrease to 1,281.2 events during that same timeframe for a total of 4,357.5 heating and cooling events - all of which increase the energy demand of each building.

DCA offices and operations are almost exclusively housed in leased buildings. In the future, with the use of telework, DCA has expressed a change in its leasing philosophies in that when opportunities arise to reasonably consolidate its offices into fewer buildings, it will do so. This act will also help reduce DCA's energy consumption in that rather than increasing its energy demands at several locations, fewer buildings will require cooling. The energy demand for cooling fewer buildings instead of many should decrease the Department's overall carbon footprint.

To ensure DCA continues its best efforts in achieving compliance with EO B-30-15, the Facilities Management/Sustainability unit implemented a sustainability checklist to make sure lessors are asked to provide sustainable

upgrades/improvements during new leases and lease renewals. Some of the requested items include upgraded HVAC systems with increased efficiency, shade trees to be planted if planting space is available, upgraded LED lighting, and mecho window shades or equivalent to be installed.

This sustainability checklist has assisted FMU/Sustainability with many lease renewals and new leases resulting in numerous items from the sustainability checklist being completed. For example, many of DCA's facilities that had lease renewals or new leases (due to being relocated) received new LED lights and mecho shades. The sustainability checklist has been a great resource to provide to FMU/Sustainability staff as a tangible guide to assist in meeting sustainability goals and assisting with DCA's sustainability initiative.

Urban Heat Islands

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

Table 1.4: Facilities Located in Urban Heat Islands

Facility Name	Located in an urban heat island (yes/no)
DOI/HQIU, MED BOARD- <i>Concord</i>	Yes
DCA – HQ1 &2. BLDG.- <i>Sacramento</i>	Yes
CSLB - <i>San Bernardino</i>	Yes
CSLB - <i>San Diego</i>	Yes

Table 1.4 is illustrative of a significant portion of DCA office locations. The four entries represent the four most significant areas of urban heat islands throughout California. The Bay Area, the Northern Central Valley area (including the greater Sacramento region), the greater Los Angeles Basin area, and the San Diego area are all urban heat island locations.

Though the Sacramento urban heat island encompasses a significant portion of DCA offices and employee populations, the urban heat island is also not as significant as the other three areas. This particular heat island is home to the HQ1 and HQ2 office buildings. These facilities remain crucial to serving the public

appropriately and remain at risk for considerable temperature change (highs and/or lows). DCA HQ1 still houses many of the DCA's servers, and ensuring their performance is not compromised continues to be essential to operations. Overheating or any error due to incorrect temperature regulation of these servers could result in DCA operations being greatly affected, potentially resulting in staff being left inadequately equipped to serve the public. The Consumer Assistance Call Center also remains housed at DCA HQ1. This program ensures callers are provided with the help they need regarding the services DCA provides. An estimated 60,000 calls are handled monthly. The Evergreen facility continues to house multiple boards and bureaus that also assist the public. Since online complaints, inquiries and other communications may be made 24 hours a day, many of these boards and bureaus must also operate without inefficiency or frequent interruption. The other facilities were selected for the level of temperature increase in conjunction with their location.

DCA continues to believe that extreme heat events pose the greatest threat to its Intermediate Distribution Frame (IDF) closets, potentially leading DCA to become unable to serve and protect consumers if a shutdown or error was to occur. Those services could be interrupted if the IDF closets overheat, or there are rolling blackouts.

DCA's goal is to continue requesting lessors to provide more sustainable options that will help to combat the urban heat island effect. When inquiring about leasing or renewal opportunities, FMU personnel work with a Sustainability Punch List, which includes a number of requests and requirements that specifically introduce infrastructure and practices to help reduce heat reflected directly into the buildings. Heat reflected or radiated into or towards DCA buildings will ultimately make it more challenging to cool DCA buildings and could tax HVAC systems to levels of inefficient operations. Some of the requests introduced to lessors via the Sustainability checklist include to repave parking lots with paving materials that reflect more solar energy, enhance water evaporation, and are more porous or have been otherwise modified to remain cooler than conventional pavements; more control over window and lighting systems nearer to building windows including options for mecho shades installations to reduce radiated heat through the windows; and requests to install or increase the number of drought tolerant landscaping, rooftop gardens, planter boxes, planter walls, and shade trees all of which not only help to cool a building, but also aid in providing cleaner air. These measures have the potential to help reduce the urban heat island effect for DCA buildings and for neighboring buildings as well.

Risks from Changes in Precipitation

The impacts of climate change on the amount of precipitation that California will receive in the future are slightly less certain than the impacts on temperature. However, it is expected that California will maintain its Mediterranean climate pattern (dry summers and wet winters), but more precipitation will fall as rain than as snow. It is also likely that extremes will intensify, both drought and heavy precipitation events. Larger rains can result in flooding but will also result in shifts in runoff timing (earlier) and runoff volumes (higher). It will also result in decreased snowpack.

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)
CSLB - San Jose	14.0	14.6	4.3	14.7	5.0	1.2	1.1	1.2
BBC- Fairfield	20.1	20.3	1.0	20.7	2.9	1.4	1.6	1.7
BAR - Sacramento	20.3	20.5	0.9	20.9	2.9	1.9	1.7	1.8
CSLB - Santa Rosa	31.3	31.6	0.9	32.4	3.5	2.1	2.2	2.3
BAR - San Jose	20.9	21.0	0.5	21.6	3.4	1.6	1.7	1.8
BAR - South San Francisco	23.2	23.2	0.0	23.8	2.6	1.9	1.9	2.1
DCA HQ2- Sacramento	18.5	18.5	0.0	18.9	2.2	1.5	1.6	1.6
BCC- Eureka	43.4	43.2	-0.5	43.6	0.5	2.6	2.7	2.8
DCA ANNEX- Sacramento	19.4	19.3	-0.5	19.8	2.1	1.6	1.7	1.8
EVERGREEN- Sacramento	19.4	19.3	-0.5	19.8	2.1	1.6	1.7	1.8

Table 1.5 indicates the ten DCA facilities predicted to see the highest rise in precipitation levels in the mid-century models over the observed historical data.

The historical data calculates to a 23.05" mean annual average of precipitation amongst the ten locations. The mid-century models predict a virtual 0% increase to 23.15" annually, and the end-of-century model predicts an overall increase of 2%--an average of 23.62" for each of the sites annually.

The table also informs of the increase in inches at Extreme Precipitation events. Historically these sites saw Extreme Precipitation events deliver an average of 1.7" of rain per event. By mid-century, that level should increase 5% to 1.8" and 8% by the end-of-century model timeframe 1.9".

Increased precipitation rates still threaten adverse effects on DCA facilities. These effects include but are not limited to water leaks and infiltration, flooding, and poor indoor air quality (due to mold). If left uncorrected, these issues could transform into long-term structural damage and contribute to increased health risks to DCA employees. DCA determined the above facilities listed in Table 1.5 to be of most concern due to their predicted highest increases in annual precipitation levels and extreme precipitation events. DCA continues to work with the lessors to ensure roofs are replaced and/or repaired to meet the necessary standards to prevent leakage or water infiltration that would compromise the structural integrity of DCA facilities.

Though not listed in Table 1.5 because it is not predicted to be in the top ten of DCA's facilities to increase in precipitation, HQ1 expects to increase its annual precipitation levels by the end of this century. HQ1 houses the majority of DCA's servers, currently located on the top floor. They remain at risk of roof leaks due to increased precipitation, potentially damaging the servers and interrupting critical work for most of DCA's employees. To proactively mitigate the risks of leaks and infiltration, DCA remained consistent and diligent in its effort to ensure full replacement or upgrading to the DCA HQ1 roof, which was carried out and completed by 2019.

Risks from Sea Level Rise

Increasing global temperatures are contributing to rising sea levels. Rising sea levels will result in inundation of coastal areas and increased flooding due to storm surges. The California Ocean Protection Council (OPC) has issued the [State of California Sea-Level Rise Guidance](#) for State agencies on what level of sea level rise projections to consider in planning.

Table 1.6 below indicates the DCA facilities most at risk of flooding due to rising sea levels. Though rising sea levels are not exclusively a threat to coastal regions due to inland flood plains, the only DCA facilities deemed to be at risk according to the models provided in the State of California Sea-Level Rise

Guidance were the three located less than a mile from current sea levels, more often than not within hundreds of yards. Utilization of the National Oceanic and Atmospheric Association's (NOAA) Sea Level Rise Viewer (<https://coast.noaa.gov/digitalcoast/tools/slr.html>) allowed for illustrative documentation of which of these facilities would and would not be exposed to flooding due to rising sea levels. Though located by three different tidal gauges, all three indicated a rise in sea levels by 1.1' by the mid-century mark. However, in areas of heightened risk, none of the buildings were predicted to be exposed to flooding by 2050.

The 2100 estimations were a different story, however. The sea levels rose by over 2 feet for all three tidal charts. While the Eureka and Carmel-by-the-Sea sites remained at an elevated risk, the NOAA model illustrated flooding would occur at the South San Francisco site, which sits right at the San Francisco Bay's waterline. Without serious mitigation projects, this site could experience some flooding by the end of this century.

Initially, relocation seems to be the best option to eliminate the risks of sea-level rise. While DCA still agrees with this option, real estate in the area is very challenging to secure. Moving may prove to be more expensive and could require additional funding. With the Department of General Service's assistance, DCA continues to research options to assist in finding a facility not threatened by sea-level rise that will allow DCA to continue efficiently and effectively serving the licensees in that area. As DCA does not own the buildings at these locations, DCA will not be looking at adaptation measures to delay or minimize sea-level rise as most measures are very costly. DCA works diligently with property managers to create and update emergency evacuation procedures in case of immediate and imminent danger. To better communicate with all staff members, including those working remotely, DCA also operates and maintains a 24-hour Employee Emergency Message service, the number to which is located on every employee badge. The Eureka location, which was included for historical purposes, is now under the auspices of the Department of Cannabis Control as of July 1, 2021.

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)
CSLB - Carmel-by-the-Sea	Monterey	1.1	No	2.3	No

Facility Name	Tide Chart Region	2050 Water Level (ft)	Exposed at 2050? (y/n)	2100 Water Level (ft)	Exposed at 2100? (y/n)
BAR - South San Francisco	San Francisco	1.1	No	2.4	Yes
*BCC- Eureka	Point Reyes	1.1	No	2.5	No

*BCC, Eureka location is under the auspices of the Department of Cannabis Control as of July 1, 2021.

Risks from Wildfire

Wildfire is a serious hazard in California. Several studies have indicated that the risk of wildfire will increase with climate change. Importantly, we are already seeing more extreme wildfire seasons that are longer and with more extreme wildfires. By 2100, if greenhouse gas emissions continue to rise, one study found that the frequency of extreme wildfires would increase, and the average area burned statewide would increase by 77%.

Wildfire hazard is also a critical present issue. Five of California's six largest fires all occurred in 2020². 2017 and 2018 previously set records as the most destructive fire seasons in California's history³. To contextualize how wildfire hazards already impact California's facilities, consider that 1 in 5 California children were affected by wildfire-related school closures during the 2018-2019 school year⁴.

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)
BAR, DOI/HQIU, MED BOARD – Valencia	High
DOI/ HQIU, MED BOARD- San Diego	High

² https://www.fire.ca.gov/media/4jandlhh/top20_acres.pdf

³ <https://www.fire.ca.gov/incidents/2017/> ; <https://www.fire.ca.gov/incidents/2018/>

⁴ <https://calmatters.org/projects/california-school-closures-wildfire-middletown-paradise-disaster-days/>

Facility Name	Fire Hazard Severity Zone (low, medium, high, very high)
BAR - San Diego	Medium
CSLB - Carmel-by-the-Sea	High
CSLB- Santa Clarita	Medium
CSLB - San Diego	Medium
BAR - San Jose	Medium
DOI- Chatsworth	Medium
BAR - South San Francisco	Medium
BAR - Jurupa Valley	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)
BAR, DOI/HQIU, MED BOARD- Valencia	76	82.4	82
DOI/ HQIU, MED BOARD- San Diego	73.1	92.3	91.1
CSLB - Carmel-by-the-Sea	72.7	97.6	96.5
BAR - San Diego	72.7	25.6	23.6
CSLB- Santa Clarita	66.6	37.2	35.7
CSLB - San Diego	59.4	25.3	22.4
BAR - San Jose	49.8	28.5	25.1
DOI- Chatsworth	48.3	46.1	45.1
BAR - South San Francisco	38.7	16.6	13.9
BAR - Jurupa Valley	32.4	9.7	9

As the risk and frequency of wildfires increase, DCA understands it is important to plan and consider what facilities may be at risk currently and in the future. The health and safety of DCA staff and the public who visit the facilities remains the most important factor when considering which DCA occupied facilities are susceptible to increased wildfire activity. Many of the facilities must remain functional to ensure the goal of consumer protection is maintained and carried

out efficiently. Facilities damaged due to wildfires could cause harm to employee health and structural damage resulting in prolonged non-operation. Additionally, as is evident from the recent years of wildfire events in California, the smoke from wildfires in even the most remote areas can contribute significantly to unhealthy air quality in metropolitan areas great distances from the event's location. This condition could negatively impact the health of both employees and customers alike.

Table 1.7 indicates the DCA sites with the most acres burned in the observed historical data. Not surprisingly, these entries indicate the greatest areas of future or predicted acres burned in fire events. As was noted in the previous road map, most of these facilities are in southern California cities where hotter and dryer climates often occur, leaving them at greater risk. Seven of the facilities are designated at a medium risk factor regardless of the observed results because these sites also indicate a drop in the risk of acres burned. The average amount of acres burned in the observed data for all ten buildings is 58.97 acres. The mid-century model indicates a figure of 46.13 acres—this is a reduction of 12.84%. This percentage drops to 14.53% for the end-of-century model, with 44.44 acres burned.

However, three sites remain challenging for DCA, because the future models indicate a raise in the amounts of acres burned. The Division of Investigation (DOI)/Medical Board of California's Valencia site has the most acres burned in the observed data, this rate increases by 6.4% to the mid-century model, which predicts 82.4 acres burned. The DOI/Medical Board of California San Diego site demonstrates a 19.2% rise in the same timeframe, with over 90 acres predicted to burn. The Contractors State License Board Enforcement Carmel site is most at risk, which interprets current predictions of an almost 25% jump with nearly 100 acres burned. All three sites reduce their odds of acres burned by the end-of-century models but by statistically null rates.

It is worth noting also that 58 of 90 DCA's buildings demonstrate no observable history of any acres burned and do not indicate any likelihood of future events.

As wildfire risk becomes more prevalent due to climate change, DCA will employ proactive measures during site selections to consider these risks. DCA has added researching Cal Adapt for wildfire risk to the Sustainability Checklist to ensure wildfire risk is considered during new leases and lease renewals. DCA will also ensure operations and activities at current DCA facilities do not create additional unnecessary risks for wildfires. DCA currently addresses its wildfire defenses through the DCA's Emergency Preparedness and Evacuation Plans.

Summarizing Natural Infrastructure Actions to Protect Existing Facilities

DCA has remained consistent in advocating for reducing areas that contain excessive amounts of plants or grass that require a lot of water resources. As a result, energy is saved from decreased use of maintenance equipment, and pesticides and fertilizers are utilized less. At several DCA Sacramento sites at which the most significant portions of DCA's employee population work, DCA's lessors contract with landscaping crews who take great measures to act sustainably in the ground's maintenance. Among other methods, these crews employ the following as part of their services:

- Use of drip irrigation systems wherever possible – the most efficient way to deliver water to plants. Drip systems reduce water waste, and there's no overspray on paved areas or building structures.
- Use of ground cover and mulch in planter beds – this reduces evaporation and retains water in the soil. It also adds nutrients to the soil.
- Water between 12:00 am, and 6:00 am – cooler temperatures reduce evaporation and allow water to penetrate deeply to roots.
- Program multiple irrigation cycles – long, single applications of water can create runoff and waste. Shorter, multiple cycles allow time between cycles for water to penetrate more deeply into the soil.
- Inspect and adjust sprinklers weekly and repair broken sprinklers and lines immediately.
- Aerate lawns to help water and nutrients penetrate deeply to the roots.
- Use mulching mowers to grass cycle – recycle clippings by shredding them into compost and putting them back into the lawn. Mulching puts nutrients back into the soil and reduces the need for fertilizers by up to 30%.
- Use organic pest controls when possible.
- Use only biodegradable fertilizers, pest controls, and weed controls – they are safer for people, plants, and animals.
- Use pest-resistant plants – this reduces the need for chemical pest controls.

Understanding the Potential Impacts of Facilities on Communities

Disadvantaged Communities

California is required to invest certain funding streams in disadvantaged communities (DACs). Many state programs that have DAC funding requirements use CalEnviroScreen, a tool that ranks census tracts based on a combination of social, economic, and environmental factors, to identify DACs. While it does not capture all aspects of climate vulnerability, it is one tool that is available, and does include several relevant characteristics. The DCA's facilities located in these communities can contribute or alleviate the vulnerability of these disadvantaged communities.

Table 1.9: Facilities located in disadvantaged communities

Facility Name	CalEnviroScreen Score	Is it located in a disadvantaged community? Yes/No
CSLB - Oxnard	90-100	no
CSLB - San Bernardino	90-100	no
BAR - Riverside	90-100	yes
BAR - South El Monte	90-100	yes
BAR - Paramount	90-100	yes
CSLB - Norwalk	90-100	yes
BAR - Van Nuys	90-100	yes
DOI- Ontario	90-100	yes
BBC- Glendale	90-100	yes
DOI/ HQUI- San Bernardino	90-100	yes

Facility Name	CalEnviroScreen Score	Is it located in a disadvantaged community? Yes/No
PHARMACY- Sacramento	80-90	no
BAR - South San Francisco	80-90	yes
BAR - Sacramento	80-90	yes
RCB- Sacramento	80-90	yes
CSLB - Sacramento	80-90	Yes
PHARMACY - Van Nuys	80-90	yes
DOI/HQIU- Rancho Cucamonga	80-90	yes
DOI- Fresno	80-90	yes
CSLB - Fresno	80-90	yes
CBA- Sacramento	70-80	no
DOI/ HQIU, MED BOARD- Pomona	70-80	no
DOI/HQIU, Med Board- Tustin	70-80	no
BAR - Irvine	70-80	no
BCC- Rancho Cordova	70-80	no
BREA- Rancho Cordova	70-80	no
BAR - Jurupa Valley	70-80	yes
BCE- Sacramento	70-80	yes
DOI /HQIU, Med Board- Glendale	70-80	yes

As illustrated in Table 1.9, approximately 35% of DCA's buildings are located in disadvantaged communities. 42* of its 90 facilities also received a CalEnviroScreen score between 75 –100.

*Not all buildings with a score within this range could be added to Table 1.9 due to location confidentiality. DCA has 42 buildings with a CalEnviroScore between 75 and 100, only 28 are non-confidential sites and are included in Table 1.9.

A portion of DCA's licensees and prospective applicants are still part of the vulnerable populations. DCA provides exams that may ultimately lead to members of these communities attaining employment. DCA staff commonly interact with these individuals through service or shopping and/or eating at local restaurants and stores, providing additional support to the local economies. In the future, DCA will consider giving the exams more frequently to affect these populations twofold positively. First, by providing the exams more frequently, there is the potential for licensing individuals who will establish businesses in that community. Second, those administering the exams will be in the communities more often to visit the establishments and increase the economy in the vulnerable populations.

Although DCA is not in control of many of the day-to-day operations at these properties, DCA continues to do its due diligence in making sure that it is an example to the communities it serves. DCA's goals are to help reduce climate change and be resourceful to communities by showing how it adheres to current sustainability standards and policies and to attempt to go beyond where economically feasible.

Through its enforcement efforts, DCA ensures only licensed entities are allowed to practice, ensuring a fair marketplace.

When considering new sites, DCA will request to occupy facilities that offer lower than industry standard energy efficiency and seek lessors who will willingly participate in utility programs that offer financial incentives to offset costs of energy efficiency upgrades and renewable energy measures.

Understanding Climate Risk to Planned Facilities

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)
SLPAHADB- <i>Sacramento</i>	74.3	78.3	3.9	79.3	4.9
CBOT- <i>Sacramento</i>	74.4	78.3	3.9	79.3	4.9

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)
SLPAHADB- <i>Sacramento</i>	49.8	53.2	3.4	54.2	4.4
CBOT- <i>Sacramento</i>	49.8	53.2	3.4	54.2	4.4

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)
SLPAHADB- <i>Sacramento</i>	20.3	20.1	1.708	1.83
CBOT- <i>Sacramento</i>	20.3	20.1	1.708	1.83

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
SLPAHADB- <i>Sacramento</i>	104.2	4	16	12
CBOT- <i>Sacramento</i>	104.2	4	16	12

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
SLPAHADB- <i>Sacramento</i>	San Francisco				
CBOT- <i>Sacramento</i>	San Francisco				

e.

Facility Name	Current Fire Hazard Severity Zone (low, medium, high, very high)
SLPAHADB- <i>Sacramento</i>	Low
CBOT- <i>Sacramento</i>	Low

f.

Facility Name	Acres Burned (1961-1990)	Acres Burned (2031-2060)
SLPAHADB- <i>Sacramento</i>	0	0
CBOT- <i>Sacramento</i>	0	0

g.

Facility Name	Heating/Cooling Degree Days (1961-1990) (HDD/CDD)	Heating/Cooling Degree Days (2031-2060) (HDD/CDD)
SLPAHADB- <i>Sacramento</i>	2441/1385	1841/2072
CBOT- <i>Sacramento</i>	2441/1385	1841/2072

DCA is not currently initiating plans for any new construction. DCA is currently working towards consolidating its boards and bureaus into fewer buildings. Considerations will be based upon leasing availabilities and whether the consolidation will afford the same amount of services to DCA's customers. Such efforts to consolidate will decrease DCA's carbon footprint since resources will be concentrated to fewer locations overall.

The two facilities indicated in Table 1.10 a-g and Table 1.11 are urban sites that allow for the DCA boards to better serve customers. Because they are located in urban areas, there is minimal risk of forest wildfires. The two sites do have the highest extreme heat threshold of all of DCA's offices in the Sacramento area. DCA will work with the lessors to ensure that all HVAC systems are efficient enough to handle the increased heat. Along with biophilic elements, efficient HVAC systems should also help to create better indoor air quality for all employees and customers. The heating and cooling events are expecting to increase by the mid-century model timeframe. Heating events are expected to reduce by 25%, and cooling events are expected to increase by 50%. This may present DCA with an opportunity to further divest itself from finite natural gas resources, often used for heating, and further invest in efficient renewable resources for energy generation.

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)
SLPAHADB- Sacramento	No	Yes
CBOT- Sacramento	No	Yes

As previously stated, DCA is currently consolidating its boards and bureaus into fewer buildings. It is essential to the mission of DCA to continue to provide a wide variety of services and investments into local areas and disadvantaged communities.

The two facilities indicated in Table 1.10 a-g and Table 1.11 are both located in urban heat Islands, as are most buildings located in the greater Sacramento area. However, it should be noted that of the four major metropolitan areas located in the State of California, which host urban heat islands, the Northern Central Valley island is far milder than the other three.

Natural Infrastructure

EO B-30-15 directs agencies to prioritize natural and green infrastructure solutions. Natural infrastructure is the “preservation or restoration of ecological systems or the utilization of engineered systems that use ecological processes to increase resiliency to climate change, manage other environmental hazards, or both. This may include, but need not be limited to, flood plain and wetlands restoration or preservation, combining levees with restored natural systems to reduce flood risk, and urban tree planting to mitigate high heat days” (Public Resource Code Section 71154(c)(3)).

DCA remains committed to requesting sustainable landscaping when entering lease negotiations by asking for tenant improvements to include, but not be limited to, rainwater harvesting, rooftop gardens, planter boxes, planter walls, roadside trees and permeable pavement. These items, except for trees, are often not agreed to due to the costs associated with retrofitting. Still, DCA continues to request these retrofits and additions in all of its leased/occupied facilities.

Full Life Cycle Cost Accounting

EO B-30-15 directs State agencies to employ full life cycle cost accounting in all infrastructure investment. Lifecycle cost accounting includes:

- Considering initial investment costs, as well as lifetime operation and maintenance costs under changing climate conditions, including changing average conditions and increases in extreme events.
- Applying non-market evaluation methods such as travel cost, avoided costs or contingent valuation to capture hard to quantify benefits and costs

DCA does not own buildings but does invest in leased sites and works closely with DGS to ensure these sites are maintained.

Integrating Climate Change into Department Planning and Funding Programs

EO B-30-15 extends beyond infrastructure to broader planning efforts.

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?
FMU/Sustainability Procedures	Yes	n/a	As DCA negotiates new and/or renewal leases, Facilities staff has and will continue to incorporate Climate Change Adaptation by requesting infrastructure upgrades to build climate preparedness and reduce GHG emissions.

Table 1.13: Engagement and Planning Processes

Plan	Does this plan consider impacts on vulnerable populations?	Does this plan include coordination with local and regional agencies?	Does this plan prioritize natural and green infrastructure?
FMU/Sustainability Procedures	Yes	Yes	Yes

Table 1.14: Climate Change in Funding Programs

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

Measuring and Tracking Progress

Changing climate conditions necessitate an adaptive management approach. An adaptive management approach is informed by tracking changing climate conditions and the performance of a plan or project. Building check points into a project or plan timeline can help to create a system for regular review and, if needed, adjustments.

DCA measured and tracked progress towards meeting sustainability initiatives and goals for at least ten years. DCA adheres to the requirements of the state by entering our information into The Climate Registry Information System (CRIS) database annually. From 2010-2018 DCA has reduced its total GHG emissions by 35% (3,723 metric tons). Data reflecting energy use is collected in Energy Star Portfolio Manager and used to track and measure our progress. DCA has evaluated processes and procedures and addressed areas where improvement was needed. To assist in tracking the status of facilities most at risk of effects from heat islands, extreme heat events, and rising temperatures, DCA has created internal systems to ensure these facilities are continuously considered for tenant improvements during lease negotiations or whenever economically feasible. As temperatures continue to rise, DCA understands more must be done to reduce energy and increase efficiency measures.

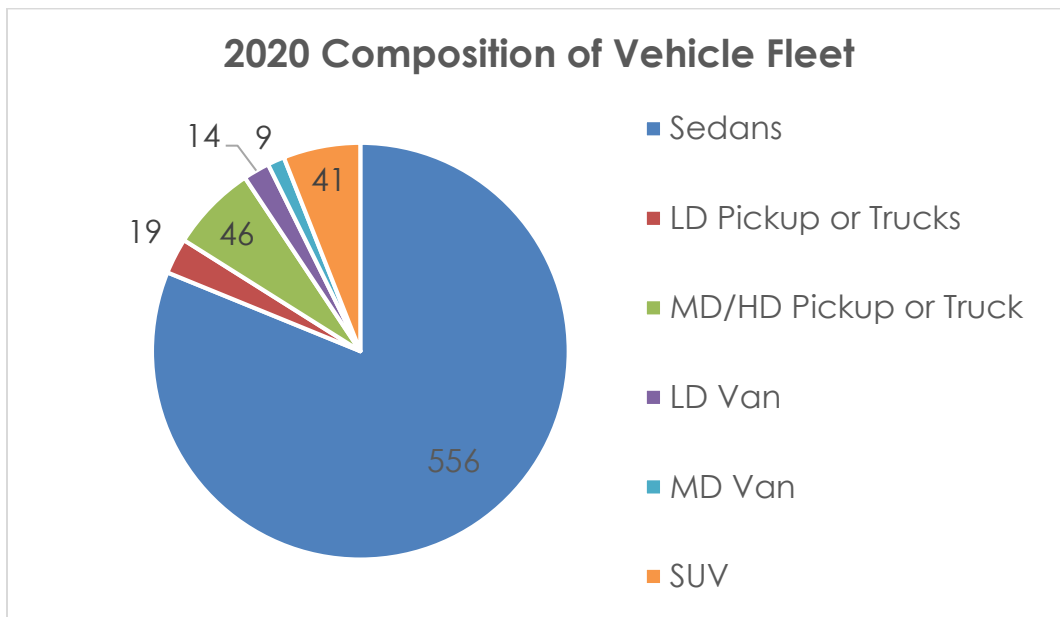
CHAPTER 2 – ZERO-EMISSION VEHICLES

DCA Mission and Fleet

This Zero Emission Vehicles (ZEV) Report and Plan demonstrates to the Governor and the public the progress the DCA has made toward meeting the Governor's sustainability goals related to ZEV. This report identifies successful accomplishments, ongoing efforts, outstanding challenges and future efforts.

Graph 2.1: 2020 Composition of Vehicle Fleet

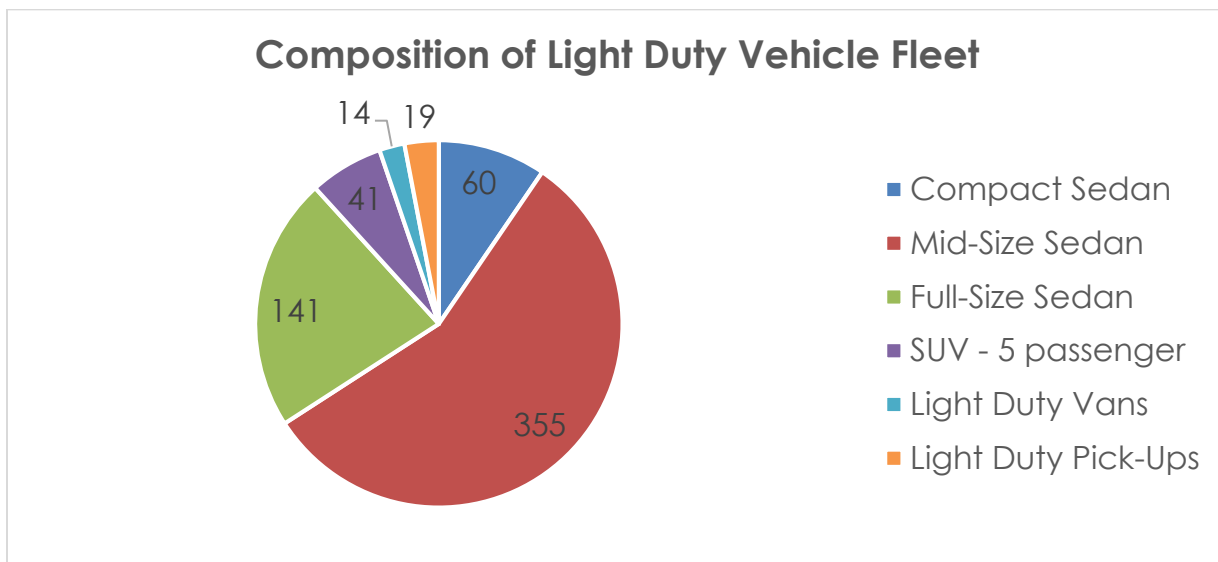
Graph 2.1 illustrates that the preponderance of the DCA fleet is comprised of sedans. Nearly 81% of the total fleet falls under this category. Light duty vehicles account for approximately 92% of DCA's overall fleet numbers combined with similar categories. These figures also indicate a nearly 10% increase in the number of light duty vehicles in the DCA fleet from the previous Road Map. Of the 46 vehicles in the "MD/HD Pickup or Truck" category, 26 vehicles are medium duty and the balance is heavy-duty. This equates to 630 light duty vehicles, 35 medium duty vehicles, and 20 heavy-duty vehicles. This brings the total of the DCA fleet to 685 vehicles.



Light Duty Fleet Vehicles

The various boards and bureaus use DCA's vehicles for many duties and functions. Some typical duties the vehicles are used for include but are not limited to: health & safety inspections; investigations; surveillance; sting operations; enforcement activities; law enforcement activities; probation monitoring; mail pickup/delivery; transportation of equipment, furniture, training materials, and vehicles; meetings; SMOG checks; roadside audits; and other activities. The vehicles are driven statewide in cities and rural areas, on highways, paved roads, rough terrain, and snow and desert conditions. Most of the employees who use these vehicles are investigators, inspectors, and auditors and cover large regions of the state requiring long trips, while others work in a city environment requiring multiple shorter trips during the day. Some employees perform surveillance activities that require driving to locations and sitting for long periods. Each board or bureau conducts its own kind of inspection and investigation with its own procedural requirements and gathers different evidence ranging from documents to furniture and appliances. Employees require various types of equipment and supplies to perform their job functions and inspections while in the field.

Graph 2.2: Composition of Light Duty Vehicle Fleet



Graph 2.2 illustrates the makeup of DCA's 630 light duty vehicle fleet. Sedans still comprise the majority, with mid-size sedans comprising just over 56% of the total amount of light duty vehicles. All sedans — compact, mid-size, and full-size — comprise 88.2% of all the light duty vehicles in the fleet and account for 81% of the entire fleet. Since there are no 7 passenger SUVs in the DCA fleet, SUVs comprise only 6.5% of light duty vehicles and 5.9% of the overall fleet.

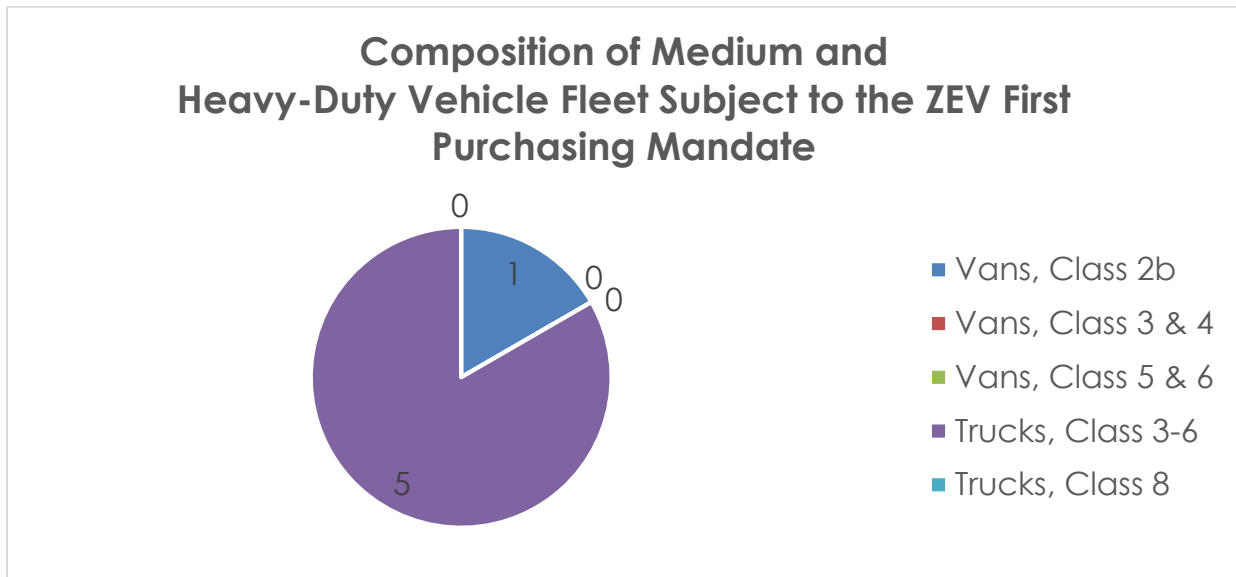
Of the 665 light and medium duty vehicles DCA utilizes in its fleet, 388 are electric vehicles, hybrids, plugin hybrids, or powered by hydrogen. This comprises nearly 57% of the DCA fleet statewide. Of the light duty vehicles, which have not yet been transitioned to zero-emissions vehicles or hybrids and are solely utilizing traditional fuel sources, the DCA fleet has a 21.9 MPG rate. DCA is committed to replacing these traditional combustion engine vehicles with more sustainable alternatives and has increased its 'green' fleet by 51 vehicles. Nearly 45% of DCA's 388 green fleet vehicles are electric or powered by hydrogen fuel cells and don't use traditional gas at all. DCA has 159 completely electric vehicles—some with ranges of over 100 miles per charge and has also added 16 hydrogen-powered fuel cell vehicles with capacities of 300 miles per tank. The efforts to purchase plugin hybrids, fully electric and even fuel cell vehicles have decreased the amount of fuel purchased by DCA. The average MPG of DCA's gas/electric hybrids and plug-in electric/gas vehicles is 43.4 miles—a 98.1% increase in gas efficiency over the traditional combustion vehicles in the fleet. In 2020, the combined total amount of diesel and gasoline gallons purchased was 137,120 gallons. This is a reduction of just over 46% from the same figure in the previous report. In addition, the Bureau of Cannabis Control (BCC) has become its own department beginning FY 21/22. Because of this, vehicles previously assigned to the BCC were reallocated from the DCA fleet to the newly formed Department of Cannabis Control. This includes 32 gas combustion vehicles that were removed from the DCA fleet.

Medium and Heavy-Duty Fleet Vehicles

In addition to the vehicles captured in Graph 2.2, DCA also has 22 medium duty pickups, 17 medium duty SUVs, 4 medium duty trucks, and 9 medium duty vans that are gas combustion only. This calculates to a total of 52 medium duty vehicles that run only on gas with an MPG of 18.6 miles. These vehicles comprise 7.5% of DCA's total fleet. DCA also utilizes 20 heavy duty vehicles, all of which operate solely on gasoline. Their MPG is only 14.2, but they only comprise 2.9% of the overall fleet.

DCA's medium and heavy-duty fleet vehicles are used primarily to transport cargo or other smaller vehicles for enforcement or investigative tasks. They are used throughout the state, including snowy and rocky terrains, through the mountains and city suburbs. Daily use can be sporadic; a vehicle may be used all day one day and not used again for several days. One of the more typical uses for DCA's heavy duty vehicles is to haul vehicles throughout the state for sting operations.

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



Graph 2.3 indicates that five trucks, classes 3-6, and 1 van, class 2b, of the DCA fleet meet the current age or mileage requirements for replacement. As designated by the Federal Highway Administration, the classes of trucks 3-6 are, vehicles weighing between 10,001 and 26,000 pounds and used as medium and light heavy-duty vehicles. Vehicles in the DCA fleet meeting this definition include Ford F-450 trucks, dual rear wheel vehicles with a higher towing and hauling capacity than those of a more typical three-quarter-ton pickup. Class 2b vans have a gross vehicle weight between 8,501-14,000 lbs. and include utility and delivery vans. These vehicles are designated as between light-duty passenger vehicles and heavy-duty commercial vehicles.

The heavy-duty vehicles in the DCA fleet have an average MPG of 10.3 miles. These vehicles, however, total only 20 vehicles--3% of the DCA's total fleet. These vehicles are also used less frequently than the light duty, daily conveyance vehicles that comprise the rest of the fleet. These heavy-duty vehicles are used mainly for the occasional hauling of sting operation vehicles.

Of the vehicles that are included in the heavy-duty category, at least six of them are earmarked as vehicles qualifying for the ZEV First Purchasing Mandate. Newer vehicles in this class typically average an MPG of over 10 miles while the oldest average as few as 6.

Table 2.1: Total Fuel Purchased in 2020

	Diesel	Gasoline	Renewable Diesel
Fuel Amount Gallons	8,388	128,732	0

Incorporating ZEVs into the State Fleet

Pursuant to the Governor's EO B-16-12, state departments are required to increase the number of ZEV within their state fleet. As departments move towards this initiative, additional measures have been placed on the ZEV vehicle purchasing policy. Departments are advised, as of January 1, 2020, to purchase vehicles from authorized Original Equipment Manufacturers (OEMs) that have aligned with the California Air Resources Board (CARB).

With these policies in place, DCA always considers the most effective ways to incorporate ZEVs into its fleet.

Light-Duty ZEV Adoption

A widespread shift to ZEVs is essential for California to meet its Green House Gas (GHG) emission goals. State departments are now required to incorporate and prioritize a larger number of light-duty ZEVs in their vehicle fleets. Starting in FY 17/18 the percentage of new light duty vehicles that must be ZEVs began increasing by 5% each year, reaching 25% in FY 19/20 and 50% in FY 24/25.

A majority of DCA's fleet is used in fulfilling the department's investigative and enforcement role. DCA's investigators utilize most of the fleet for travel throughout the state to perform their duties. These types of activities do not require highly specialized vehicles but instead, require vehicles suitable for traveling. 93.8% of the vehicles in the DCA fleet are classified as light and medium duty vehicles. DCA has recognized this as an opportunity to replace obsolete vehicles with ZEVs. DCA has replaced 51 vehicles since the last report with ZEVs, hybrids, and plug-in hybrids. DCA has acted sustainably to proportionately increase the occurrence of ZEVs in its fleet by purchasing fully electric and hydrogen vehicles.

Electric vehicles and Hydrogen vehicles are ZEVs, and do not emit any carbon. Electric vehicles are rapidly becoming more common and DCA has increased its total number of EV charging stations statewide to 144 stations. DCA expects electric vehicles to become more ubiquitous amongst state vehicle fleets and is working to have the EV charging stations ready for the increased number of EVs within its own fleet.

Hydrogen vehicles emit water vapors instead of polluting carbon. DCA owns and operates 16 hydrogen vehicles statewide. DCA's current EVs have a range of about 80 to 100 miles on a single charge. Hybrids' range is about 300 miles with a complete charge and full tank of gas. The hydrogen vehicle can go 310 miles on a full tank.

Vehicles that meet specified mileage and age thresholds are eligible for replacement. Currently, ZEVs are available on statewide commodity contracts in the sub-compact, compact, mid-size sedans, and mini-vans vehicle classes. There are currently 127 vehicles in DCA's fleet eligible for replacement in vehicle classes for which ZEVs are available on contract.

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

Table Header Name	Sedans	Minivans	Pickups	SUVs, 5 passengers	SUVs, 7 passengers	Total
# of vehicles eligible for replacement	113	2	12	0	0	127

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	7	TBD	TBD	TBD	TBD
Plug-in Hybrid Vehicle	11	TBD	TBD	TBD	TBD
Fuel Cell Vehicle	0	TBD	TBD	TBD	TBD
Percent of total purchases		TBD	TBD	TBD	TBD
Required ZEV Percentage	35%	40%	45%	50%	50%
Total number of ZEVs in Fleet*	181	181+	181+	181+	181+

Table 2.3 shows the estimated number of ZEVs that are anticipated to be added to the department fleet in the coming years. DCA is not currently expanding its fleet but instead replacing vehicles when necessary. When applicable, DCA is committed to the purchase of vehicles to enhance its green fleet. DCA cannot predict the number of ZEVs to be purchased since requests for vehicles are not required until September 30 of the applicable fiscal year.

Medium- Heavy-Duty ZEV Adoption

Similar to the light-duty purchasing policy above, the adoption of medium and heavy-duty ZEVs is essential to meet greenhouse gas emission reduction goals. As of July 2020, SAM section 4121.9 requires state agencies to prioritize the purchasing of medium and heavy-duty ZEV vehicles into their fleets. Additionally, beginning December 31, 2025, departments are required, per AB 739, to have 15% of newly purchased vehicles with a gross weight rating of 19,000 pounds or more be ZEVs. This percentage will increase to 30% by December 31, 2030.

Current restrictions in technology do not meet minimal usage requirements and disallow for greater opportunities for the use of ZEV medium and heavy-duty vehicles in the DCA fleet. DCA's heavy-duty trucks have occasion to drive up to 800+ miles in a single day. Currently, there is not heavy-duty vehicle option on the market that meet the DCA's current operational needs. The downtime for such a vehicle to charge would not be able to match DCA's current usage needs.

Vehicles over specified mileage and age thresholds are eligible for replacement. Current ZEVs available on statewide commodity contracts are the Class 2B, Class 3, Class 4, Class 5, Class 6 and Class 8.

Table 2.4: Medium and Heavy-Duty 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
# of vehicles eligible for replacement	1	0	0	5	0	6

The table above shows vehicles that are qualified for replacement due to age (over 6 years) or mileage (over 65,000 miles). Currently, there are no opportunities to replace these vehicles with ZEV options. As explained above, the current market does not offer vehicles with adequate range to meet the needs of DCA's medium and heavy-duty fleet.

The table below shows the estimated number of medium and heavy-duty ZEVs that have been or are anticipated to be added to the DCA fleet in coming years

Table 2.5: ZEV Additions to the DCA Fleet

Table Header Format	21/22	22/23	23/24	24/25	25/26
Battery Electric Vehicle	0	TBD	TBD	TBD	TBD
Plug-in Hybrid Vehicle	0	TBD	TBD	TBD	TBD
Fuel Cell Vehicle	0	TBD	TBD	TBD	TBD
Percent of total purchases	0	TBD	TBD	TBD	TBD
Total number of ZEVs in Fleet	181	181+	181+	181+	181+

ZEV Take-Home Vehicles

Vehicles that are authorized for home storage, per SAM Section 4109, are subject to all applicable ZEV purchasing policies.

The majority of DCA's fleet are designated as take-home vehicles. Because there is no current method to compensate employees for charging units in private residences, DCA has contracted with ChargePoint to allow EVs to be charged away from DCA facilities. In April 2018, the implementation of ChargePoint statewide provided a means to purchase and utilize more electric vehicles. ChargePoint offers a network of charging stations that allow DCA's electric vehicles adequate charging opportunities. Currently, 45% of DCA's light duty vehicles are assigned to employees with valid Vehicle Home Storage Permits. Implementing ChargePoint has allowed employees to utilize over 235,000 ChargePoint Electric Vehicle (EV) stations available throughout California. This has enabled DCA to procure more ZEVs to adequately support inspectors, investigators, and auditors who work statewide and store vehicles at their homes.

Telematics Plan

In accordance with SAM section 4122, state departments are required to install telematics devices on all state fleet assets. Departments are required to install all telematics devices on light duty vehicles by August 1, 2021 and are required to install telematics on all remaining assets by February 1, 2022. Additionally, departments shall develop and issue a telematics policy that is specific to their needs by March 31, 2021.

DCA is currently implementing the statewide telematics program. In anticipation and preparation, DCA held a town hall meeting to introduce the statewide telematics program.

DCA has issued the policies and procedures for telematics. Currently, as of this reporting, DCA has 592 telematic devices installed in its fleet assets. DCA's Fleet unit has scheduled 15 more vehicles to have devices installed and has also begun purchasing 2 more devices for two new vehicles recently received from last year's fleet acquisition plan. DCA is 97% complete with telematics installation.

Public Safety Exemption

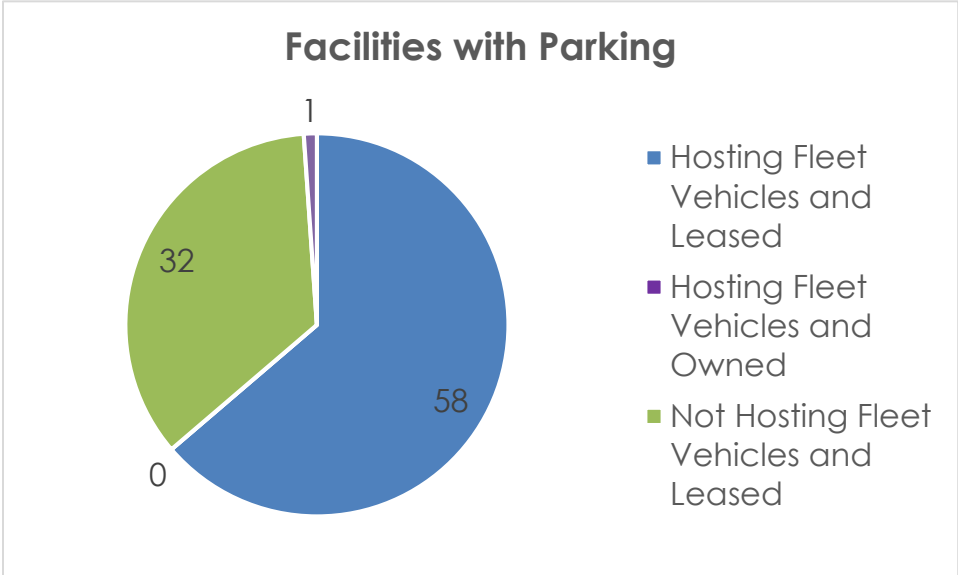
Many of the alternative fuel vehicle makes and models introduced through the statewide contract are being considered for purchase by DCA. The new inventory possesses many models with features that will allow sworn investigators to utilize them without risking the efficiency and safety of their job performance. In addition, the administration of ChargePoint allows DCA to procure more ZEVs for sworn investigators and consider purchasing many more in the future, relieving many charging concerns with storing ZEVs at employee residences.

DCA Parking Facilities

DCA continues to operate offices and storage units in commercial zones. DCA may occupy a whole building or a section of a building. The number of parking spaces is based on the square footage occupied. Depending on negotiations with each of DCA's lessors, the fleet, employee, and visitor parking areas may be physically separated or mixed. For security reasons, DCA will request a lessor to provide a gated area for state vehicles.

DCA has 90 locations. Of these 90 locations, 83 are leased, six are owned and managed by DGS, and DCA owns one. DCA has vehicles located at 59 locations which are 64.8% of the DCA's total facilities hosting the fleet.

Graph 2.4: Parking Facilities



Due to DCA's fleet and the needs of the public, DCA is 100% committed to installing L2 chargers or better at its facilities. The ability to install chargers that provide at least 25 miles worth of charge in only one-hour time allows for a greater opportunity to charge multiple vehicles in a shorter amount of time. DCA has increased its total number EV charging stations statewide to 144 to create adequate recharging at the DCA facilities.

DCA is currently investigating opportunities to consolidate many of its boards and bureaus satellite offices into fewer buildings. Because of this, DCA is now only pursuing opportunities to work with lessors to install L2 chargers at facilities where future long-term leases are a foreseeable option.

The facilities with the most urgent need for EV charging are listed below.

Table 2.6: High Priority Electric Vehicle Supply Equipment (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
BAR- San Jose	109	0	11	0	0	12
BAR- S. El Monte	88	0	10	0	0	10
BAR- Paramount	50	0	2	0	0	2

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
Total	247	0	23	0	0	24

Outside Funding Sources for EV Infrastructure

Currently, DCA is continuing to research and filter EV charging station incentive programs offered by utility companies, and organizations that have partnered with DGS (CALeVIP, SMUD, San Diego Gas and Electric, etc.). DCA held meetings with the utility agency SMUD to review services and incentives they offer. Due to most of the facilities being leased, DCA could only take advantage of a few opportunities in which to participate. As leases are renegotiated and renewed, DCA has informed lessors of charging programs and incentives provided by utility companies and the saving benefits offered for participating in EV charging programs.

DCA will work with DGS' Office of Sustainability Transportation Unit and Real Estate Services Division (RESD) in the future to provide EV charging at its leased facilities.

Hydrogen Fueling Infrastructure

Since the last report, DCA has increased its Hydrogen Fuel Cell fleet from 4 to 16 vehicles statewide. As more hydrogen fueling stations becomes available, DCA recognizes the capacity to incorporate more hydrogen fuel cell vehicles into the fleet. Utilizing these higher efficiency vehicles will allow DCA to lower fleet vehicle emissions and continue pursuing sustainability goals and initiatives. As more hydrogen fuel cell vehicles and models are made available through statewide contracts, DCA will continue to replace eligible fleet vehicles. As identified by the Alternative Fuels Data Center, the following public stations are currently utilized or provide future potential for utilization.

Potential Primary Hydrogen Refueling Stations

Public Hydrogen Station (within 10 miles)	Fleet Location, City
University of California Irvine True Zero-Costa Mesa	BAR-Irvine DOI- Tustin
Los Angeles International Airport	BAR- Los Angeles

Public Hydrogen Station (within 10 miles)	Fleet Location, City
Air Products and Chemicals Inc	
True Zero-La Canada Flintridge True Zero-Hollywood Blvd.	DOI-Glendale
Air Liquide-Anaheim	BAR- Anaheim DBC- Orange
True Zero-Hayward	DOI-Hayward
True Zero-Long Beach	DOI-Lakewood BAR- Paramount CSLB- Norwalk
True Zero-Lincoln Blvd Los Angeles International Airport	BAR-Culver City
True Zero-San Jose	CSLB- San Jose BAR-San Jose
True Zero-South San Francisco	BAR-S San Francisco
Ramos Oil Co Shell Sacramento Shell Citrus Heights	Evergreen- Sacramento BREA- Sacramento DCA HQ1- Sacramento

Comprehensive Facility Site and Infrastructure Assessments

Site assessments are performed to establish the cost and feasibility of installing needed EV infrastructure. The table below lists the facilities that have been evaluated with site assessments in 2020.

DCA leases all but one of its sites. Negotiations are conducted with lessors to install EV charging stations at their locations.

Table 2.7: Results of Site Assessments

Facility Name	L1 Chargers with Current Electrical System	L2 Chargers with Current Electrical System	Total cost for Project using Current Electrical System	L1 Chargers with Electrical System Upgrades	L2 Chargers with Electrical System Upgrades
BAR, Riverside,	N/A	N/A	N/A	N/A	2
BAR, Bakersfield	N/A	N/A	N/A	N/A	6
BAR, Jurupa Valley	N/A	N/A	N/A	N/A	2
BAR, San Jose	N/A	N/A	N/A	N/A	12
Total	N/A	N/A	N/A	N/A	22

Electric Vehicle Supply Equipment Construction Plan

Despite challenges, DCA worked diligently to add charging stations to facilities that house the ZEV fleet and/or offer public and employee parking. Prior, there were 59 EV chargers installed throughout DCA facilities. The DCA is pleased to report that it now has 144 chargers installed, a 144% increase. DCA works with property managers through leasing and leasing renewal processes to urge them to include and install electric vehicles charging stations at buildings leased by DCA. The property managers incur the cost of installation and maintenance, and DCA works with them to utilize programs and initiatives provided by utility companies that aid in offsetting costs.

Electric Vehicle Supply Equipment Operation

Currently, DCA does not have any reporting submeters on its electric vehicle charging stations, so it cannot collect EVSE use data. DCA's charging stations continue to have a 4-hour time limit to allow more people to charge during hours of operations. To promote and implement EO B-48-18, DCA staff and public visitors still utilize charging stations at no cost as they share a parking lot. Currently, DCA maintains a no-cost recovery policy as its goal is to encourage Californians to purchase and utilize electric vehicles by assisting in affordability and convenience.

CHAPTER 3 - ENERGY

This Energy Report demonstrates to the Governor and the public the progress the DCA has made toward meeting the Governor's sustainability goals related to energy. This report identifies successful accomplishments, ongoing efforts, and outstanding challenges.

DCA Mission and Built Infrastructure

The DCA's mission is to protect California consumers by providing a safe and fair marketplace through oversight, enforcement, and licensure of professionals. DCA administers more than 3.9 million licenses in more than 280 license types, including certificates, registrations, and permits, from architects to accountants, dentists to veterinarians—and enables consumers to check the license status of these professionals online or by phone. DCA is a regulator in that it investigates consumer complaints on issues under its jurisdiction. If violations are found, license holders can face discipline that includes probation, suspension or revocation of a license, fines and citations, letters of reprimand, or cease and desist orders. Finally, DCA educates consumers by giving them the information they need to avoid being victimized by unscrupulous or unqualified people who promote deceptive or unsafe services.

To fulfill these duties in a way that protects both the consumer and the integrity of the licenses, some investigative personnel and operations under DCA must operate in a confidential capacity. The confidential nature of these operations necessitates the exclusion of site and building locations and their operative metrics from documents made available to the public. Even providing the operative metrics of these sites may inadvertently indicate the kinds of operations that occur within them. For these reasons, any confidential sites, the buildings built thereon, and operative metrics for these sites will be withheld from this document. DCA's owned property falls under this banner of confidentiality, therefore, the portions of this section that explicitly require information on owned properties cannot be completed.

Table 3.1 cannot be completed because the information required to complete the table would violate the confidentiality of one or more of DCA's owned buildings.

Table 3.1: Total Purchased Energy 2020 (Data is omitted due to location confidentiality)

Purchased Energy	2003 Baseline Quantity		2020 Quantity		% Qty. Change
Electricity	-	kWh	-	kWh	n/a
Less EV Charging	-	kWh	-	kWh	n/a
Natural Gas	-	therms	-	therms	n/a
Propane	-	gallons	-	gallons	n/a
Fuel Oil	-	gallons	-	gallons	n/a
Steam	-	pounds	-	pounds	n/a
Chilled H2O	-	kBtu	-	kBtu	n/a
TOTALS	-	kBtu Site	-	kBtu Site	n/a

Table 3.2: Properties with Largest Energy Consumption

Building Name	Floor Area (ft ²)	Site Energy (kBTU)	Source Energy (kBTU)	Source EUI (kBTU/ft ² -yr)
10949 North Mather Blvd. - Leased	93,807	3,848,111	10,560,894	113
4244 South Market - Leased	25,440	6,722,101	12,990,031	511
6860 Santa Teresa Blvd. - Leased	8,944	274,768	693,921	78
10247 Bellegrave Ave. - Leased	5,147	333,561	1,050,716	204
Total for Buildings in This Table	133,338	11,178,541	25,295,562	---
Total for All Department Buildings	n/a	n/a	n/a	---
% of Totals	n/a	n/a	n/a	---

Table 3.2 includes information on four of DCA's leased non-confidential properties. All DCA-owned buildings are either designated as confidential or did not meet the criteria of the table. The buildings named "10949 North Mather Blvd." and "4244 South Market" are office buildings. The former is a mid to large-sized office building comprised entirely of DCA's Bureau of Automotive Repair (BAR). The latter is a leased portion of a building. The Bureau of Household Goods and Services occupies a significant majority of this small to a mid-sized office building, with the two remaining suites leased to other occupants. Additionally, "6860 Santa Teresa Blvd." and "10247 Bellegrave Ave." are both

BAR Enforcement Field Offices and occupy storefront suites in larger buildings. The site and source kBTU totals of these smaller offices are significantly less than their larger counterparts in the table. However, the Source Energy Use Intensity (EUI) is relatively comparable to the larger two sites indicating a more significant consumption of energy per square foot relative to its size. This is because of the equipment used at both sites. The site at 4244 South Market houses both offices and a lab onsite with energy intensive testing equipment. This testing equipment skews the Source EUI of what would otherwise just be an office site. In addition to also housing offices, the 10247 Bellegrave Ave. location is a warehouse facility for the Bureau of Automotive Repair's roadside smog equipment. Machinery is used at this site for the maintenance and repair of this equipment. Additionally, this site underwent a year-long renovation during the reporting period and this action is suspected to have also aided in raising the typical Source EUI range for this site.

DCA is committed to working diligently to put as many sustainability initiatives in place as feasibly possible. Most of the facilities are leased through private lessors making it difficult to make upgrades or improvements that would significantly assist in compliance with the Governor's Executive Orders. In addition, obtaining leased facility utilities-related data has also been difficult because the lessor usually pays utilities. This gives DCA less leverage to take advantage of utility companies' incentive and cost savings programs. Out of 90 locations, DCA only has data for 19 accounts in the Energy Star Portfolio Manager. Although DCA does not pay the bills directly at many of the facilities it leases, DCA continues to promote incentive and cost savings programs through utility companies to lessors whenever possible. Educating lessors on the benefits and savings of these programs have been incorporated in procedures for new leases and lease renewals.

In 2020 DCA hired a new Sustainability Coordinator to work with the Sustainability Manager to administer and execute the Governor's sustainability goals. The Sustainability Coordinator has been assigned as the subject matter expert and has taken the lead in promoting DCA compliance through education and collaboration with other units in the Business Services Office (BSO). Although it remains a team effort, having dedicated staff to carry out sustainability goals has helped DCA become more efficient and intentional in day-to-day operations and processes and procedures that directly correlate.

DCA continues to promote sustainability goals through its internal and external websites, and Consumer Connection Magazine.

DCA remains consistent in providing monthly sustainability articles in the DCA monthly online newsletter, reminding employees to take steps to assist in meeting sustainability goals. Examples of articles throughout this year included information on LEED buildings, DCA's Green Fleet, DCA's improved battery recycling efforts, and more.

DCA's annual Earth Day continued the tradition of creating an engaging opportunity to provide sustainability information and resources to employees, helping to demonstrate the importance and urgency of their part in helping to achieve sustainability goals.

Additionally, signage on walls and receptacles throughout many buildings clearly indicate recycling and diversion procedures and opportunities.

Zero Net Energy (ZNE)

State policies set forth the following milestones for state zero net energy buildings:

- 2017 – 100% of new construction, major renovations and build-to-suit leases beginning design after 10/23/2017 to be ZNE
- 2025 – 50% of total existing building area will be ZNE

DCA currently occupies approximately 1,228,459 square feet of office, warehouse, and lab space throughout California—approximately 1.2 million square feet of leased buildings.

DCA has no ZNE buildings currently in operation. The FMU/Sustainability staff continue to work in collaboration with DGS Real Estate Services Division to convert its owned facility to a 100% ZNE building by 2025. Planning is in progress to make upgrades and retrofits to continue advancing the owned facility towards ZNE. Funds have been allocated to make these upgrades, and meetings have taken place to ensure the proposed upgrades are economically feasible and provide the most energy efficiency. Once completed, this will allow DCA to achieve a 100% ZNE portfolio.

To ensure the confidential nature of this property, all identifying markers have been withheld from Table 3.3.

Table 3.3: Zero Net Energy Buildings (Data is omitted due to location confidentiality)

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

New Construction Exceeds Title 24 by 15%

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

DCA is not currently constructing new facilities, nor does it maintain a five-year Capital Improvement Plan.

Table 3.4: New Construction Exceeding Title 24 by 15% (Data is omitted due to location confidentiality)

Buildings Exceeding Title 24 by 15%	Number of Buildings	Floor Area (ft ²)
Completed Since July 2012	n/a	n/a
Under Design or Construction	n/a	n/a
Proposed Before 2025	n/a	n/a

Although most of DCA's construction/retrofits in leased facilities do not exceed 5,000 sq. feet, DCA continues to ensure Title 24 requirements are executed in renovation projects for tenant improvements.

Reduce Grid-Based Energy Purchased by 20% by 2018

EO B-18-12 requires state agencies to reduce grid-based energy purchased by 20% by 2018, compared with a 2003 baseline.

DCA maintains Energy Efficiency Policy BSO 16-1 and provides updates/revisions as the Governor provides new efficiency requirements and goals. DCA also implements the "Standard Operating Procedures for Energy Management in State Buildings" found in Management Memo 14-07. The DCA Energy Efficiency Policy BSO 16-1 is available to staff on the DCA's Intranet page.

The DCA Energy Efficiency Policy continues to mandate staff to shut down computers and turn off all lights and equipment in their workspace, except for equipment designated as 24/7 or for a specific need for after-hours operations (e.g., email servers, fax machines, or other essential equipment).

Personal devices, including but not limited to coffee pots, microwaves, and refrigerators remain prohibited at individual workstations. These devices are not permitted to plug into electrical outlets or computer towers. Exceptions are only task lighting, use of a wall charger for cell phones and tablets, and approval due to a reasonable accommodation. Personal space heaters also continue to be prohibited without the express written consent of the facility manager or an approved reasonable accommodation request.

DCA continues to uphold the practice of distributing an annual email to educate and remind all DCA employees about the importance of minimizing electrical plug loads and to review relevant state policies and guidelines regarding energy efficiency. DCA also continues to provide sustainability articles in the DCA monthly online newsletter, reminding employees steps they can take to help meet the Governor's sustainability goals at work and measures they can participate in at home.

FMU/Sustainability has added into the Sustainability Checklist a stipulation to ensure all lease renewals or new leases agreements contain light motion sensors in interior spaces, i.e., common areas, restrooms, and areas with significant foot traffic. This assists in providing safeguards against misused lighting in unoccupied rooms and spaces. In addition, DCA added that daylight controls be placed on electric lights in spaces over 10,000 square feet that contain skylights or windows.

DCA contains no incandescent light bulbs or magnetic fluorescent ballasts in DCA-occupied space. DCA currently does not have any de-lamping projects but remains observant of opportunities to reduce emissions through excessive lighting. DCA continues to achieve LED upgrades/retrofits in renovations and new buildouts.

Energy Management Systems (EMS) continue to be employed in most DCA's occupied lease spaces to ensure lighting and HVAC usage are controlled

outside of normal business hours. Although lessors continue to establish setpoints for heating and cooling systems, DCA has added additional procedures to request above energy standard HVAC controls during lease negotiations and lease renewals. HVAC controls are requested to allow a +2 or -2-degree fluctuation from the temperature setpoint on all future lease agreements. In addition, this language has also been added to the Sustainability Checklist to ensure it is requested during lease renewals and new leases.

Currently, HVAC equipment, boilers, and fixture repair and maintenance remain the responsibility of lessors. Lease agreements continue to reflect that building owners must provide these ongoing services. DCA continues to remain diligent and proactive in holding lessors accountable for these services at all occupied facilities.

Although breakroom and kitchen appliances remain unfunded by DCA, the DCA Energy Efficiency Policy BSO 16-1 mandates that equipment used in DCA breakrooms or kitchenettes must be ENERGY STAR® certified. Coffee makers must contain an automatic shut-off feature, and the appliances must be cleaned and maintained to maximize efficiency while utilized in DCA-occupied space. Email reminders, articles, and policies are disseminated quarterly to remind employees of this mandate, as well as additional resources to assist with finding and purchasing appliances that meet the ENERGY STAR® requirement.

Water Coolers also remain employee funded. Employees are encouraged to select ENERGY STAR® models that utilize less energy than conventional models. In addition, DCA is researching the use of biodegradable faucet filters as an alternative to water coolers and bottled water.

To assist in administering the Department of Technology's Basic Policy 4819.31, item 13, DCA continues to utilize Microsoft Windows settings to manage power on all computing devices. It remains that 90% of DCA's copiers, printers, and multi-function devices are set to the manufacturer's default energy-saving mode. Eighty-five percent of DCA's computers/systems are set to go into energy-saving mode after 15 minutes of inactivity. In addition, all paper shredders are in the off position when not in use.

To safeguard energy efficiency, ENERGY STAR® rated equipment is purchased whenever practical. DCA utilizes the State mandated contract when purchasing computers, printers, copiers, servers, and multi-function devices. The contract requires that hardware meets the Electronic Product Environmental Assessment Tool (EPEAT) "Gold" standard. EPEAT is a procurement tool to help purchasers evaluate, compare and select electronic equipment based on their environmental attributes.

To remain in compliance with the ASHRAE-TC 9.9, Class A1-A4 guidelines pertaining to all state-owned and leased data centers and server rooms greater than 200 square feet, DCA has set the thermostats to 78 degrees Fahrenheit, which is the highest allowed temperature, per manufacturer's requirements for several components in that space. As new components are installed and old equipment is removed, DCA continues to review the manufacturer's requirements to see if it is safe and feasible to set thermostats to a higher temperature.

Currently, DCA has one data center over 1,000 square feet in Sacramento at our DCA HQ1 facility. DCA has meters installed on power feeds to the DCA HQ data center to report their power usage effectiveness (PUE). Readings are taken monthly; power consumed by IT equipment (network hardware, servers, etc.) is calculated from these readings and reported on an annual basis. In addition, all network switches and routers purchased by DCA have low power idle (LPI) mode per the IEEE 802.3 standard.

DCA maintains the following procedures to reduce the PUE: server virtualization, thermostats increased to 78 degrees, removal of unnecessary equipment, moving cable pathways from beneath raised floor to the top of cabinets to free space under the raised floor to allow better air circulation in the data center making cooling more efficient. These continued efforts have assisted DCA in reducing its PUE by 10% to achieve the current PUE of 1.04.

Most servers utilized by DCA have been virtualized. When new servers are required, DCA considers the utilization of existing servers and the option of hosted cloud-based servers, such as SAAS.

To help ensure overall reduced energy consumption, DCA continues to make leasing — including lease renewals — at buildings engaged in certification processes a priority. DCA currently leases spaces in 14 buildings with Energy Star certified projects or designations. Six of the buildings were recertified in the label years 2020 or 2021, all with a score of 78 or better. Also notable is that DCA leases space in 29 buildings that are either LEED registered or certified, most of which contain energy reduction components in their programs.

Table 3.5: Department-Wide Energy Trends (Data is omitted due to location confidentiality)

Year	Floor Area (ft ²)	Total kBTU Consumption	Department Average EUI
Baseline Year 2003			
2013	n/a	n/a	n/a
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
% Change 2003-2020	n/a	n/a	n/a

Table 3.6: Summary of Energy Projects Completed or In Progress (Data is omitted due to location confidentiality)

Year Funded	Estimated Energy Savings (kBTU/yr)	Floor Area Retrofit (sq.ft.)	Percent of Department Floor Area
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

Table 3.7: Energy Surveys (Data is omitted due to location confidentiality)

Year	Total Department Floor Area (sq.ft.)	Energy Surveys Under Way (sq.ft.) Level 1	Energy Surveys Under Way (sq.ft.) Level 2	Percent of Department Floor Area Level 1	Percent of Department Floor Area Level 2
2014	n/a	n/a	n/a	n/a	n/a
2015	n/a	n/a	n/a	n/a	n/a
2016	n/a	n/a	n/a	n/a	n/a
2017	n/a	n/a	n/a	n/a	n/a
2018	n/a	n/a	n/a	n/a	n/a
2019	n/a	n/a	n/a	n/a	n/a
2020	n/a	n/a	n/a	n/a	n/a

Demand Response

EO B-18-12 directed all state Departments to participate in available Demand Response programs and “to obtain financial benefits for reducing peak electrical loads when called upon, to the maximum extent that is cost-effective for each State-owned or leased facility, and does not materially adversely affect agency operations.”

Currently, out of 90 DCA facilities, DCA pays for 19 electric accounts. There are five Demand Response programs available to those 19 facilities. The Demand Response programs include SMUD’s Power Direct, Los Angeles Department of Water and Power’s (LADWP) Demand Response Program, City of Riverside Public Utilities’ Power Partner Program, PG&E’s Peak Day Pricing, and So Cal Edison’s Critical Peak Pricing. All programs offer monetary incentives to reduce energy use during event days, except for the City of Riverside Public Utilities’ Power Partner Program.

DCA participates in the PG&E’s Peak Day Pricing Program and the So Cal Edison Critical Peak Day Pricing. DCA does not qualify for the LADWP program because it does not have the required energy management system installed in DCA leased facilities. SMUD’s program requires an elaborate technological system. DCA has contacted groups like School Project for Utility Rate Reduction (SPURR) to inquire about their streamlined programs that allow organizations to participate in automated demand response through their aggregator with no upfront costs. These programs assess the facility’s potential load shed and offer incentives to update systems to participate in utility demand response programs. DCA will continue to research and pursue cost-effective opportunities to secure the technology needed to participate in automated demand response programs,

In the past, DCA has encountered challenges while participating in PG&E’s demand response program. Alerts are sent directly to the headquarters office and must be forwarded to the corresponding field offices. The field offices then forward the message to the staff on-site as a reminder to conserve energy, making the process very cumbersome. In addition, utility companies often send the alert on the day of the event, allowing minimal time to relay the messages to shed electricity loads. Furthermore, the bills are sent to the field offices, making it difficult for headquarters to assess whether this program effectively saves energy costs. The alert process needs to be made easier and accessible to all staff to assess the program’s effectiveness.

Regardless of challenges, demand response programs serve a great purpose and keep us mindful of our energy use despite financial savings. DCA continues to participate in eligible demand response programs whenever it is responsible for paying the energy bills, and DCA will continue to participate in these programs at its facilities.

Table 3.8: Demand Response (Data is omitted due to location confidentiality)

Demand Response Participation	Number of Buildings	Estimated Available Energy Reduction (kW)
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

New or major renovated state buildings over 10,000 square feet must use clean, on-site power generation, and clean back-up power supplies, if economically feasible. Facilities with available open land must consider large scale distributed generation through various financing methods, including, but not limited to, third party power purchase agreements (PPAs).

Although there are no specific kW goals for renewable energy, renewable energy does count towards meeting: (1) Zero Net Energy goal for 2025 and; (2) 20% grid-based energy use reduction by 2018.

Table 3.9: On-Site Renewable Energy (Data is omitted due to location confidentiality)

Status	Number of Sites	Capacity (kW)	Estimated Annual Power Generation (kWh)	Percent of Total Annual Department Power Use
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
Current Combined On-Site and Off-Site Renewable Energy	n/a	n/a	n/a	n/a
Additional Planned On-Site and Off-Site Renewable	n/a	n/a	n/a	n/a

Monitoring Based Commissioning (MBCx)

New and existing state buildings must incorporate Monitoring Based Commissioning (MBCx) to support cost effective and energy efficient building operations, using an Energy Management Control System (EMCS). State agencies managing state-owned buildings must pursue MBCx for all facilities over 5,000 square feet with EUIs exceeding thresholds described in Management Memo 15-04.

DCA's one owned building is currently undergoing sustainability tenant improvements (TI). DCA's Sustainability Coordinator has reached out to the DGS Project Manager to ensure MBCx is part of these TI's.

Table 3.10: Planned MBCx Projects (Data is omitted due to location confidentiality)

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
	Totals		n/a					n/a

Financing

State agencies are required to pursue all available financing and project delivery mechanisms to achieve these goals including, but not limited to: state revolving loan funds, utility On-Bill Financing (OBF), Power Purchase Agreements (PPAs), GS \$Mart, Energy Service Contractors (ESCOs), or other available programs

DCA continues to research and seek available financing to complete its owned facility's sustainability upgrades/retrofit projects. Many programs offer minimal amounts of money and/or require agreements that will not benefit DCA in the long run. DCA will remain consistent in its search for funding.

CHAPTER 4 - WATER EFFICIENCY AND CONSERVATION

This Water Efficiency and Conservation report demonstrates to the Governor and the public the progress DCA has made in meeting the Governor's goals. This report identifies successful accomplishments, ongoing efforts, and outstanding challenges.

California experiences the most extreme variability in yearly precipitation in the nation. In 2015, California had a record low statewide mountain snowpack of only 5% of average, while compared to 2012 to 2014, which were the four driest consecutive years of statewide precipitation in the state's history. The 2017 water year (October 1, 2016 – September 30, 2017) surpassed the wettest year of record (1982 -1983) in the Sacramento River and San Joaquin River watersheds and was close to becoming the wettest year in the Tulare Basin (set in 1968 -1969). These potential wide swings in precipitation from one year to the next show why California must be prepared for either flood or drought in any year.

Therefore, using water efficiently is critical. The EOs and SAM sections listed in the previous section help demonstrate the connection between water and energy use (the water-energy nexus), water and climate change, and water and landscaping. Further, the impact of water uses by state agencies goes beyond the scope of these EOs and SAM sections and DGS management memos as these documents do not address such related issues as water runoff from landscaping and various work processes and the potential for water pollution or the benefits of water infiltration, soil health and nutrient recycling. By using holistic water planning, a well-crafted water plan can meet all state requirements and add considerable value and benefits to the organization and surrounding communities.

The water plan component of the Governor's Sustainability Roadmap helps all agencies and departments maximize water efficiency and conservation while improving their energy savings. Further, the plan helps agencies to gain additional benefits regarding climate adaptation and other ecosystem services. The water efficiency and conservation plan sets priorities, defines tasks, timelines and budgets and designates responsible personnel for each step of the plan.

This water plan has two major components. The first component consists of a quantitative inventory of indoor water use by fixtures, boilers and cooling systems and appliances in state buildings and facilities. The second component

focuses on outdoor water use and landscaping and includes a measurement of landscape areas and types as well as an assessment of irrigation equipment. Each water plan component includes a mandatory set of Building Best Management Practices (BMPs) for ongoing water use efficiency in both buildings and landscapes. Additionally, there are further requirements for large landscape water use tracking, if an agency has a total landscape area greater than 20,000 square feet at a facility. Both components of water use include monitoring, reporting, oversight and compliance.

Best Management Practices

BMPs are ongoing actions that establish and maintain building water use efficiency. State agencies are required by DGS Management Memo 14-02 to implement the building BMPs.

BMPs can be continuously updated based on need and tailored to fit the facility depending on occupancy and specific operations.

One of the critical practices in effective water management is to designate a water management coordinator to conduct the building walk-through inventory, implement the building BMP's and monitor and report water use. In the beginning of implementation, these BMPs require that staff be able to have enough time and resources to perform the actions required. A certain level of expertise may also be required. It is possible that various skills are needed which may not be found in just one person but require a team approach.

Department Mission and Built Infrastructure

DCA's mission is to protect California consumers by providing a safe marketplace through oversight, enforcement, and licensure of professions. DCA administers more than 3.9 million licenses in more than 280 license types, including certificates, registrations, and permits, from architects to accountants, dentists to veterinarians—and enables consumers to check the license status of these professionals online or by phone. DCA's boards and bureaus are regulators in that they investigate consumer complaints on issues within their jurisdictions. If violations are found, license holders can face discipline that includes cease and desist orders, letters of reprimand, fines and citations, probation, suspension, or revocation of a license. Finally, DCA and its boards and bureaus educate consumers by giving them the information they need to avoid being victimized by unscrupulous or unqualified people who promote deceptive or unsafe services.

To fulfill these duties in a way that protects both the consumer and the integrity of the licenses, some investigative personnel and operations under DCA must operate in a confidential capacity. The confidential nature of these operations necessitates the exclusion of site and building locations and their operative metrics from documents made available to the public. Even providing the operative metrics of these sites may inadvertently indicate the kinds of operations that occur within them. For these reasons, any confidential sites, the buildings built thereon, and operative metrics for these sites will be withheld from this report. Because all of DCA's owned properties fall under this banner of confidentiality, the portions of this section that explicitly require information on owned properties cannot be completed. Instead, when able to, DCA will include water efficiency and conservation metrics for four of its non-confidential, leased buildings. Three of these buildings exclusively house the offices of DCA and its boards and bureaus. These building locations include:

- Headquarters 1 (HQ1)—1625 N. Market Blvd., Sacramento
- Headquarters 2 (HQ2)—1747 N. Market Blvd., Sacramento
- Bureau of Automotive Repair Headquarters (BAR HQ)—10949 N. Mather Blvd., Sacramento

The fourth site is also a non-confidential, leased site and is primarily comprised of DCA board and bureau offices. It is located at:

- Evergreen (EVGRN)—2005 Evergreen St., Sacramento

The combined square footage for all four office buildings is 430,440 sq.ft. These buildings have large parking lots with minimal landscaping and turf. DCA does occupy space in other buildings, however, these four sites represent the offices with the greatest concentration of DCA employees. HQ1 and HQ2 are located next to each other. These two buildings share the same owner and have the same landscaping vendor. EVGRN and BAR HQ are owned by separate entities. Because these four buildings have three lessors, there is not opportunity to maintain 100% consistency amongst various leased properties with regards to water conservation infrastructure.

Table 4.1: 2020 Total Purchased Water

Purchased Water	Quantity	Cost (\$/yr)
Potable	12,777,137	\$ 8,328.07
Recycled Water	0	\$ 0.00
	12,777,137 Gallons	\$ 8,328.07

The figures in Table 4.1 are of the HQ1, HQ2, BAR HQ, and EVGRN sites only.

Table 4.2: Properties with Largest Water Use Per Capita

Building Name	Area (ft ²)	# of Building Occupants	Total 2020 Gallons	Total 2020 Irrigation in Gallons (if known)	Gallons per Capita
HQ1	187,944	567	9,465,266	3,735,488	16,694
HQ2	94,143	558	2,515,324	2,348,883	4,508
BAR HQ	93,807	322	2,298,604	1,614,184	7,139
EVGRN	92,599	318	1,368,398	unknown	4,303
Total for Buildings in This Table	430,440 ft ²	1,765	15,647,592	n/a	---
Total for All Department Buildings	n/a	3,172	n/a	n/a	---
% of Totals	n/a	56%	n/a	n/a	---

Table 4.3: Properties with Largest Landscape Area

Building Name	Landscape Area (ft ²)
HQ1	60,000
HQ2	40,000
BAR HQ	30,000
EVGRN	20,000
Total Landscaping area for Buildings in This Table	150,000 ft ²
Total Landscaping for All Department Buildings	150,000 ft ²
% of Totals that is large landscape	76 %

Of the 90 DCA occupied locations, DCA only pays the water bills for three of those sites. Because the balance of our sites are multi-tenant buildings without sub-meters, DCA is unable to access accurate water bills/data for most of the buildings DCA leases.

DCA is moving forward with LEED projects that include water conservation measures including, but not limited to, low flow toilets, aerators on all faucets, timers for sprinklers, and drip systems. In 2018, DCA experienced success with having its HQ1 lessors incorporate drought resistant plants in the building's landscaping. DCA will continue to advocate for drought resistant plants and

drip irrigation systems in future projects. Additionally, DCA maintains water reduction signs in areas where water is utilized.

DCA promotes sustainability goals through its various boards and bureau's websites, Consumer Connection Magazine, and other communications efforts. DCA amplifies its conservation goals on various social media platforms.

DCA provides monthly sustainability articles in the DCA online internal newsletter, reminding employees to take steps to assist in meeting the DCA's sustainability goals. Examples of articles throughout this year included information on LEED buildings, DCA's Green Fleet, battery recycling efforts, and the new vermicomposting efforts undertaken at DCA's HQ1 building to divert waste from the landfill. Please see Appendix J for these articles.

In April, DCA's annual Earth Day continues the tradition of creating an engaging opportunity to provide sustainability information and resources to employees helping to demonstrate the importance and urgency of their part in helping to achieve sustainability goals.

Table 4.2 is a snapshot of water use in DCA's four most populous buildings. However, some considerations should be given. The employee population for HQ2 formally includes 200 personnel from the Division of Investigation (DOI). It should be noted that a significant number of this population conducts investigations in the field, while only approximately 30 to 40 DOI employees regularly conduct business at HQ2. Taking this into account, the gallons per capita shift to approximately 6,320. It should also be noted that beginning in Spring of 2020 much of the workforce in these buildings began to telework due to the pandemic. The work populations at these buildings was reduced by an average of 75% daily. These numbers would significantly change the water use per capita figures. HQ1, however, has the highest per capita gallons of water use. Of these four buildings, HQ1 is also the only site with any significant turfed landscaping. It has two lawns of approximately 10,000 to 11,000 square feet, plus large swaths of grass that run along its perimeter walkway. In keeping in practice with the DCA's sustainability checklist procedures DCA employs to request greater sustainability from its lessors, these lawns areas and the incurred water use are subjects DCA will discuss with the lessors.

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	not available	1,535,644	not available
2020	not available	2,298,604	not available
2020 Goal	not available	not available	not available

The figures for Table 4.4 are for the BAR HQ (Rancho Cordova) site only. This was the only site the data was available. Part of the reason the 2020 usage is so much more than the baseline year is because a significant leak was detected in the irrigation system in 2020. This leak was determined to have at least doubled the amount of water used from September 2020 through November 2020. DCA regularly includes preferences for sustainable landscaping practices in its leasing processes. Because of this, it is expected that any contracted landscapers will regularly check irrigation lines for leaks at DCA sites and repair them immediately.

Table 4.5: Total Water Reductions Achieved

Total Water Use Compared to Baseline	Total Amount Used (gallons per year)	Annual Gallons Per capita
20% Reduction Achieved	not available	not available
Less than 20% Reduction	not available	not available
Totals	not available	not available
Department-Wide Reduction	not available	not available

Building Water Management BMPS

General Water Management

- Track monthly water use
- Check leak indicator on water meter when water is not in use

Leak Detection and Repair

As personnel use the fixtures below, they report any need for repairs by creating work orders with FMU. FMU contacts the property managers to repair faulty units.

- Toilets
- Urinals

- Faucets - Check faucets for proper aerators (kitchen faucets 2.2 gpm and lavatory faucets 0.5 gpm) and install aerators or laminar flow devices if necessary.
- Showers - Check showerhead flow rates and install showerheads using no more than 2.0 gpm with trickle flow controls.

Kitchens

DCA personnel should be active participants in DCA's water conservation efforts. DCA will instruct personnel to put the following measures into practice to help DCA conserve water:

- Check all equipment water temperatures and flow rates against the manufacturer recommendations. Use the recommended minimum temperature and flow to maximize savings.
- Adjust ice machines to dispense less ice if ice is being wasted.
- Presoak utensils and dishes in basins of water, rather than in running water.
- Do not use running water to melt ice in bar sink strainers.
- Do not use running water to defrost food.
- Do not allow water to flow unnecessarily.

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

Year Completed	Water Saved (Gallons/yr.)	Number of Indoor Water Efficiency Projects Completed	Cost Savings per Year
2014	n/a	1	n/a
2015	n/a	n/a	n/a
2016	n/a	1	n/a
2017	n/a	n/a	n/a
2018	n/a	1	n/a
2019	n/a	n/a	n/a
2020	n/a	2	n/a

Most DCA sites occupy spaces at leased properties. However, through its leasing practices, DCA continues to prioritize opportunities to lease space in sustainable buildings. One metric in judging sustainable sites is by leasing from LEED certified buildings when possible. DCA leases space in several buildings where LEED projects are working to improve water efficiency and conservation. While DCA is not always able to retrieve the exact number of gallons saved per year from some of its property managers, the percentage of effectiveness of these LEED

certified buildings and projects is available. DCA leases space in the following buildings:

- In 2014, the building located at 2420 Del Paso Rd., Sacramento competed another project to maintain its LEED for Existing Building (LEED EB) certification resulting in 30% reduction in indoor potable water use.
- In 2016, the building at 2535 Capitol Oaks Dr., Sacramento recertified its LEED EB certification with a project that resulted in an additional 10% reduction in indoor potable water use.
- In 2016, DCA spearheaded a project at its HQ1 site that led to LEED Commercial Interiors (LEED CI) certification for the building at 1625 N. Market Blvd. Amongst other sustainable goals, the project, which was completed in 2018, achieved a 40% reduction in indoor potable water use.
- In 2020, another project was completed at the 2420 Del Paso Rd. site which resulted in LEED recertification and a 30% reduction in indoor portable water use.
- In 2020, the building at 2720 Gateway Oaks Dr., Sacramento completed a project to certify it as LEED EB, achieving a 20% reduction in indoor potable water use.

Building Heating and Cooling Systems BMPs

Table 4.7: Summary of Boilers and Cooling Systems Projects Completed or In Progress (Data is omitted due to location confidentiality)

Year Completed	Water Saved (Gallons/yr.)	Number of Systems with Water Efficiency Projects
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

While there are currently no completed projects to upgrade boilers and cooling systems, DCA would highlight the ongoing success at its BAR HQ site. One of the more sustainable buildings in the DCA portfolio, the heating for the building's

boiler is a closed loop system. The water heaters, as well, employ point of use flow rates to maximize the efficiency of the system.

Table 4.8: Summary of Landscaping Hardware Water Efficiency Projects Completed or In Progress (Data is omitted due to location confidentiality)

Year Funded	Water Saved (Gallons/yr.)	Estimated Annual Cost Savings	Total Number of Projects per Year
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 (Data is omitted due to location confidentiality)

Year Funded	Water Saved (Gallons/yr.)	Landscape Area MWELO (ft ²)	Climate Appropriate Landscape Area (ft ²)
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

Because DCA primarily leases spaces at privately owned buildings, DCA works with lessors to employ water efficient practices for landscaping purposes. All leasing inquiries are mandated internally to request sustainable practices of all vendors contracted by the property management to manage the grounds of DCA buildings. DCA's sites with the greatest employee concentration are primarily located in Sacramento County. Most of these sites utilize drought tolerant landscaping when possible and employ drip irrigation systems to maximize low water usage. DCA sites in the Sacramento area with drip systems include HQ1, HQ2, BAR HQ, and the two Del Paso sites located at 2420 and 2450 Del Paso Blvd. These systems ensure that the water reaches the plants and other landscaping while reducing overspray onto sidewalks and buildings, creating

water waste. Additionally, most of these sites employ the following water efficient landscaping practices:

- Use of ground cover and mulch in planter beds to help retain ground water.
- Watering occurs between 12:00 am to 6:00 am when cooler temperatures reduce evaporation and allow water to penetrate deeply to roots and calmer winds allow water to be delivered efficiently to plants.
- Programmed watering occurs on multiple watering cycles to ensure that saturation does not occur, giving the water a chance to penetrate deeply into the soil and not runoff as it would occur with longer watering cycles.
- Aerate lawns to help water and nutrients penetrate deep to the roots.
- Use of Smart Irrigation Controllers and Rain Sensors to fine-tune irrigation to plants' precise water needs, shutting off irrigation during rain.
- System inspections and adjustments to sprinklers occur weekly and repairs to broken sprinklers and lines are completed immediately.

Water Shortage Contingency Plans and Critical Groundwater Basins

Urban water suppliers are required to maintain Water Shortage Contingency Plans that are customized to local conditions. These plans include a staged response to water shortages and droughts lasting up to three years. When implementing the stages of the Water Shortage Contingency Plan, the water supplier will require increasingly stringent reductions in water use.

EO 37-16 required DWR to strengthen the requirements for these Plans, including, among other proposed changes, the creation of common standards for each stage in the plan, and extending the drought planning from three to five years. For smaller water suppliers and rural communities not required to maintain a Water Shortage Contingency Plan, DWR works with counties to facilitate improved drought planning.

DWR has finalized these requirements in a Primer that can be found at:

[Making Conservation a CA-Way-of-Life-Primer](#)

State agencies are to be aware of their water suppliers' Water Shortage Contingency Plan and the potential impact each stage may have on their water use. State agencies are to have their own contingency plans in place for their building and landscaping water use in order to respond to any stage implemented by the water supplier.

The Sustainable Groundwater Management Act (SGMA) established a new structure for managing California’s groundwater resources at a local level by local agencies. SGMA required, by June 30, 2017, the formation of locally-controlled groundwater sustainability agencies (GSAs) in the State’s high- and medium-priority groundwater basins and sub basins (basins). A GSA is responsible for developing and implementing a groundwater sustainability plan (GSP) to meet the sustainability goal of the basin to ensure that it is operated within its sustainable yield, without causing undesirable results. For those facilities located in critical groundwater basins, state agencies are to work with the local GSA plan.

Table 4.10: Number of Buildings with Urban Water Shortage Contingency Plans and in Critical Groundwater Basins (Data is omitted due to location confidentiality)

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

DCA will continue to seek out opportunities with lessors at the point of leasing and beyond to ensure that sustainable and water efficient measures are undertaken. This will ensure that building spaces leased by DCA will incur some amount of measurable success. One example of this is the BAR HQ site which utilizes many water-efficient devices, some of which already exceed the recommendations contained in Table 4.11. BAR HQ utilizes showerheads which flow at 1.5 gpm exceeding the recommended 1.8 gpm (gallons per minute). Additionally, all toilets at this facility are designed to flush at rate of 1.28 gallons per flush (gpf) and urinals which operate at 1.25 gpf. Sinks in restrooms operate at a rate of 0.5 gpm and sinks at kitchenettes just 1 gpm.

Table 4.11: Summary of Building Inventory Needs (Data is omitted due to location confidentiality)

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
n/a	n/a	n/a	n/a	n/a	n/a	n/a

Heating and Cooling Systems Inventories Summary

Table 4.12: Summary of Boilers and Cooling Systems Inventory (Data is omitted due to location confidentiality)

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

Boilers and cooling systems are another component of water efficiency which DCA can monitor and investigate as the lessee. In highlighting the BAR HQ site, DCA can illustrate how buildings with DCA offices maintain water efficient programs and systems. The boiler at this location is on a closed loop with no loss or leaks. 1,250 gallons of water are utilized in this system and recirculated without loss. The cooling system load utilizes a water-cooled condensing tower with an average use of 200,000 gallons per year. Most of this water is eventually lost through evaporation, but preventative measures within the cooling tower system retain, on average, about 5,000 gallons per year which may be used for other watering purposes.

Irrigation Hardware Inventories Summary

Landscaping typically uses 50% or more of an agency's total water use. While landscaping serves critical functions, the accompanying irrigation hardware, if not properly installed and maintained, can contribute to water waste. By

reviewing and inventorying all irrigation hardware, it is possible to achieve significant water savings.

Meters or sub-meters are essential for managing a landscape irrigation budget. Meters are also a valuable tool to detect leaks. Leaks do more than waste water. Leaks degrade pavement, create hazards and damage buildings.

Contracted landscapers will identify downspouts and redirect water into landscaping. Be sure to leave at least 10 feet from building foundation or use local code requirement for spacing.

When looking at the landscaping system pressure, it is important to realize that many contractors “value engineer” irrigation systems to lower cost/increase profit by “stretching” the irrigation systems. This results in uneven coverage by spray and rotors, and inadequate pressure. When reviewing your system, additional stations may need to be added.

Pressure regulation:

Pressure issues are found in nearly all irrigation systems from high or low pressure, friction loss and inadequate pressure regulation for the installed equipment to operate correctly. All irrigation emission devices are designed to operate within a narrow pressure range. If operated outside the optimum range, the system will have poor performance, wasting water and causing poor plant health and appearance. Pressure may need to be reduced, especially for drip irrigation systems, but it can also need to be boosted by pumps to operate some equipment such as high coverage rotors on turf grass areas. A measurement of static pressure and operating pressure compared against the manufacturers specifications will indicate what type of regulation is needed and by how much change in pounds per square inch (psi).

Irrigation sensors: When using automatic rain shut off devices, it is important to ensure that the sensor is properly situated on the site. Make sure the sensor is not blocked by overhanging bushes, trees or building overhangs and canopies.

Backflow prevention:

A backflow prevention device is required on all irrigation systems to prevent contaminated water from entering the supply line from backpressure or back siphonage. State and local plumbing and building codes specify the type of backflow prevention required. The type of backflow prevention may vary according to the site, but all irrigation is considered a high hazard application and some types of backflow devices are restricted.

Flow sensing (MWELo requirement for landscapes >5000 sq. ft.):

Flow sensing and flow measuring are irrigation techniques that are becoming more commonplace due to the usefulness of their applications in large irrigation systems. Flow sensors monitor the flow through an irrigation system and can alert a user to low or high flow conditions. The conditions may be caused by stuck valves, leaks or failures. At a minimum, flow sensing will save water, but the greatest advantages are realized for large system failures that can cause flooding, damages to buildings and safety hazards. Irrigation equipment manufacturers will provide guidance on siting and other specifications.

For DCA leased facilities greater than 500 square feet, DCA will continue to work with lessors to employ drought saving measures in accordance with California Green Building standards where economically feasible. However, several of DCA's sites currently employ the type of hardware required in Table 4.13. HQ1, HQ2, BAR HQ and both Del Paso sites already utilize Rainbird and other weather monitoring hardware which limit irrigation use in rainy weather. While the immediate responses for Table 4.13 indicate no upcoming projects, hardware is already up to date and being maintained at several DCA sites.

Table 4.13: Summary of Irrigation Hardware Inventory (Data is omitted due to location confidentiality)

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

Far from being just an aesthetic or ornamental feature, landscaping plays a critical role around public buildings and facilities. From providing safety and security, to reducing local heat islands, suppressing dust, reducing water runoff, maintaining soil health, aiding in water filtration and nutrient recycling, landscaping around public buildings is essential. Further, landscaping in public places frequently surrounds historic places and public memorials as well as provides pleasant public gathering spaces. The health and proper maintenance of these landscapes is vital to the physical wellbeing of California's people as well as to its social, cultural, political and historical life.

Additionally, the many vital ecosystem functions carried out by living public landscaping are critical in helping California meet its goals for greenhouse gas reduction, climate adaptation, and water and energy efficiency and water conservation.

Urban forests are vital to improve site conditions for occupants and visitors to buildings and the surrounding community. Large shade trees should be considered valuable infrastructure and given priority over other plants to maintain tree health. A voluntary urban forest plan is encouraged to assess individual trees and plan for additional tree plantings.

Table 4.14 identifies the landscape features to be inventoried.

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.)
not available	25,000	0	0	125,000

Living Landscape BMPs

Large landscape Water Use

Large landscape water use often represents a significant percentage of a facility's water use and significant water savings can often be achieved through better irrigation scheduling or inexpensive improvements in irrigation hardware.

As part of the Water Use Guidelines and Criteria, the water uses for landscape areas over 20,000 sq. ft. shall be tracked through a water budget program.

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. The water budget establishes an efficient standard for the landscape area. The water budget programs use local weather measurements to adjust the irrigation schedule on a weekly, biweekly or monthly basis. A dedicated landscape meter or an irrigation sub-meter is required to track the actual landscape water use. The actual water use is entered the water budget program and the program compares the water use to an efficiency standard. A landscape water use tracking program will help improve irrigation scheduling and will also help detect irrigation system leaks. Landscape water budget management services in California are available by landscape associations and private vendors.

By reading the water meter and entering water use data into the program database, the landscape water manager can monitor water use and make immediate decisions regarding the irrigation schedule to maintain the landscape at or below the water budget. A landscape water audit and needed repairs to the irrigation system are advised at initiation of the Program to obtain optimum results. Costs for the program are the responsibility of the agency.

Water use data from the local water provider or data entered by the landscape manager and landscape water budget calculated specific to each landscape based on local climate and plant water needs is used for landscape water management. Data from dedicated landscape meters or in the case of facilities with mixed use meters, a landscape sub-meter can provide the necessary data.

Water use baselines and targets do not have to be established separately for large landscapes. The large landscape water use should be included in the facilities baseline and target water use. If the landscape is served by a utility owned dedicated landscape account meter, the volume of water used should be added to the amount recorded by the utility meter serving the building. If the landscape water is sub-metered after it has gone through the mixed-use utility owned meter, it has already been accounted for in the total facility water use measurement.

The landscaping area for the four buildings which house DCA's greatest concentration of employees — HQ1, HQ2, EVGRN, and BAR HQ — totals approximately 150,000 square feet. However, most of these grounds contain very little turf. As little as 25,000 square feet of this total area is turf. Most of this

lawn area is located at DCA's HQ1 in two small ornamental lawns. Most of the landscaping contains drought tolerant plants or trees with sparse undergrowth and elements contained within the parking lots have been replaced with either dirt or decomposed granite which require no watering. BAR HQ's landscaping is approximately 30,000 square feet and was designed to act as Xeriscaping.

Table 4.15: Summary of Large Landscape Inventory and Water Budget

Number of Facility Sites/Locations with > 20,000 sq. ft. of Landscaping	Total Landscape Area all Facilities	Total Water Budget all Facilities	Total EPA WaterSense or Irrigation Association Certified Staff
Not available	115,983	n/a	n/a

Table 4.16: Summary of Completed Living Landscaping Water Efficiency Projects
(Data is omitted due to location confidentiality)

Total of all Facilities	Est Annual Water Savings (Gallons)	Est Annual Cost (\$) Savings	Sum of MWELC Landscape installed (Sq. Ft.)	Sum of Climate Appropriate Landscape Installed (Sq. Ft.)
n/a	n/a	n/a	n/a	n/a

Currently, DCA does not feature any Living Landscaping Water Efficiency Projects at any of its sites.

Monitoring, Reporting and Compliance

Each state agency is responsible for monitoring water use and reporting baseline and annual water use for compliance with the water use reduction targets. Water use shall be measured at facilities that have meters and submeters.

Water use must be estimated at state facilities that do not have water meters. If not cost prohibitive, state agencies should prioritize water meter installations to obtain accurate measurement of water use. Baseline water use can be estimated based on water use ratings of fixtures and appliances at the site, the duration per use, amount of usage, and the number of occupants. The California Green Building Standards Code provides a baseline water use calculation table that will aid state agencies in developing their water use estimates. Water use reductions can be estimated by comparing flow rates of replacement fixtures with old fixtures. For example, there will be a water use

reduction of 3.72 gallons per flush (gpf) by replacing a 5-gpf toilet with a 1.28-gpf toilet. All estimates and assumptions of water use should be well documented.

Out of the 90 locations DCA occupies, it only pays for water at three locations, making it difficult to accurately collect and analyze/access water consumption data for the other buildings DCA leases. Additionally, much of DCA's leased office space is in multi-tenant buildings where the water services are shared and there are no sub-meters. DCA continues to work with its lessors to obtain access to its water consumption data at DCA fully occupied buildings. In 2018, DCA added requesting submeters for water usage and replacement of restroom fixtures and water efficient irrigation to its Sustainability Checklist. During new lease negotiations and lease renewals, these items are requested of lessors. DCA continues to pursue compliance with the California Green Building Standards in all buildings it occupies.

CHAPTER 5 - GREEN OPERATIONS

Greenhouse Gas (GHG) Emissions

State agencies are directed to take actions to reduce entity-wide greenhouse gas emissions by at least 10% by 2015 and 20% by 2020, as measured against a 2010 baseline.

In 2020, DCA exceeded its goals of an overall reduction in greenhouse gas (GHG) emissions by 20% when measured against its 2010 baseline figures. While the figures in Table 5.1 exhibit a 44% decrease in GHG generated by DCA - more than twice the required reductions - the rate of decrease and the overall trends towards reduction in emissions illustrate the greatest advance in DCA's sustainability efforts.

2020 is a year marked by a global pandemic and like most agencies, DCA's workforce predominantly worked remotely during this time. It is estimated that as of April 2020, nearly 75% of DCA's daily workforce was not physically in the office. Accordingly, this resulted in significant decreases in DCA's measurable sustainable metrics. Water and energy consumption decreased sharply, as did the amount of waste generated. On-the-job driving as well as commuting to and from the office also decreased significantly. It's easy to attribute these temporary workplace changes with DCA's reduction in Scopes 1, 2, and 3 emissions. And while these changes ultimately aided DCA in crossing the finish line of its emissions goals, it was all the operational changes leading up to the pandemic which delivered the most lasting impact in helping DCA reduce its GHG.

Prior to 2020, DCA was trending toward achieving its GHG emissions goals. As of 2019, DCA had already exceeded the reduction goal for Purchased Electricity. The 2010 baseline for this category was 4,605 metric tons worth of emissions. By 2019, that figure decreased to 3,621 metric tons — a full 21% reduction. DCA last exceeded 5,000 metric tons in this category in 2015 and since then has been experiencing an average of an 8.25% reduction annually. Trends indicate that even if the pandemic reductions had not occurred, DCA was on track to have reduced its GHG emissions from Purchased Electricity in 2020 by approximately 28% against the baseline year.

Similarly, DCA's GHG emissions in the Vehicles category had also been on a trajectory of reduction. Since peaking at 2,594 metric tons in 2011, vehicle emissions from DCA's fleet were reducing at an average rate of 2.5% per year.

2019 figures in this category already indicated a 17% reduction. Had these trends continued, even without the pandemic, it is estimated that DCA would have generated an approximate 2,501 metric tons in 2020. This would have been a statistical 20% reduction from its 2010 baseline figures. This means DCA was on track to also meet its GHG emissions goals for the Vehicles category. DCA's commitment to transitioning its fleet to green vehicles, especially to fully-electric vehicles, is to be credited for this significant decrease in GHG emissions.

While emissions for the categories of Vehicles and Purchased Electricity have both decreased, DCA has consistently created more GHG emissions than it did originally in its baseline. In 2010, DCA emitted a total of 153 metric tons of GHG from Natural Gas; in 2020 this figure rose to 355 metric tons. Like its Purchased Electricity emissions, DCA's Natural Gas emissions also peaked in 2013 at 549 metric tons. This marked a 259% increase above the baseline amount of emissions for this category. However, this category has witnessed a general reduction since 2013. Since then, natural gas has seen an overall average of a 4% decrease from each previous year. The pandemic reduced the amount of emissions in 2020 to 355 and from 391 in 2019, but if the 4% rate of decrease had continued, it is estimated DCA would have emitted around 378 metric tons. With the pandemic, DCA emitted 132% more metric tons of GHG above the baseline. Without the impacts of the pandemic, DCA was on track to have produced approximately 378 metric tons which would have been 147% above the baseline level.

While the amount of emissions from natural gas have risen since the baseline year of 2010, they are still decreasing from their highest point. With the pandemic, DCA recorded 4,058 metric tons of GHG emission in 2020, a decrease of 44% below the state mandated goal of 20% reductions by that year. However, because of DCA's overall trending reductions in its emissions output, if current projections had maintained through 2020 without any pandemic considerations, DCA was on pace to generate only around 5,751 metric tons in 2020. This is significant for a few reasons. DCA experienced an approximate 42% of reductions beneath the 2010 baseline while an approximate 75% of its workforce was working remotely. However, if current trends in reduction of DCA's GHG emissions had maintained and if the pandemic had not been a consideration, DCA still would have achieved an estimated 21% reduction even with its workforce at 100%. While DCA exceeded the 2020 reduction goal of 20% with the pandemic considerations in place, it is estimated that it still would have exceeded this same goal with current operational practices in place.

DCA continues to pursue a reduction of greenhouse gas emissions as measured against the 2010 baseline. DCA is currently taking steps in the following areas to reduce its greenhouse gas emissions:

- Energy Efficiency

DCA has implemented Energy Efficiency Policy (BSO 16-01). The intent of the policy is to help DCA reach a 20% reduction in greenhouse gas emissions. The policy requires the reduction of plug load, purchase of energy efficient ENERGY STAR® rated equipment, and other energy saving actions outlined in the Standard Operating Efficiency Procedures. DCA is also working to establish LEED certification for its leased facilities.

- On-Site Renewable Energy

DCA continues to prioritize the possibility of on-site renewable energy projects when leasing at new sites or encouraging current lessors to pursue this option when renewing leases.

- Purchased Renewable Energy

DCA will investigate opportunities to participate in SMUD's Commercial Greenergy Program at its leased facilities. This program offers an affordable way to begin demonstrating compliance with renewable energy goals and initiatives. DCA will investigate other such opportunities with PG&E and other utilities as well when applicable.

- Fuel Efficient Vehicles

DCA is committed to replacing vehicles that no longer meet the needs of DCA with new fuel-efficient vehicles. Previously, locking trunks, mileage, and suitable charging stations were all concerns when purchasing electric or plug-in hybrids. Many of those concerns have been addressed with the current inventory available on the statewide fleet contract. The average MPG of DCA's gas/electric hybrids and plugin electric/gas vehicles is 43.4 miles — a 98.1% increase in gas efficiency over the traditional combustion vehicles in the fleet. In 2020, the combined total amount of diesel and gasoline purchased was 137,120 gallons. This is a reduction of just over 46% from the same figure in the previous report.

- Zero Emission Vehicles

As new ZEV makes and models become available through the statewide contract, the DCA Fleet Management Coordinator informs boards/bureaus of

the new inventory that is available to support the needs and functions desired for their duties. DCA remains committed to continue purchasing as many fuel-efficient and ZEVs as possible. Nearly 45% of DCA's 388 green fleet vehicles are fully electric or powered by hydrogen fuel cells and don't use traditional gas at all. DCA has 159 completely electric vehicles—some with ranges of over 100 miles per charge and has also added 16 hydrogen-powered fuel cell vehicles with ranges of 300 miles per tank.

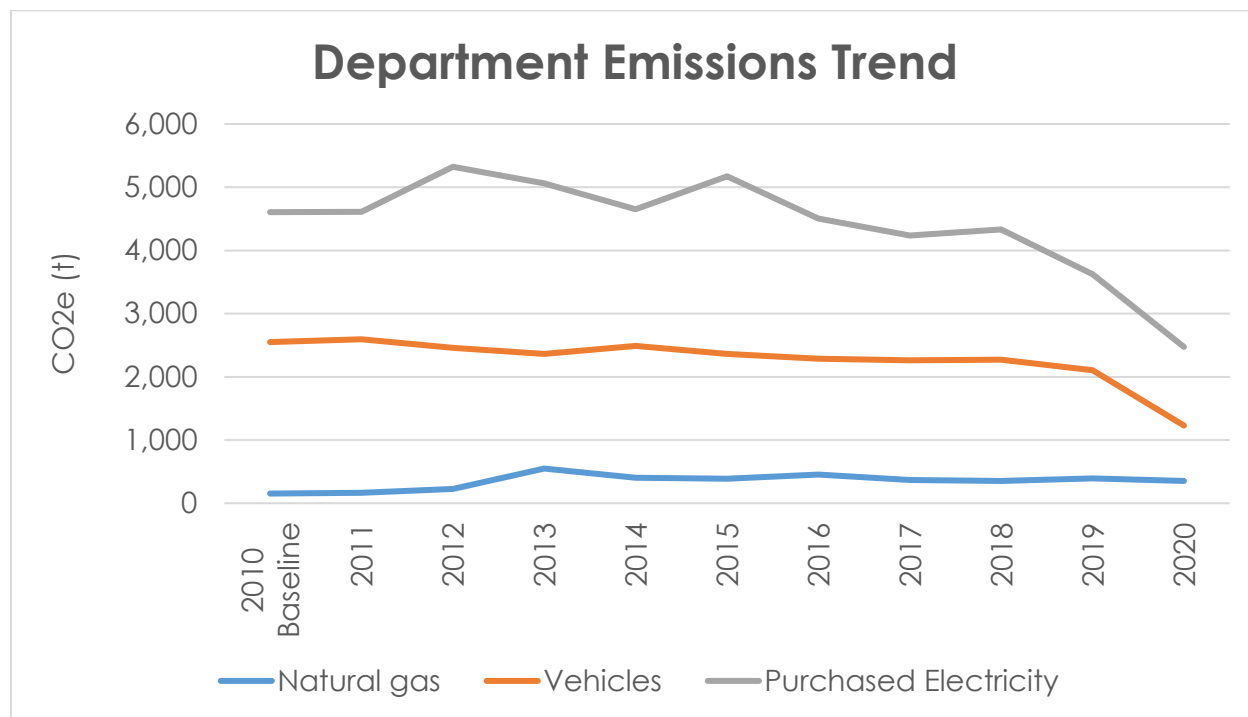
- Biofuels

DCA continues to investigate and pursue economically feasible opportunities to establish ZNE at existing and new facilities. DCA does not purchase any biofuels.

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	153	165	224	549	404	390	453	366	355	394	355	132%
Vehicles	2,549	2,594	2,461	2,364	2,487	2,361	2,286	2,260	2,272	2,104	1,230	-52%
Purchased Electricity	4,605	4,609	5,323	5,063	4,649	5,173	4,503	4,235	4,331	3,621	2,473	-46%
Total	7,307	7,368	8,008	7,976	7,540	7,924	7,242	6,861	6,958	6,119	4,058	-44%

Graph 5.1: GHG Emissions since 2010



Low Emitting Landscaping Equipment

State agencies are to use manual landscape and hardscape maintenance as much as possible to reduce air pollution, dust and noise. These measures are addressed in SAM Section 1821.6.

The majority of DCA occupied space is leased, resulting in lessors administering landscape maintenance. DCA encourages lessors to contract with landscapers that use manual and/or battery powered equipment. This has also been added to the DCA's Sustainability Checklist that is utilized for new leases and lease renewals.

Currently, the lessors of three of DCA's most populated buildings contract with the same vendor to maintain the grounds at its Sacramento office sites at 1625 N. Market Blvd. (HQ1), 1747 N. Market Blvd. (HQ2), and 2420/2450 Del Paso Road. Communications from this contractor have indicated that its personnel only use low-emission power equipment and upgrade to more efficient power equipment as soon as it becomes available. Currently, they primarily use battery-powered equipment, though not exclusively and use combustion engine equipment on Spare-the-Air Days as sparingly as possible. With the advent of California Assembly Bill 1346, DCA will be making inquiries about how

this and other landscaping vendors contracted at DCA buildings will be phasing out the use of Small Off-Road Engines (SOREs).

Building Design and Construction

EO B-18-12 requires that all new buildings, major renovation projects and build-to-suit leases over 10,000 square feet shall obtain LEED Silver certification or higher. All new buildings under 10,000 square feet shall meet applicable CalGreen Tier 1 Measures. New buildings and major renovations greater than 5,000 square feet are also required to be commissioned after construction.

DCA continues to encourage lessors and property management to obtain Silver or above LEED Certification and follow the California Green Building Standards, Title 24, Part 11. This request has also been added to DCA's Sustainability Checklist utilized during lease renewals and new leases.

The buildings included in Table 5.2 are all DCA locations where the building size or the project square footage in question exceeds 5,000 sq. ft. The majority of these buildings are also lease renewals, which demonstrates DCA's resolve to continue to work with lessors to create more sustainable buildings even at locations it already inhabits. Four of the buildings have been certified LEED Existing Building with a ranking of Silver and 12750 Center Court Drive South location in Cerritos has achieved Gold level ranking in the same category. Three of these locations have been certified LEED Commercial Interiors with a ranking of Silver. These buildings all saw significant renovations occur in a project area within their walls. The building at 1625 N. Market Blvd., otherwise referred to as HQ1, saw significant renovations occur to portions of its first-floor lighting and restroom fixtures. These improvements include changing out all the lights in the Facilities Management and Mailroom suites for more energy efficient LED fixtures. Additionally, some fixtures in the 1st floor restrooms were converted to low-flow infrared devices and sinks were fitted with aerators to help with water conservation. A shower was also made more water efficient and wheelchair accessibility paddles were installed to ensure equitable opportunity to utilize these more sustainable options.

DCA has one built-to-suit leased building and it has been certified LEED Building Design and Construction with a stellar ranking of Gold. Located at 10949 North Mather Blvd. in Rancho Cordova CA, this building serves as the Bureau of Automotive Repair's headquarters and boasts some of the most sustainable innovations of any DCA site. The building uses sustainable building products including stones and is surrounded by all water efficient landscaping. The restrooms also all contain water efficient and low flow fixtures and the building's

operations utilize Energy Star devices and appliances also earning it Energy Star certification as well. It also has dozens of electric vehicle chargers located at this site—a fitting attribute for a building for an organization looking to lead in excellence in automobile repair.

LEED certification for the 3750 Rosin Ct. property in Sacramento was suggested to the owner of the property at the time of renovation. The owner of the property found it unfeasible to finance an application for LEED certification at the time of the renovation.

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

Facility Name	LEED Certification Type & Level Achieved	Commissioning Performed (Y/N)
12750 Center Court Drive South	LEED EB 2009 Gold	Y
1855 Gateway Blvd.	LEED EB 2009 Silver	Y
1625 N. Market Blvd.	LEED CI 2009 Silver	Y
1747 N. Market Blvd.	LEED CI 2009 Silver	Y
2420 Del Paso Road	LEED EB 2009 Silver	Y
2450 Venture Oaks Way	LEED CI 2009 Silver	Y
2535 Capitol Oaks Drive	LEED EB 2009 Silver	Y
2720 Gateway Oaks Drive	LEED EB 2009 Silver	Y
10949 North Mather Blvd.	LEED BD+C Gold	Y
2005 Evergreen, Suite 2600	none	no
10190 Systems Parkway, Suites 100,110	none	no
3075 Prospect Park Drive, Suite 190	none	no
3750 Rosin Ct., Suite 100	none	no

State agencies shall implement mandatory measures and relevant and feasible voluntary measures of the California Green Building Standards Code (CALGreen), Part 11, related to indoor environmental quality (IEQ) that are in effect at the time of new construction or alteration and shall use adhesives, sealants, caulks, paints, coatings, and aerosol paints and coatings that meet the volatile organic chemical (VOC) content limits specified in CALGreen.

When DGS' RESD submits bid specifications for alterations for DCA they request products that meet the voluntary measures in the California Green Building Standards Code, Part 11. DGS ensures specifications are met by requesting Material Safety Data Sheets from contractors/vendors.

LEED for Existing Buildings Operations and Maintenance

All State buildings over 50,000 square feet were required to complete LEED-EBOM certification by December 31, 2015 and meet an Energy Star rating of 75 to the maximum extent cost effective.

DCA does not currently own buildings in excess of 50,000 sq. ft., nor does it lease from any state-owned buildings of that size. However, it does lease space in five privately owned buildings in which DCA's space is in excess of 50,000 sq. ft. These five buildings are identified as 1625 N. Market Blvd. (HQ1); 1747 N. Market Blvd. (HQ2); 9821 Business Park Drive; 2005 Evergreen; and 10949 North Mather (BAR HQ). DCA spaces in these buildings range from 56,090 sq. ft. to 187,944 sq. ft. Only one of these buildings—2005 Evergreen—currently has no LEED certification. Of the remaining four, two have LEED CI certifications, one is certified LEED BD+C, and one is LEED Existing Building, Operations and Maintenance (EBOM). While only 20% of DCA's site locations in excess of 50,000 sq. ft. are qualified as LEED EBOM, 80% of these buildings have LEED certifications which qualify their sustainability. While only the 9821 Business Park Drive site is certified LEED EBOM, DCA's current leasing and lease renewal practices prescribe communications with lessors to encourage the pursuit of LEED EBOM and other LEED certifications.

It is also worth noting that DCA leases space in several other buildings with LEED EB certifications in which DCA leased space is less than 50,000 sq. ft. These sites include 1855 Gateway Blvd; 2420 Del Paso Road; 2535 Capitol Oaks Drive; and 2720 Gateway Oaks Drive.

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
5	1	40%

Indoor Environmental Quality

When accomplishing Alterations, Modifications, and Maintenance Repairs and when relevant and feasible, state agencies shall implement the mandatory and voluntary measures of the California Green Building Standards Code (CALGreen), Part 11, related to indoor environmental quality.

Indoor Environmental Quality must also be maintained through the use of low emitting furnishings, cleaning products and cleaning procedures.

New Construction and Renovation

Even during renovations, DCA continues to place great importance in the health of employees and members of the public who visit DCA facilities. DCA FMU/Sustainability continues to work closely with property owners, management and contractors to ensure all CalGreen voluntary and/or mandatory measures are addressed in all DCA occupied space per internal procedures. Some of the methods DCA ensures safety and acts sustainably during renovations is by using the following:

- Adhesives, sealants, caulks, paints, coatings, and aerosol paints and coatings that meet the volatile organic chemical (VOC) content limits specified in CALGreen
- Carpet systems, carpet cushions, composite wood products, resilient (e.g., vinyl) flooring systems, and thermal insulation, acoustical ceilings and wall panels that meet the VOC emission limits specified in CALGreen

FMU/Sustainability always requests low or no VOC in construction materials, and temporary off-site storage to allow for any off gassing of carpet and VOC. These measures have also been added to the Sustainability Checklist to ensure they are requested during lease renewals and new lease negotiations.

DCA remains committed to reducing air contaminants that are odorous, irritating and/or harmful to the health, comfort and well-being of DCA employees by following their internal procedures to work with property owners to ensure all voluntary and/or mandatory CalGreen requirements are met during new construction. DCA is also dedicated in working with owners and property managers to ensure air filters, air circulation and night flushes within existing locations meet California Green Building Code Standards. Further, DCA's responsibility has been to contract with third party air quality vendors on several occasions to ensure air quality is within California Occupational Safety and Health Administration (Cal/OSHA) parameters and safe for occupancy.

DCA maximizes daylight by use of low modular system furniture panels on all window walls, door sidelights on offices, motion sensors for lighting and the installation of modular furniture task lighting. DCA has incorporated LED lighting with auto daylight dimming, daylight filtering window shades, motion sensor task lighting and lighter colors to utilize reflective surfaces in new construction and alterations.

Furnishings

All furniture DCA purchases is compliant with the DGS' Purchasing Standard and Specifications (Technical Environmental Bid Specification 1-09-71-52, Section 4.7). DCA purchases the majority of its furniture from CALPIA, or from a statewide contract that meets the standard specifications.

Cleaning Products

DCA requests that all cleaning products purchased meet the Green Seal (GS) Standard GS-37 when negotiating new lease agreements or new janitorial contracts where janitorial services are not a part of the lease, and in its owned facility in order to ensure compliance.

In addition, DCA's Business Services Office implemented Departmental Policy BSO (18-02) in December 2018, requiring that all cleaning products that are used must meet the GS Standard GS-37 whenever practical and economically feasible.

Cleaning Procedures

During new leases and lease renewals, DCA has implemented requesting use of the Carpet and Rug Institute's (CRI) approved guidelines, and Green Seal approved cleaning products in the Sustainability Checklist to ensure compliance. DCA continues to update procedures for contacting owners and property management to ensure compliance along with implementing contract verbiage on all future janitorial contracted services.

HVAC Operation

DCA continues to add and improve follow-up procedures for contacting private property owners or DGS building management to ensure HVAC compliance within DCA leased or state-owned facilities. DCA continues to work with property owners and managers to ensure HVAC contracted services for DCA's leased sites include:

- California Code of Regulations Title 24, part 11 compliance.
- Minimum outdoor air requirements.
- Written documentation of all HVAC, part inspections and maintenance.
- Verification of outdoor airflows using hand-held airflow measuring instruments.
- Air filters are cleaned and replaced based on manufacturer's specified intervals.

- Air filters used have a MERV rating of no less than 11.
- Verification that all outdoor dampers, actuators, and linkages operate properly.
- Checking conditions of all accessible heat exchanger surfaces for fouling and microbial growth, with action taken when fouling is found.
- Checking the first 20 feet of ductwork downstream of cooling coils for microbial growth, and action taken if growth is found.
- Ensuring that cooling towers are properly maintained and that records of chemical treatment are kept. Retrofit to prevent cooling tower plumes closer than 25 feet to any building air intake.
- A computer-based preventative maintenance program is in place for all HVAC equipment.
- Buildings are purged with outdoor air sufficient for three complete air changes or the minimum ventilation rate allowed in Section 120.1(c)2 of Title 24 for 1 hour before occupancy.

Integrated Pest Management

DCA staff and contracted pest management companies will follow an integrated pest management (IPM) strategy that focuses on long-term prevention of pest problems through monitoring for pest presence, improving sanitation, and using physical barriers and other nonchemical practices. If nonchemical practices are ineffective, [Tier 3 pesticides](#) may be used, progressing to Tier 2 and then Tier 1 if necessary.

The department internal communications and guidance on Integrated Pest Control is done through BSO sending out communications to DCA's Facilities liaisons ensuring they contract with a pest control company that follows IPM practices in all facilities.

Should a leased building not come with pest control services, DCA will make sure to incorporate language in all new pest control contracts which provide services and specifications to meet the IPM strategies, implementation of appropriate control measures to provide effective long-term pest control while minimizing the use of pesticides.

DCA also recognizes the importance in communicating with lessors who contract with landscapers at DCA locations to ensure that said landscapers will practice safe and sustainable measures with outdoor pest management as well. This is important in ensuring that DCA employees, visitors walking the grounds of

these buildings, and even the landscaper operating these measures will traverse the local grounds with minimized exposure to harmful pesticides or herbicides.

The currently contracted landscaping agent for three of DCA's most populated sites practices the following in their maintenance of these DCA sites:

- Use organic pest controls as much as possible.
- Use only biodegradable fertilizers, pest controls and weed controls – safer for people, plants and animals.
- Use pest-resistant plants – reduces the need for chemical pest controls.
- Hand and mechanical weeding usage wherever possible – reduces the need for herbicides.

Table 5.4: Pest Control Contracts

Pest Control Contractor	IPM Specified (Y/N)
Advanced Integrated Pest Management (AIPM).	Y

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.

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.

The DCA Waste and Recycling Program is established through DCA's Waste Reduction and Recycled Content Policy (BSO 14-01). The program is administered by the DCA Sustainability Coordinator ensuring that all waste diversion and recycle mandates are met at all DCA locations statewide. This is executed in part by the DCA Sustainability Coordinator working with Recycling liaisons at each location, coordinating the collection of recyclables. The

coordinator also works with a number of other representatives from Property and Asset Management, Fleet, Contracts, and the individual boards and bureaus — all of whom represent DCA statewide — to capture data on specialized waste from DCA facilities to include electronic waste, unused furniture and equipment, waste generated by fleet maintenance, and waste items hauled away by multiple contracted agents.

The Sustainability Coordinator collaborates with others to maintain diversion efforts at the Sacramento area facilities specifically. While DCA and its boards and bureaus maintain offices statewide, the majority of its workforce is in the Sacramento area, much of it is concentrated into just five buildings comprised almost exclusively of DCA offices and personnel. Because of this, these five buildings are primarily used to exhibit DCA's waste output and, conversely, its comprehensive waste diversion programs.

DCA offices include recycle and other waste diversion receptacles including deskside bins and common areas in both offices and hallways such as lobbies and near copy machines. At its Headquarters 1 (HQ1) and Headquarters 2 (HQ2) facilities—the two sites where the majority of DCA employees have their offices — DCA also features commingled bins to collect recyclables like paper, plastic, glass, tin/aluminum, cardboard, and newspaper. There are also specialized bins for battery recycling and services to collect used toner and ink cartridges for recycling. The onsite café has bins to collect both pre- and post-consumer organic waste and organic waste collection bins are also placed in the 1st floor lobby area.

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

Per Capita Baseline	2019	2020	Total Waste 2019	Total Waste 2020	% Change from 2019/2020
2,538	3,207	3,172	18.96 tons	44.91 tons	+ 137%

Despite DCA's workforce population decreasing from 3,207 in 2019 to 3,172 in 2020, there was a 137% increase in waste reported during that same timeframe. This is due to a change in the way DCA calculated its 2020 State Agency Reporting Center (SARC) report figures. While this change in calculation has

resulted in increased disposal tonnages reported, DCA has concluded that these newer calculations more accurately reflect a truer disposal rate, thus allowing the opportunity to better understand how to reduce said rate in the future. These calculations and their changes, in their entirety, are explained below.

DCA's boards and bureaus typically lease space in commercial office buildings with communal waste hauling. These offices are located throughout the state and, in most cases, comprise a small percentage of the building's overall occupancy. Because only building-wide waste totals are available, including the waste from those buildings would not be indicative of waste produced by DCA, nor its boards and bureaus. After consulting with CalRecycle representatives, it was agreed to calculate the waste from the five buildings in which the highest amount of DCA personnel are located. These buildings are: HQ1, HQ2, Bureau of Automotive Repair Headquarters (BAR HQ), Contractors State License Board (CSLB), and Bureau of Household Goods and Services (BHGS). The majority of DCA's personnel operates in the five buildings and they are also almost entirely populated by DCA offices; thus, these building-wide waste totals are accurate indicators of DCA's annual waste totals.

In 2020, much of DCA's workforce was teleworking due to the pandemic; with fewer people in the office, less waste was generated. The figures indicate typical in-office operations from January through March of that year. After March, 75% of the workforce began teleworking with only 25% of that population working in the office at any time from April through December. Each of the previously indicated five sites has a pre-pandemic and a teleworking total figured. Those two weights are totaled to indicate the estimate of the entire site weight for the year 2020.

None of the sites receive actual weight totals. Data is estimated from actual bin sizes and frequency of service calculated with the estimated weights. Utilizing the 2016 conversion sheet from United States Environmental Protection Agency (USEPA), it is estimated in DCA's formulas that each cubic yard of dry municipal solid waste (MSW) weighs 65 lbs. The larger DCA offices separate the organic waste from the office waste, thus justifying a dry weight total. It is estimated that the volume of the bin, when serviced, is typically 80% capacity. During the teleworking period, these 80% volumes were then further reduced by 75% to indicate the work populace teleworking. It is recognized that a month is 4.33 weeks long.

The formula for calculating a building's waste totals were as follows: [estimated weight per cubic yard] x [Estimated 80% volume of the bin at time of service

(reduced another 75% after teleworking began)] x [#of bins onsite] x [weekly service frequency of each bin on site] x [3 of weeks in a month] x [3 of months (3 for pre-pandemic, January thru March; 9 for teleworking period, April thru December)] / 2000 (number of lbs. in a ton).

Example: pre-pandemic HQ1

$65 \times 4.8 \times 2 \times 3 \times 4.33 \times 3 / 2000 = 12.16$ tons annually

The 2019 SARC report made these calculations for all five of the buildings in question, and then also calculated an average of the five. It is this average that is reported as the 2019 total of 18.96 tons. The 2020 calculations did not report the average of the five buildings, but rather the total of the tons combined. The total, it was decided, more accurately reflected DCA's actual waste totals while the average was more indicative of just one building's totals. Thus, in understanding that the 2019 reported figure was an average of five buildings, it may be calculated that the total for the five buildings was closer to 94.8 tons. This would indicate a 53% reduction in waste tonnages from 2019 to 2020. However, this decrease may be in part attributed to the estimated 75% reduction in waste generated because of teleworking due to the pandemic.

To obtain the fullest understanding of how DCA would have performed in its waste reduction rates in 2020 as compared with 2019, DCA has estimated what the annual waste totals would have been without reductions due to the pandemic. By multiplying the 2020 tonnage total by 1.75, the resulting figure should account for the reduction of 75%. This calculates to a 2020 total of 78.59 tons. When compared to the more accurate 2019 figure of 94.8 tons, this results in a difference of approximately 16.21 fewer tons in 2020, or a reduction of 17%. It can be estimated that even if the pandemic had not occurred and had no impact in reducing the on-site waste produced at DCA's 5 most populated buildings—where the overwhelming majority of DCA's 3,172 employees have their offices and work—DCA still would have trended in a positive direction and would have reduced its waste by 17%. However, with the pandemic and all its implications on DCA's waste generation, DCA reduced its waste by 53%.

According to the 2020 SARC report, DCA must reach a per capita disposal rate of 0.4 lbs. or fewer per day. With pandemic figures in place, DCA calculates its per capita disposal rate at 252 working days annually to be 0.11 lbs. This figure indicates that DCA has met its per capita disposal rate. It is also worth noting that when performing this calculation using the projected waste numbers if the pandemic had not occurred, DCA still would have met this goal with an estimated per capita rate of 0.2 lbs. per workday.

DCA continues to advance the DCA Waste and Recycle Program by providing receptacles, signage, education, and recycling services. A significant challenge presented to DCA is collecting waste generated data from lessors. Due to most of DCA's occupied space being leased, it is difficult to accurately measure all waste that is disposed at every facility. In addition, many leased facilities are not occupied solely by DCA. DCA does its best to calculate waste generation totals based on the data that is provided by lessors. DCA continues to work with lessors to find more precise measures to track DCA's waste generation. In the upcoming year, DCA will contact waste haulers for a waste allocation.

Recycling

Recycling is the practice of collecting and diverting materials from the waste stream for remanufacturing into new products, such as recycled-content paper. Stewardship programs help collect and recycle carpet, paint, pharmaceutical and sharps, and mattresses. [AB 341](#), Mandatory Commercial Recycling (Chesbro, Chapter 476, Statutes of 2011) requires businesses and public entities that generate four cubic yards or more of commercial solid waste per week to arrange for recycling services under the goal of source reducing, recycling or composting 75% of solid waste generated statewide.

DCA pursues reduction goals through its recycling program implemented at each occupied facility. Through collaboration with recycling liaisons at each facility, the DCA Sustainability Coordinator provides support by ensuring that facilities are adequately supplied with receptacles and signage to support recycling efforts. If recycling receptacles cannot be reused or are in bad condition, new receptacles are purchased to meet standards. The DCA Recycling Coordinator will also write more articles for the monthly all employee newsletter *Did You Know?*, on the importance and benefits of recycling and each employee doing their part.

In addition, DCA currently contracts with local recyclers/haulers to ensure recyclable materials are collected and properly processed. Each board, bureau or program is responsible for executing and maintaining their own recycling contract. Recycling pick up schedules are sent out to all DCA staff at the beginning of each year informing them of the pick-up schedule for the year. Additionally, the Sustainability coordinator emails recycling liaisons and other key personnel to announce monthly (semi-monthly at HQ1) services as a reminder to recycle.

As with waste, DCA does not receive weight tickets or totals from vendors regarding its waste diversion streams and must work from estimated weights.

Several factors influence these estimations including type of material, estimated weight of said material, the amount of materials at the time of service, and the frequency of said services. When possible, DCA works with its vendors to gain more accurate figures on any of those factors. However, DCA's figures are based on estimations rather than from actual data.

DCA has developed several General Waste diversion streams in which the materials are recycled. These include, but are not limited to:

- Confidential Document Shred: Because each board and bureau contracts their own vendor for this process, there is no automatic internal notification of the weights for this service. The Sustainability Coordinator solicits recycling information from office liaisons from all boards and bureaus to determine the approximate numbers for this service. Estimations indicate that in the 2020 calendar year, DCA recycled at least 29.37 tons of confidential materials.
- Mixed Recycling: a contracted vendor collects mixed recycling from 16 Sacramento area buildings which house DCA offices. These mixed recycling materials can consist of white paper, mixed paper, newspaper, magazine, old corrugated cardboard, books, and California Redemptive Value (CRV) materials (aluminum cans, plastic containers, and glass bottles). In 2020 40.82 tons of materials for recycling were collected from these sites. This total alone nearly matches DCA's total waste output during the same period.

Organic Recycling

State agencies must implement [AB 1826 \(Chesbro, Chapter 727, Statutes of 2014\)](#). State agencies that generate 2 cubic yards or more of commercial solid waste (total trash, recyclables, and organics) per week shall arrange for organic waste recycling services.

Organic waste includes:

- Food waste
- Green waste
- Landscape and pruning waste
- Nonhazardous wood waste
- Food-soiled paper

The exemption under 42649.82 (e)(3)(E) related to businesses that generate one cubic yard or less of organic waste is no longer in effect. Furthermore,

CalRecycle has extended the current AB 1826 rural exemption until December 31, 2026.

Effective January 1, 2022, state agencies must implement SB 1383 ([Lara, Chapter 395, Statutes of 2016](#)). State agencies are currently required to maintain mandatory commercial recycling and organic recycling programs, including ensuring that properly labeled recycling containers are available to collect bottles, cans, paper, cardboard, food waste, and other recyclable materials. SB 1383 builds upon these efforts by identifying non-local entities and expanding the definition of organic waste to include food scraps, landscape and pruning waste, organic textiles and carpets, lumber, wood, manure, biosolids, digestate, and sludges.

Under SB 1383, non-local entities include:

- Special districts
- Federal facilities
- Prisons
- State park facilities
- Public universities and community colleges
- County fairgrounds
- State agencies

SB 1383 organics collection requirements are effective January 1, 2022. DCA will ensure that its facilities will be in compliance with this new law.

All DCA occupied facilities that meet organic generation thresholds encompass organic recycling programs. DCA has added organic bins at HQ1 and HQ2. At these facilities, organic food waste and food-soiled paper material is collected onsite, dumped in a container, and picked up by a hauler. The DCA Recycling Coordinator works with recycling liaisons at each of its sites to ensure organic food waste and food-soiled waste is being recycled at all sites, even advising on waste hauling contracts to ensure all steps are taken to ensure proper collections. DCA sites HQ1 and HQ2 have had contracted service for food waste hauling since February of 2019. For green waste, landscape, and pruning waste generated at leased facilities, property management contracts with landscaping companies to have the material recycled. Mulch mowers are utilized for mulch, tree branches, trunks, and lawn clippings are placed in a dumpster provided by the company and hauled away. Nonhazardous wood waste is sometimes generated from construction projects on leased facilities. This material is recycled by the general contractor where applicable.

As with other waste streams, organic waste weights have been difficult to collect. Estimates are used to calculate the amount of organics materials being diverted from the landfill. The waste hauler for the HQ1 and HQ2 sites estimate that approximately 1,175 tons in food waste was collected monthly from these sites in the 2020 calendar year. The grounds and landscaping contractor is currently under contract to capture weight totals for buildings where said information is necessary to obtain LEED certification only. The materials are still diverted from the landfill, however. The Sustainability Coordinator will work with the property managers and the contract grounds and landscaping agents to collect these weight totals going forward.

DCA has also begun to divert food waste on-site at its HQ1 location by employing a vermicomposting bin for the pre-consumer food waste generated at its in-house café. The pre-consumer material is collected by café staff and then delivered to the composter by staff from FMU. These FMU staff also generally manage the vermicompost bin as well. This vermicompost bin is slightly less than a cubic yard in capacity but still composts approximately 40 lbs. of pre-consumer food waste per month. The Sustainability Coordinator has promoted this vermicomposting venture at both CalRecycle and CalEPA events. In addition to presenting on the ease of implementation of such a program, He has made available to other agencies the plans for constructing their own bins as well. This method of on-site composting is promoted as a method to reduce both methane and carbon dioxide greenhouse gasses.

Edible Food Recovery Program

Commercial edible food recovery begins January 1, 2024 for Tier 2 generators which most state agencies would fall under. SB 1383 requires that by 2025 California will recover 20% of edible food that would otherwise be sent to landfills, to feed people in need.

As yet, no DCA facilities qualify as a Tier 2 generator. All but one of DCA's facilities are leased and DCA does not host a café or other similar facility at this owned site. Furthermore, current research shows that none of the facilities from which DCA rents space includes a café or eatery which comprises 5,000 or more square feet (including outdoor spaces), nor do any of the eateries contain space for 250 or more chairs. Both would be qualifiers of a Tier 2 generator.

Hazardous Waste Materials

Following the guidelines outlined in DCA's Proper Disposal of Common Batteries Departmental Procedures Memorandum (BSO-19-02), batteries, toner, and ink cartridges from sites located within the Sacramento area can be sent to HQ1 for

disposal through the hazardous waste contract. DCA estimates to have collectively recycled approximately 1,575 lbs. in the 2019 and 2020 calendar years. These numbers account for many of the buildings in the Sacramento area. Each program outside the Sacramento area must enter into their own hazardous waste contract for collection of these hazardous waste products at their sites. The Sustainability Coordinator also aids these external programs in locating facilities which accept and recycle these materials, preferably for free when available.

When leased facilities undergo projects that require construction, the general contractor is responsible for disposing of hazardous materials accrued from the project. In addition, the DCA Property and Asset Management Coordinator schedules and oversees quarterly e-waste events to collect electronic waste, and have it hauled away by the DGS for recycling.

DCA's Sustainability Coordinator will be working with DCA's Fleet Coordinator and program liaisons to collect data on for hazardous materials generated in the maintenance of DCA's fleet, i.e. used motor oil, used tires, and antifreeze. The data collected will indicate the recycled content of these materials.

Material Exchange

DCA reuses office supplies until the items are ineffective. All recyclable items are then surveyed out and sent to a recycler. This process is followed at all of DCA's facility sites. Following DCA's Waste Reduction and Recycled Content Policy (BSO-14-01), DCA's Recycling Coordinator and Property and Asset Management Coordinator work collaboratively with their liaisons located at each facility site to ensure unwanted/surplus materials are reutilized internally when possible.

If items are unable to be reused within DCA, items may be sold on GovDeals, an online auction where the DCA can post surplus items for sale. Since August of 2019, DCA boards and bureaus have diverted keyboards, laptops, cellular phones, desktop computers, and other assorted electronics and office supplies for a total of \$11,445 in profit. If items are in reasonable condition and do not sell on GovDeals nor are needed by another state department, they are donated to local schools, nonprofit organizations, or transferred to state surplus.

When DCA fleet vehicles are assessed to be in operational condition but no longer fit for DCA purposes, said vehicles are sold through GovDeals via the Davis Auctions. In 2019 DCA released 88 vehicles and 25 more in 2020. Based on published curb weights, it is estimated that collectively in 2019 and 2020, DCA

diverted just over 240 tons in materials exchange through vehicles released from its fleet.

One aspect of DCA's waste stream that will need to be addressed going forward is the excess furniture, which cannot be housed or stored with DCA and, since it is usually part of a specific furniture system, it can't be donated either. Though this furniture does not comprise a significant portion of DCA's waste, it is currently taken to the landfill via the Department's contracted movers. Most of the wood and metal from these pieces of furniture are most likely diverted at the site of the landfill, however, DCA will need to confirm this and work on a method to capture these weight totals.

Waste Prevention/Reuse

DCA promotes waste prevention and reuse in-office whenever it is economically feasible. For example, computer applications that save and reduce paper are promoted whenever appropriate (i.e. Outlook calendar, OneNote, etc.); email reminders and newsletter articles are utilized to remind staff to set printer settings to utilize both sides of paper and to utilize internal shared drives instead of printing when applicable; departmentwide correspondence is delivered via email and/or available on the DCA intranet; and training materials are provided online instead of printing hard copies and distributing to staff. DCA has found it not to be economically feasible to keep computer equipment that has exceeded its useful life as it spends more time and money on repairs. Once computer equipment or electronics have reached their useful life and are experiencing issues, DCA recycles them and replaces them with new equipment.

DCA has a Records Imaging Unit that supplies boards and bureaus with a cost-effective way to convert hard copies into electronic documents. This is a large cost savings in not having to rent/lease storage space. In addition, DCA staff is encouraged to reuse any office supplies, equipment, or office furniture that is in suitable condition before considering surplus or disposal.

In late 2019, DCA implemented the use of GovDeals, a new online auction where DCA can post its surplus property for sale. GovDeals is contracted with DGS to facilitate the sale of surplus items for state agencies. DCA's Property and Asset Management Coordinator is responsible for overseeing the GovDeals program. The Property Liaisons at each location receive prior approval from the DCA Property Asset and Management Coordinator at Headquarters to post their items on GovDeals. This is another way for DCA to divert its surplus property from landfills.

In order to keep DCA furniture and equipment that is not suitable for GovDeals from heading to the landfill, the FMU currently utilizes an empty suite at HQ1 as an on-site storage facility to house unused furniture and other equipment until such time as said materials may be needed.

Training and Education

Pursuant to [AB 2812 \(Gordon, Chapter 530, Statutes of 2016\)](#), each state agency is required to provide adequate receptacles, signage, education, and staffing, and arrange for recycling services consistent with existing recycling requirements for each office building of the state agency or large state facility.

DCA employees are introduced to DCA's Recycle Program during New Employee Orientation. Upon completion of the orientation, staff is encouraged to visit the internal recycling webpage for updates, procedures, and departmental recycling information. DCA's annual Earth Safety and Wellness Day provides an opportunity for DCA staff and members of the public to learn and be informed of new updates and departmental efforts on recycling and sustainability.

Signs promoting recycling and waste diversion can be found at DCA occupied facilities. At HQ1, informative recycling information explaining how to sort and recycle, paper, organics, land fill, and CRV can be found at tables in the café. The DCA Sustainability Coordinator works with DCA publications staff to create, distribute and post educational materials, including articles in the monthly DCA newsletter that is emailed to all employees and signs are posted to clearly mark bins for recycling, organics and trash.

DCA's Sustainability Coordinator also presents at CalRecycle, CalEPA, and other like agencies to promote DCA's diversion efforts externally as well.

Food Service Items

[SB 1335 \(Allen, Chapter 610, Statutes of 2018\)](#) requires food service facilities located in a state-owned facility, operating on or acting as a concessionaire on state-owned property, or under contract to provide food service to a state agency to dispense prepared food using food service packaging that are reusable, recyclable, or compostable.

Located at HQ1, DCA's Jogi's Café generally utilizes materials for service of prepared foods that are either recyclable or compostable. Recyclable materials include aluminum foil and recyclable plastics and compostable materials such as non-waxed paper and cardboard products. Additionally,

each table features a small information 'tree' that educates the reader on recycling procedures and other sustainability related information.

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

DCA's purchased goods add significantly to the environmental impact of its operations. DCA is committed to reducing the environmental impact of the goods and services it purchases.

DCA purchases and uses environmentally preferable products that have a lesser or reduced effect on public health, natural resources, the economy and the environment when compared with competing goods that serve the same purpose.

DCA includes language in Request for Quotes, Request for Offers and Service Contracts to promote purchasing of EPP and SABRC compliant goods and supplies that meet the current DGS purchasing and specifications available from the DGS Buying Green website.

- **Paint:**
FMU/Sustainability works with lessors to use recycled low or zero Volatile Organic Compound (VOC) paint in building interiors to improve indoor air quality when available, comparable and cost-effective.
- **IT goods:**
As part of DCA's Energy Efficiency Policy (BSO 16-1), it is the responsibility of DCA procurement buyers to purchase energy efficient ENERGY STAR® rated equipment whenever practical. Buyers are also required to use the State mandated contracts when purchasing computers, printers, copiers, servers and multi-function devices. The contracts require that hardware meets the Electronic Product Environmental Assessment Tool (EPEAT) "Gold" standard. DCA promotes the purchase of remanufactured toner cartridges. Additionally, DCA currently has an internal toner cartridge recycle program.

- Janitorial supplies, cleaners, and paper products:
DCA requests that all janitorial supplies and cleaners are EPP, EcoLogo, Greenseal certified cleaners, and DGS_471318A Purchasing Standard compliant. In addition, all janitorial paper products are SABRC compliant and DGS_141117A Purchasing Standard Compliant. With all new lease agreements or new janitorial contracts in DCA's one owned building or in buildings where janitorial services are not a part of the lease, DCA requests that all janitorial supplies and cleaners meet these standards and requirements. In addition, DCA's Business Services Office created a departmental policy requiring that all cleaning products used meet the GS Standard GS-37 whenever cost effective.
- Desk Lamps:
DCA buyers are encouraged to purchase energy efficient ENERGY STAR® rated desk lamps when available, comparable and cost-effective.
- Office equipment, paper products, and remanufactured toner and ink cartridges:
DCA continues to administer, the Waste Reduction and Recycle Content Policy (BSO 14-01) that establishes the goal to promote and adhere to all laws, rules, and regulations concerning waste reduction and the procurement of recycled-content products. The purpose of this policy is to support the purchase of postconsumer products and encourage waste prevention to ensure compliance with the State recycling requirements.

Measure and Report Progress

DCA's Strategic Organization, Leadership & Individual Development (SOLID) training unit provides a quarterly purchasing training class to DCA buyers. This two-day training covers the recycle program and guidelines including EPP and SABRC. Additionally, DCA continues to publish articles and send email blasts to encourage and remind buyers to purchase paper products and copy paper that are EPP, SABRC and DGS-441200-A compliant.

To engage and educate suppliers to offer EPP products, buyer's specifications are listed in the Request For Quote. These specifications include requests for environmentally preferable products and products containing post-consumer recycled content whenever available, practical and cost effective.

DCA continues to use Fi\$Cal to obtain EPP expenditure reports to oversee progress to increase EPP. The DCA Recycling Coordinator generates and

reviews Fi\$Cal EPP reports monthly to track, measure and record EPP expenditure reports.

DCA's Waste Reduction and Recycle Content Policy (BSO 14-01) states that DCA shall ensure that at least 50% of reportable purchases are Recycled Content Products (RCPs). To be compliant with SABRC requirements, DCA purchases recycled products when available and cost-efficient.

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
Compost and Mulch	0.00	0.00	0
Glass Products	759.27	759.27	100
Lubricating Oils	0.00	0.00	0
Paint	0.00	0.00	0
Paper Products	73,482.03	66,217.56	90.11
Plastic Products	128,437.08	121,737.37	94.78
Printing and Writing Paper	53,400.03	42,935.67	80.40
Metal Products	423,182.72	377,107.41	89.11
Tire Derived Products	0.00	0.00	0
Tires	2,149.39	0.00	0

There are several categories in this year's SABRC report that have received zeros because of current difficulties in recording the figures for said categories. DCA employs a robust fleet of 685 vehicles. To maintain and service this fleet, DCA utilizes contracted commercial vendors to perform the work. This includes the replacement of tires, performing oil changes, and topping off fluids like anti-freeze when applicable. However, the execution of this contract has, thus far, created difficulties in the recording of products purchased in these categories. The contract has been categorized as a blanket service without explicit breakdown in invoicing. Thus, the amount of new or retreaded tires is not entirely known. Neither are the amounts of oil or antifreeze used for these vehicles. To better capture these figures, DCA is currently working on a solution to ensure that accounting of products in these categories can occur. This accounting should also include provisions to ensure that purchased products are SABRC compliant and that said cost figures are also recorded.

DCA continues to educate its employees on the importance of purchasing retreaded tires when economically feasible. The DCA Fleet Management Coordinator promotes the mandatory contract offering tires composed of recycled content to all DCA Fleet Liaisons when purchasing new tires.

Since DCA primarily leases, the purchasing of paint is primarily done so by the lessors of DCA properties.

DCA does not purchase compost and mulch.

Table 5.6: Commodities categories with the greatest Potential to Green

Commodity	2020 Total Spend (\$)	2020 Percent EPP Spend (%)	EPP Target (%)
Tires	2,149.39	Unknown	100
Lubricating Oils	Unknown	Unknown	100
Antifreeze	Unknown	Unknown	100
Printing and Writing Paper	53,400.03	42,935.67	90%

For reasons already mentioned, DCA has previously had difficulty capturing the figures for tires, lubricating oils, and antifreeze. However, DCA staff is currently developing methods to better capture this information, which should aid in DCA's full compliance with the opportunities presented in the SABRC report. Printing and writing paper is also included as an opportunity to green. Current SABRC compliance in this category is 80.4%. This indicates that there is room to further educate buyers into purchasing SABRC compliant printing and writing paper. The goal of only 90% was chosen because some DCA boards and bureaus perform a certain amount of experiments in order to meet their consumer protection goals. Without further investigation it may be assumed that some of the experiments require non-compliant products and the EPP target has only been set at 90%.

Sustainability Development and Education

To assist DCA's efforts to promote the understanding and advancement of sustainable procurement, DCA notifies bidders of EPP requirements by including language in the Request for Quotes, Request for Offers and Service Contracts. In addition, DCA added a Sustainability Coordinator in 2018 to assist with EPP.

Total Number of Employees Assigned as Buyers: **30**

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 (%)
Staff Services Manager III	1	100	100
Staff Service Manager II	2	100	100
Staff Services Manager I	4	100	100
Info Technology Specialist I	2	100	100
Associate Governmental Program Analyst	15	100	100
Staff Services Analyst	4	100	100
Business Services Officer II	1	100	100
Office Technician	1	100	100

DCA does not have any additional training or certifications beyond the basic CalPCA EPP training course. However, the frequency for training and retraining has a greater potential to assist buyers to fulfill EPP requirements. DCA's SOLID training unit provides a quarterly purchasing training class to DCA buyers. This two-day training covers the recycle program and guidelines including EPP and SABRC.

Location Efficiency

Location efficiency refers to the effect of a facility's location on travel behavior and the environmental, health and community impacts of that travel behavior including emissions from vehicles. Locating DCA facilities in location efficient areas reduces air emissions from state employees and users of the facilities, contributes to the revitalization of California's downtowns and town centers, helps DCA compete for a future workforce that prefers walkable, bikeable and transit-accessible worksites and aligns department operations with California's planning priorities.

DCA's goal is that the average location efficiency score for all new leases be 10% higher than the average on January 1, 2017.

Although pursuant to Government Code Section 15808.1 it is not a requirement for new sites with less than 200 employees or directly serving the public to have access to public transit, DCA considers proximity to public transportation during the site search phase of each new leasing project. DCA monitors sites closely and educates boards and bureaus on why they should give sites with higher smart location scores greater consideration. FMU/Sustainability has added smart location scores to the Sustainability Checklist when deciding to relocate or searching for new sites. Furthermore, because DCA also places higher considerations on LEED certified buildings for leasing, very often these sites have already included sustainable transportation considerations, such as proximity to mass transit stops and on-site bike lockers, which promote biking to work and add to a site's biking profile.

As noted in Table 5.8, these practices have led to the increased frequency that DCA leases space in a Smart Location. The previous report noted a 29.3% rise from the baseline percentage of 58. This report boasts a 38% increase from that same baseline. The previous report indicated an average Smart Location score of 75 while this report indicates that figure has risen to 80. This constitutes a 7% rise in the average Smart Location for all new leased location in the DCA site portfolio. Since January 1, 2017, DCA has leased space in only one building with a score less than the previous report's average. The other three buildings' scores are all in excess of this previous average score.

Table 5.8: Smart Location Score for new Leases

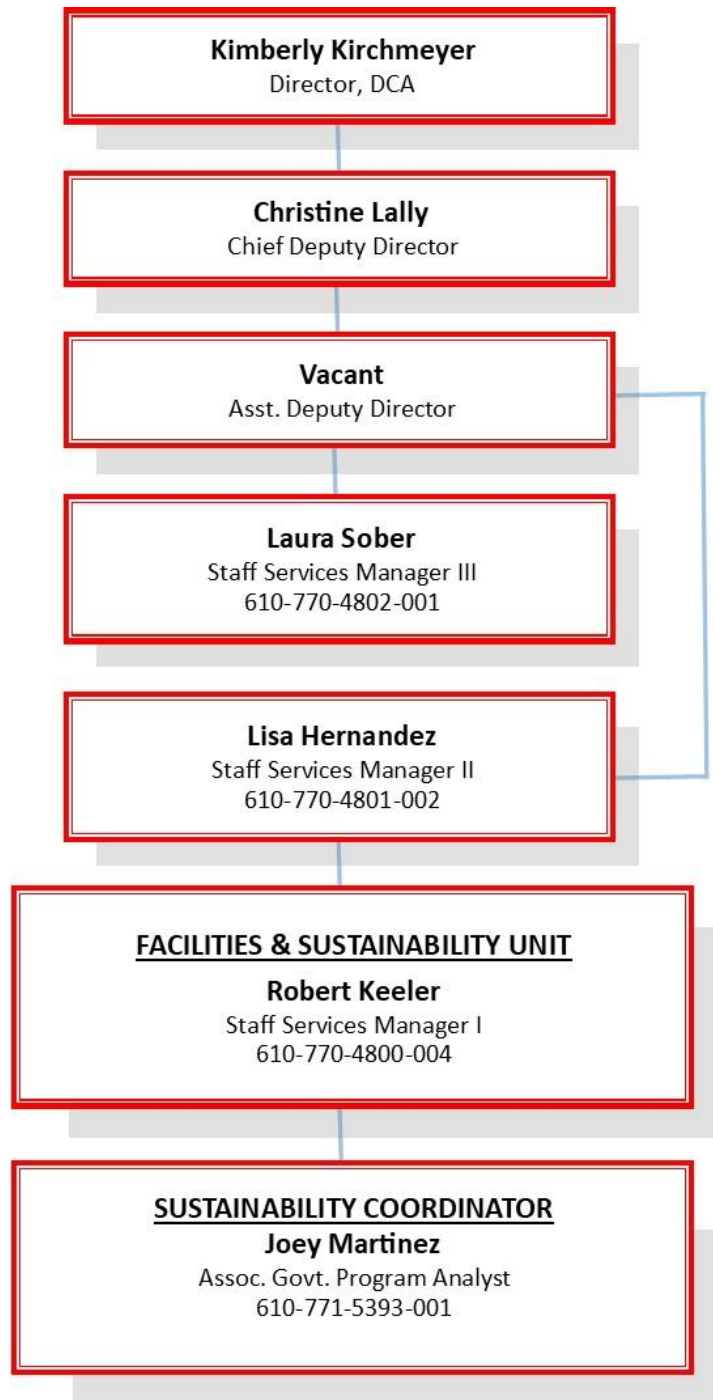
Facility name	Smart Location Calculator Score
1601 Response Road, Sacramento	78
930 6th Street, Eureka	73
25360 Magic Mountain Pkwy, Santa Clarita	87
1610 Arden Way, Sacramento	82
Average	80
Baseline	58
% change from Baseline	+38%

Table 5.9: Lowest Smart Location Score Leases

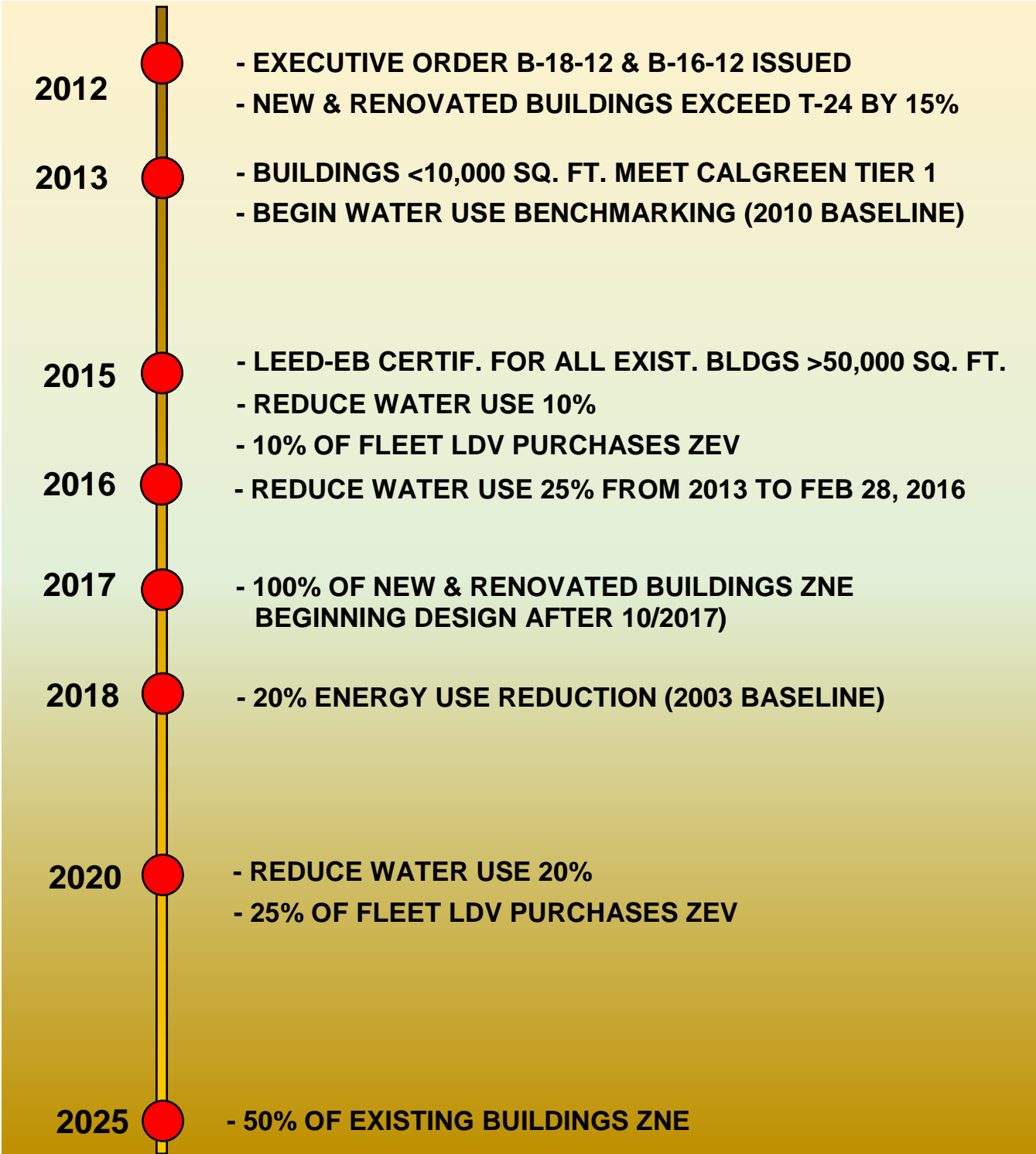
Facility name	Smart Location Calculator Score
324 Campus Lane, Fairfield	40
3855 Via Nona Marie, Carmel	50
1130 East Shaw Avenue, Fresno	62
1300 National Drive, Sacramento	63
1625 N. Market Blvd., Sacramento	63
16735 Von Karman Avenue, Irvine	63
1747 N. Market Blvd, Sacramento	63
4244 South Market Court, Sacramento	63
1845 Business Center Drive, San Bernardino	65

These nine sites in the DCA portfolio all have Smart Location scores of 65 or less. The two lowest scored sites are located in cities with relatively smaller populations and in towns that are relatively remote. The remainder of the sites, though located in larger cities, appear to be far from the city center in areas generally described as industrial or business parks. FMU/Sustainability has added Smart Location Scores to the sustainability checklist for investigating new lease sites. As leases expire, FMU/Sustainability will work with the boards and bureaus to consider new locations with a higher Smart Location Score.

Appendix A – Sustainability Leadership



Appendix B - Sustainability Milestones & Timeline



Appendix C – Roadmap Checklists

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 conservation.
- 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.

- Discuss 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

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

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

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

Appendix E - Glossary

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% of California's energy use is related to water use with nearly 10% 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

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 Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer
	Robert Keeler: Manager, Facilities and Sustainability
	Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Understanding Climate Risk at Planned Facilities	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer
	Robert Keeler: Manager, Facilities and Sustainability
	Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Integrating Climate Change into Department Planning and Funding Programs	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer
	Robert Keeler: Manager, Facilities and Sustainability
	Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Measuring and Tracking Progress	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer
	Robert Keeler: Manager, Facilities and Sustainability
	Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Zero Emission Vehicles

Incorporating ZEVs Into the Department Fleet	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer
	Robert Keeler: Manager, Facilities and Sustainability
	Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Telematics	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer
	Laura Loyola: Manager, Operational Resources Unit
	Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Public Safety Exemption	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Outside Funding Sources for ZEV Infrastructure	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Hydrogen Fueling Infrastructure	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Comprehensive Facility Site and Infrastructure Assessments	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

EVSE Construction Plan	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

EVSE Operation	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Energy

Zero Net Energy (ZNE)	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

New Construction Exceeds Title 24 by 15%	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Reduce Grid-Based Energy Purchased by 20% by 2018	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Server Room Energy Use	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Demand Response	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Renewable Energy	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Monitoring Based Commissioning (MBCx)	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Financing	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Water Efficiency and Conservation

Indoor Water Efficiency Projects In Progress First initiative	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Boilers and Cooling Systems Projects In Progress	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Landscaping Hardware Water Efficiency Projects In Progress	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Living Landscaping Water Efficiency Projects In Progress	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Buildings with Urban Water Shortage Contingency Plans In Progress	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Green Operations

Greenhouse Gas Emissions	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Building Design and Construction	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

LEED for Existing Buildings Operations and Maintenance	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Indoor Environmental Quality	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Integrated Pest Management	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Environmentally Preferable Purchasing	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Location Efficiency	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Greenhouse Gas Emissions	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Building Design and Construction	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

LEED for Existing Buildings Operations and Maintenance	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Indoor Environmental Quality	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Integrated Pest Management	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Environmentally Preferable Purchasing	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Location Efficiency	
Business Services Office (BSO)	Lisa Hernandez: Facilities and Business Resources Officer Robert Keeler: Manager, Facilities and Sustainability Joey Martinez: Sustainability Coordinator, Facilities and Sustainability

Appendix G – Sustainability Requirements & Goals

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

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% with ZEVs, and by 2020 to ensure at least 25% 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% 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% below 1990 levels by 2030 and reaffirms California’s intent to reduce GHG emissions to 80% below 1990 levels by 2050. To support these goals, this order requires numerous state agencies to develop plans and programs to reduce emissions. It also directs state agencies to take climate change into account in their planning and investment decisions and employ life-cycle cost accounting to evaluate and compare infrastructure investments and alternatives. State agencies are directed to prioritize investments that both build climate preparedness and reduce GHG emissions; prioritize natural infrastructure; and protect the state’s most vulnerable populations.

- [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% reduction in GHG by 2030 and 80% 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% reduction or

displacement by Jan. 1, 2012 and a 20% 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% of state-owned parking spaces by 2022. It also advances the ZEV procurement target to 50% 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% 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
Executive Orders:					
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	
Management Memos					
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		
Legislative Actions					
SB 246	X				

	Climate Adaptation	ZEV	Energy	Water	Green Operation
SB 2800	X				
AB 4					X
AB 32		X			
AB 1482	X				
Action Plans					
2016 ZEV Action Plan		X			
State Resources and Guidance Documents					
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	

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Appendix J – 2021 Did You Know? Articles

January 2021

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IN THE SPOTLIGHT

5 EASY-TO-KEEP SUSTAINABLE NEW YEAR'S RESOLUTIONS

It's the new year, and there's a pretty good chance you're working on a few New Year's resolutions. We want to help you keep those resolutions, so here is a list of five resolutions so easy, you'll have a hard time breaking them:

1. DITCH THE STRAW—Plastic doesn't biodegrade, it photodegrades. This means it just breaks into smaller and smaller pieces called microplastics that negatively impact the environment. Politely declining a straw is an easy way to reduce unnecessary plastic in your life. If you do need to use a straw, however, ask for a paper straw or bring your own reusable metal or silicone straw.

2. AVOID FAST FASHION—Fast fashion is the name given to rapidly manufactured, inexpensive clothing. That cheap quality has a high price though: Because it is produced with such poor quality standards, fast fashion is one of the fastest-growing waste streams heading into our landfills. You work hard for your money, so don't throw it away on garments you'll wear only a few times before they fall apart. Buy well-made clothing that will last wash after wash and then donate them when they're out of fashion.

3. GET RID OF YOUR OLD MEDICATIONS RESPONSIBLY—Flushing old medications down the toilet can have negative impacts on marine life as well as expose the rest of us to unknown chemicals in our drinking water. You can't recycle old medications, but everyone can resolve



to use a safer alternative. Check out the "Don't Rush to Flush" campaign and locate the bin nearest to you to drop off all your old medications for free, including old pet meds.

4. WHEN POSSIBLE, KEEP IT LOCAL—It's true: National chains offer convenience. But whenever possible, try your local small businesses and restaurants too. The products or food they sell are typically locally produced, which means fewer carbon emissions compared to shipping those items to that national chain. Keeping it local

also has the benefit of keeping your dollars in your own community. Check out a list of slow food restaurants, which feature delicious and locally sourced items, as well as a list of Sacramento businesses providing curbside pickup.

5. GIFT AN EXPERIENCE—This year, instead of buying someone that sweater they're never going to wear, gift him or her an experience instead. Whether it's a massage, a paintball excursion, or even a nice night out, it's sure to be memorable, so get

creative! Stuck on an idea? Try a gift certificate so they can buy exactly what they want instead of something that just gets thrown out and ends up in a landfill.

Looking for more ways to be sustainable? Contact DCA's Sustainability Coordinator Joey Martinez at joey.martinez@dca.ca.gov, who also can host a meeting for you and your co-workers.

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YOUR SUSTAINABLE SPRING CLEANING GUIDE

Spring is a time for rebirth, renewal, and revitalizing your spring cleaning routine with a wide variety of sustainable options. Now is the perfect time to clean out that closet, tidy up that garage, and to be that eco-warrior you were always meant to be! Here are a few ways to make sustainability a part of your cleanup plan.

USED BATTERIES AND LIGHT BULBS

Do you have a drawer full of used batteries and light bulbs? You know you're not supposed to throw them away, but how do you get rid of them? Take them with you when you go shopping: Several businesses will take batteries and light bulbs off your hands for free to recycle them. Next time you're in places like Home Depot or Target, look for the recycling collection bins just inside the front doors. Batteries Plus Bulbs will also be happy to take a handful of products off your hands for free.

MATTRESSES AND BOX SPRINGS

Used mattresses and box springs are full of recyclable materials and one of many items which are illegal to throw away. But don't fret—the disposal fee was already included as part of the original purchase price! If you're buying a new bed—even if it's getting delivered—talk to your salesperson about turning in your old mattress and box spring for free. Most landfills will take mattresses and box springs for free, plus there are plenty of



local sites to drop them off for recycling. Check out the nationwide [Bye Bye Mattress](#) program to find a free recycling site anywhere in California.

LEFTOVER PAINT

Paint recycling has come a long way. The PaintCare program will help you recycle your old paint and make it into a great new product. If you've got extra paint from a project you finished, you probably have a nearby site to recycle it. Check out the [PaintCare](#) website for a drop-off site; you might be able to drop off more than you realize.

ELECTRONIC WASTE

Do you have an old computer tower or monitor tucked away in the back of your hallway closet? Is a broken laptop still cluttering your desk area? Get rid of it! Some of the metals and chemicals found in most electronics make them illegal to throw away, but there are plenty of options to recycle them. Local sites throughout Sacramento County can help you get that e-waste out of your home and get it recycled. If you live outside of Sacramento County, check your county website for information.

CAR BATTERIES AND USED MOTOR OIL

Check with your local automotive store; many chains will reduce the cost of your new battery when you bring in your old battery to recycle. While you're there, recycle your used motor oil for free as well—just look for the [certified collection center signs](#). Check with your city too—they may collect it from your home for free!

As always, it's important to check with any of these sites for COVID-19-related drop-off restrictions.

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EVERYTHING YOU WANTED TO KNOW ABOUT HOME COMPOSTING BUT WERE AFRAID TO ASK!

You may have heard about composting and how it's good for the environment. You may have even wanted to try it at home, but just didn't know how to get started. What are the options? What if it smells? Why is it important to compost? So many questions.

Composting is a fascinating process and the science involved is amazing. The short story is that microorganisms help break down organic materials like food or green waste, returning nutrients to the soil in the process. Everything organic is carbon-based and keeping those nutrients in the ground helps to not only rejuvenate your soil for gardening, but also keeps detrimental gases like methane out of the atmosphere. When organic waste ends up in the landfill, it is compacted and decomposes without oxygen—this is how methane is produced. Methane is a greenhouse gas and you can help reduce it just by composting—a practice so easy, nature has been doing it since the beginning of life on our planet.

OK, that's the science simplified, but how do you do it at home?



TUMBLERS

An easily available option, tumblers can cost anywhere from \$80 to more than \$300, but they all basically work the same way. They resemble a barrel with a trap door. Your food scraps go in the trap door and through some mechanism, the tumbler rotates and aerates the material in the process. Make sure there are vents of some sort to allow the compost to breathe—this helps reduce any odors and makes for healthier compost. Tumblers are a great option if you don't want to get your hands dirty. Helpful tip: If you get a unit mounted on legs, make sure those legs are sturdy and can hold up to the swaying weight.

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BOKASHI BUCKETS

Low on space? Try the bokashi method. Bokashi started in Japan and is one of the quickest ways to compost your food scraps. Instead of composting with oxygen, bokashi uses a microbe-infused bran to ferment your food waste in a bucket you can keep under your kitchen sink. It's a more involved approach, but turnaround is as little as 10 days and you also get "compost tea" that's great for houseplants. A starter kit is around \$50 online, but with some ingenuity you can easily craft your own bucket and save a bundle. You will need to keep purchasing the bran, however—about \$15 every 6 months. Find out more about bokashi.

GREEN WASTE

If you're only interested in composting leaves and grass from your yard, you can buy plastic or wire mesh or use chicken wire to corral the material—heat will naturally break it down to compost. Don't forget to occasionally turn and water your product to add oxygen.

THE BOTTOM LINE

There are lots of ways to compost. Don't get overwhelmed—just find the method that works for you.

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IN THE SPOTLIGHT

MAKE EVERY DAY EARTH DAY

Earth Day is celebrated annually on April 22, but don't limit yourself to just one day or even one activity. There are so many ways to celebrate and help the environment any day of the year! If you want to make a difference on Earth Day or every day, here are a few quick and easy ways you can do your part for the environment all year long.

AMERICAN RIVER PARKWAY FOUNDATION—The American River Parkway Foundation is an amazing agency dedicated to the well-being of the Sacramento region's greatest natural wonder: the American River. They need your help and, if you know how to pick up litter or pull weeds, then you already have the skills needed. This is a great activity for larger groups, so if your religious group or scout troop needs those volunteer hours, they'll help you organize your event. With more than 20 miles of river to choose from, there's bound to be a site near you.

SACRAMENTO TREE FOUNDATION—Trees are an important part of our ecosystem and crucial to our survival. The Sacramento Tree Foundation is always looking for volunteers to help plant new trees, add mulch to established trees, and promote trees in general. And if you're too busy to help right now, no worries—they need the bulk of their volunteers in the fall and through the rainy season. They'll train you, so no prior experience is necessary.

SOIL BORN FARMS—Not really into volunteering, but you still want to learn how you can promote the environment through gardening or urban farming? Check out **Soil Born Farms** for all kinds of learning opportunities! A working teaching farm located near Sacramento in Rancho Cordova, this group helps students as well as adults learn how to have a better relationship with the environment through healthy farming and food rearing practices. It's a great family adventure, and you can even sign up for one of their many online classes with their experts to learn how to grow healthy, eat healthy, and make the Earth healthy.

SACRAMENTO AREA BICYCLE ADVOCATES—Did you know that just by riding your bike, you are helping the environment? Why not help promote bicycle riding by volunteering with **Sacramento Area Bicycle Advocates (SABA)**? If you've ever valetted your bike at a local event, you probably did so with SABA. You can help valet bikes and promote this great program. They're always looking for volunteers, no experience necessary.

STATEWIDE OPPORTUNITIES—Environmental volunteer opportunities abound year-round throughout California, so contact your local volunteer center to find out more.

**COMING IN MAY:
DCA EARTH DAY VIRTUAL EVENT**

Earth Day celebrations are coming to DCA once again. We'll do things a little differently this year, so keep checking your email for news about our May virtual celebration.





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FACILITIES UPDATE

 The new digital directories for the H01 and H02 buildings were installed the week of April 19.

 **Reminder:** The new secure cage at 1747 North Market Blvd. has been completed. This includes an electric-vehicle charging station that is capable of charging two cars simultaneously. Employees can access the new car cage (as well as the 1625 North Market Blvd. car cage) by scanning their DCA card key badge. Since the car cage is only for state cars, you must request that the access be added to your badge. Once in the cage, just plug in your vehicle and it turns on and starts charging (no card or code needed).

 On April 19, the Organizational Improvement Office relocated to Suite N-222.

 The Speech-Language Pathology and Audiology and Hearing Aid Dispensers Board moved to its new location on April 26. The new address is 1601 Response Road, Sacramento, CA 95815.

 **Records Imaging**
Records Imaging Services (RIS) currently has availability to assist additional clients. RIS can digitize program documents to allow for easy retrieval when needed, even while staff are teleworking. Digitizing documents also saves valuable space in program suites to make more room for cubicles, meeting rooms, and so forth. Please contact t.m.sanders@dca.ca.gov or stephanie.garcia@dca.ca.gov for more information.

TIME TO GET SMART ABOUT PLASTICS RECYCLING

Plastic is simultaneously credited as a wonder product and a problem product. The truth? Arguments can be made either way. The molecular makeup of the plastic polymer makes it adaptable and suitable for nearly any situation. In fact, you probably used more plastic products this morning alone than you can count on your fingers. From food containers to car parts to medical supplies, we use plastics for everything! So if it's so useful, what's the problem?

Plastics work too well. The polymer that makes them so useful also makes some of plastics difficult, if not impossible, to recycle. The bigger problem may lie in our relationship with plastic. From manufacturers to consumers—we may be the ones making the plastics problem worse.

First, as consumers we need to educate ourselves. Plastics are typically numbered 1 through 7, but what do those numbers mean? Let's break these down:

- Plastics 1 and 2 are the most easily recycled groups. They include many everyday products like drink bottles, shampoo bottles, and milk jugs.
- Category 3, otherwise known as polyvinyl chloride or PVC, is commonly used but not recyclable at all.
- Categories 4, 5, and 6 include products such as plastic bags, yogurt cups, and polystyrene (commonly referred to by the brand name Styrofoam). While some of the products in these categories can be recycled, in many cases, the cost of recycling these plastics doesn't give



industry the incentive to do so. That means most of this plastic ends up in landfills and even more new plastic needs to be manufactured.

- Category 7 is a collection of all other types of plastics, most of which cannot be recycled.

Want to find out more about plastics? Take a look at the [National Geographic Smart Plastics Guide](#).

Compounding the fact that not all plastic is recyclable is that fact that we don't recycle all the plastic we're able to. According to [CalRecycle](#), more than \$100 million went unclaimed in California from bottles and cans through redemptive recycling programs in 2018. For every 10 pounds of clear soda or water bottles that went unrecycled, 3.3 pounds worth of greenhouse gasses could have been prevented from entering our atmosphere. What's more, all that plastic could take up to 700 years to break down in our landfills. So, what can you do?

- **Start recycling or recycle more.** It doesn't make any sense not to recycle whenever we can. Recycling alone won't solve the problem, but it's a good start. And with redemption payouts, you can even get paid to do so.
- **Rinse your plastics.** Many recyclers won't recycle plastics with food remnants on or in them.
- **Cut out single-use or unnecessary plastics.** When possible, opt for reusable straws, utensils, bags, and bottles.
- **Learn about pending legislation aimed at creating take-back programs for plastics.** Find out how manufacturers might be held more responsible for the products they create.
- **Buy recycled products and/or products with recycled content.**

Whether we want them or not, plastics are here to stay. With some effort, we can have a better relationship with them.



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WORMING OUR WAY TO SUSTAINABILITY

DCA has some unique new partners in accomplishing our sustainability goals.

In an unsuspecting wooden box along the west side of HQ1 are DCA's newest recruits in its efforts to divert waste from the landfill and reduce its carbon footprint: worms. Lift the lid and you might not see much at first, but take a closer look and you'll find a whole world of natural conservation going on right before your eyes. Push back a few inches of soil and you'll start to see them—pink and squimy and very, very hungry. These small worms may not look like much, but they play a big role in keeping DCA on the sustainable track.

The science behind it: Vermicomposting is simply a method of composting that introduces another biological agent—in this case, worms—to the composting process. On top of the millions of microbes that already help break down all organic material, these worms eat and digest food waste and then add their special ingredient to the mix: worm

castings, also known as worm poop. That's right: What makes vermicompost a superior product to regular compost all has to do with worm excrement. Think of it in terms of manure: The castings enhance the vermicompost by adding natural fertilizer. Another added bonus is that worm castings will never burn your plants like some conventional fertilizers can.

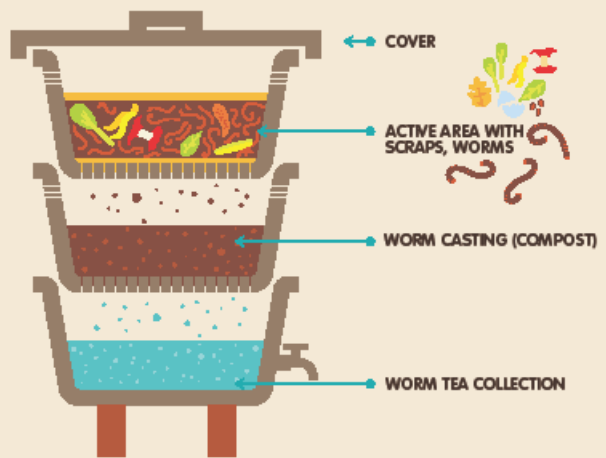
Why are we doing this? State mandates dictate that any entity producing more than 2 cubic yards of waste each week promote waste diversion by directing its organic waste to someplace other than the landfill. While DCA has already been doing that with a contracted waste hauler, this new vermicomposter presents the opportunity to be even more sustainable and compost some of that organic waste right here onsite.

So, what are we doing exactly? DCA's vermicomposting bin has been active since the beginning of May and, if you've been by food vendor Jogi's Cafe' since then, you may have already contributed to this unique solution. Whether fruit or vegetable, bread or eggshell, the folks at Jogi's have been setting aside their food trimmings so they can be diverted into DCA's Organics Waste Diversion Program.

Vermicomposting is an exciting way to reduce carbon emissions. Because the waste isn't hauled away anywhere, there are no additional greenhouse gases created by having to transport it. If you'd like to learn more about vermicomposting, contact Sustainability Coordinator Joey Martinez at joey.martinez@dca.ca.gov.




Vermicomposting is an exciting way to reduce carbon emissions.



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LAWN CARE TIPS

One of the best ways to maintain that lawn all summer is to practice sustainable lawn care techniques. Whether you're looking to make small changes or completely overhaul your yard, there are lots of ways to make sustainability work for you.

SIMPLE CHANGES

- **Grasscycling**—This is an easy way to go green! Set your mower to its mulching setting and let your grass clippings sink back into your lawn. The clippings will help keep moisture in the ground and add nitrogen to the soil, which is good for your lawn. Plus, you no longer need to keep stopping to empty your grass catcher! For more information, visit CalRecycle's [grasscycle page](#).
- **Be water wise**—Drip systems work well for getting water exactly to where you intend it to go. Aerating your lawn at the beginning of the season can also ensure that water will get to the roots where it is needed. If you water at night, you'll lose less water to evaporation than during the hot day, but make sure you audit your sprinklers to ensure they're pointed in the right direction too—water your plants and lawn and not your sidewalk.
- **Organic pest control**—It's worth it to do a little homework to find an organic alternative to harmful pesticides. Aphids feeding on your plants? Try using ladybugs as a natural option! Ladybugs eat aphids and other soft-bodied pests and you can buy them at nearby any gardening center. For more about organics, visit the California Department of Food and Agriculture's [State Organic Program page](#).



- **California native plants**—If you're looking to plant something new in your garden or for your lawn, you can't go wrong with native plants. California native plants have evolved to adjust to local climate conditions. Many are used to the sparse rains and require less watering. Additionally, many are more durable against regional pests, so you won't have to keep buying new plants over and over!
- **Pollinator gardens**—If you've got a produce garden growing in the backyard, pollinator gardens are a great way to help ensure its success. Pollinator gardens contain flowers and plants that attract natural pollinators like bees (both honeybees and native bees), butterflies, hummingbirds, and more! Creatures like these help ensure that your fruits and vegetables will get pollinated.

- **Plant a tree**—Trees provide many benefits for your lawn. Their root systems help reduce soil erosion and they help to clean the air through photosynthesis drawing in harmful carbon dioxide and producing useful oxygen instead. On top of all that, they can provide shade, food, and a nice place to hang your hammock so you can really enjoy your yard!

Department of Water Resources offers many [tips and ideas](#) about planning—and planting—a water-efficient landscape. In addition, some local governments are offering financial incentive programs for homeowners to switch out water-hungry lawns and yards. Check with your city, county, or area water district. Finally, don't forget to install a water-conserving irrigation system for your new sustainable yard!

This article was provided by Joey Martinez, DCA's recycle coordinator. For more information regarding the DCA Recycle Program, email recycle@dca.ca.gov.

PLANT WITH CONSERVATION IN MIND

If you're looking for the opportunity to totally overhaul your lawn, consider reducing the amount of grass you keep. Lawns can require a lot of water to keep green; consider using other ornamental elements like small boulders or river rock for ground cover. The California



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California regards all used batteries as hazardous waste. This means all batteries, regardless of which type, must be disposed of responsibly.

GET CHARGED UP ABOUT BATTERY RECYCLING

The Department of Consumer Affairs is serious about battery recycling: So far this year, DCA has recycled over a quarter-ton of used batteries. To bolster that success even more, brand-new battery recycling receptacles have been installed in the HQ1 and HQ2 buildings. They are giant plastic tubes you can find in the main lobby of each floor. Just deposit your used batteries there and watch them fill up!

If you're in one of the many Sacramento-area buildings served by the DCA mailroom, simply put your used batteries in an inter-office envelope. Your friendly mailroom courier will pick them up every day with your regular mail pick-up. Just another example of how DCA is making it easy and convenient to recycle.

California regards all used batteries as hazardous waste. This means all batteries, regardless of which type, must be disposed of responsibly. Recycling is the easiest way to make sure your used batteries are disposed of responsibly and kept out of the landfill. Nearly all batteries are recycled for their internal metals.

Alkaline batteries—AA, AAA, C, D, and 9-volt—are the most common type of batteries used in a home or office setting. It's important to note that white rechargeable batteries are available in these sizes as well, they are generally considered to be in their own category.

Other types of batteries include nickel-cadmium (rechargeable), lithium, and lead-acid batteries, which are used in most automobiles.

Not every battery is created equally, so recycling them requires different processes. Rechargeable batteries and lead-acid batteries are generally considered to be the most valuable and therefore the easiest for you to recycle. There are a few places that will generally accept most of your used home batteries. Next time you're in Home Depot or Target, look for the battery recycling receptacles near the front door. Batteries Plus Bulbs will usually take a handful of used batteries off your hands for free as well. Check out CalRecycle to learn more about recycling your personal batteries.

When it comes to recycling, though, car batteries are the type that can yield the biggest return. The rigid plastic casing as well as the lead cores are highly recyclable, plus most auto parts stores will take them for free or offer you a partial credit toward a new battery. Check with your local auto parts store for details.

Again, don't forget to check out the new battery recycling receptacles in HQ1 and HQ2. If your office is in a building outside of the Sacramento area and you want to learn more about how to recycle your office batteries, contact DCA's Sustainability Coordinator Joey Martinez for assistance: joey.martinez@dca.ca.gov.

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THIRD-QUARTER HAZARD ASSESSMENT INSPECTIONS DUE SEPTEMBER 30

The DCA [Illness and Injury Prevention Plan \(IIPP\) policy \(PER-05-02\)](#) requires all managers and supervisors to conduct periodic hazard assessment inspections to ensure a safe work environment. In addition, the Department of Industrial Relations' Division of Occupational Safety and Health requires inspections to be conducted when potential new hazards are introduced to the workplace, or previously unidentified hazards are recognized.

Hazard assessment inspections are to be conducted quarterly at each physical office location using the [Hazard Assessment and Correction Record \(HR-47\)](#) form. Employees should be encouraged to share their work experience with management and to report any

potential hazard without fear of reprisal, as this process assists in further developing safe work practices, policies, and procedures.

Completed HR-47 forms should be sent via email to DCA's Office of Human Resources' (OHR) Health and Safety Unit manager Donise Weyeneth at Donise.Weyeneth@dca.ca.gov before the end of the third quarter, which is September 30.

Have questions about the quarterly hazard inspections, determining corrective action, or recommendations to enhance DCA's IIPP policy? Contact OHR at (916) 574-8300 and ask to speak with your assigned health and safety analyst.



BUILDING SUSTAINABILITY INTO THE PLAN

Buildings are a huge part of any organization's sustainable footprint. From the materials used to the way they operate to even the cleansers used to keep them clean, there are many opportunities for a building to positively impact our environment and our health. In the late 1990s, the [U.S. Green Building Council](#) established a protocol to grade and rate buildings and construction projects on their level of sustainability, a program now known as Leadership in Energy and Environmental Design (LEED). Today, LEED is the ever-evolving industry standard, both internationally and nationally. In 2012, Governor Jerry Brown issued [Executive Order B-18-12](#) outlining the state's efforts towards integrating the LEED criterion with California's sustainable future.

Many Department of Consumer Affairs offices and boards and bureaus are located in LEED-certified buildings. These buildings typically save valuable resources such as water and energy, but many also offer other attributes, including improved air quality, enhanced waste disposal, and electric vehicle charging stations. All these innovations—plus a host of others—make some of DCA's buildings very green indeed.

Learn more about California's [LEED mandates](#); the Department of General Services' [Office of Sustainability](#) also includes links that identify LEED buildings statewide.

DCA highlights

There's not enough room to identify all of the LEED-certified buildings DCA occupies, but here are a few highlights with links to their LEED profiles.

- **Oyster Point Marina Plaza**—The Bureau of Automotive Repair occupies an office at this South San Francisco complex that boasts a platinum ranking, the highest rating given. Strategically located, this building earns full marks for its promotion of and proximity to alternative transportation. This building also earns high marks for water efficiency, optimized energy conservation performance, and in the category of Indoor Environmental Quality.
- **Cerritos Office Center I-V, LP**—The Division of Investigation and the Medical Board of California both have offices in this impressive LEED Gold building. Located in Cerritos, this building earns high marks in water conservation with over a 30% reduction in its potable water use and up to 100% reduction of the water used for landscaping. With a multitude of mass transit options, this building offers a 50% reduction in commuting and has a 90+ Energy Star rating for its energy conservation operations.
- **HQ1 and HQ2**: Both of these buildings are LEED Silver certified and for good reason. The HQ buildings are highly rated for alternative transportation plus water and energy conservation. Both buildings also receive high marks because of the adjoining communities, serving as green examples to nearby residential and commercial properties.

DCA occupies space in more than a dozen LEED buildings: Enter your building's address at this [DGS site](#) to find out if your building is LEED certified.

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MANDATORY 2021 TRAINING: INFORMATION SECURITY AWARENESS FUNDAMENTALS

Some DCA employees work with personal information, or may have access to sensitive information, including legally protected information. Employees and licensees trust that it is kept secure and protected against unauthorized access, use, disclosure, or distribution.

The Information Security Office has established mandatory annual training to raise awareness about information security threats, regulatory requirements, and good information security practices.

Employees are required to complete this online training every year and pass the exit exam with a score of 70% or better.

To complete the training, log into DCA's Learning Management System (LMS) and follow these directions:

- On the LMS home page, search for "Information Security."
- Click on "Information Security Awareness Fundamentals 2021."

- Click on "Launch."
- Follow the prompts to complete the course. The status of your training will be reflected in your transcript.
- You do not need to print or send the certificate of completion. SOLID will put status reports from LMS to report compliance.
- The training takes 30 minutes to complete.

If you have already taken Information Security Awareness Fundamentals 2021 and it shows the course as completed on your transcript, you do not need to take the course again.

If you have difficulty accessing the training, please contact SOLID at solid@dca.ca.gov.

Your commitment to take this training helps sustain awareness on how to safeguard the protected information of our employees, licensees, and consumers throughout California.

Thank you for completing this mandatory training!



DCA'S GREEN FLEET IS IN THE DRIVER'S SEAT

In a state as large as California, a lot of business happens when DCA is on the move. Many of the Department's boards, bureaus, and divisions often take to the road to help regulate, investigate, and license businesses statewide. To make that happen, DCA uses 665 light- and medium-duty vehicles. But many of those aren't just ordinary vehicles; they're part of DCA's green fleet.

In 2012, Governor Edmund G. Brown Jr. issued **Executive Order B-16-2012** mandating state entities to invest in zero-emissions vehicles. Since then, the Department has been actively updating its fleet with more sustainable options when retiring old vehicles. Today, DCA's green fleet is made up of 388 electric vehicles, hybrids, plug-in hybrids, and cars powered by hydrogen. All these green vehicles help DCA reduce its carbon emissions and make us more sustainable.

BY THE NUMBERS

Just how sustainable is our green fleet? Gas-powered light-duty vehicles in our fleet—those that haven't yet been converted to more sustainable options—average about 22 mpg. Our light-duty

green vehicles double this by averaging about 44 mpg. But what about gas consumption? While all the green vehicles collectively use far less gasoline for fuel, 45% of the green fleet are either completely electric or are fueled by hydrogen and require no gas. DCA has 159 completely electric vehicles—some with ranges of over 100 miles per charge—and has also added 16 hydrogen-powered fuel-cell vehicles with ranges of over 300 miles per tank.

WHAT'S A HYDROGEN FUEL CELL?

Instead of using gas or combustion engines, fuel-cell vehicles have two fuel cells that can be filled with hydrogen gas. These vehicles emit water vapor instead of carbon emissions: an environmentally conscious choice. While hydrogen can't be purchased regularly at most gas stations and often requires specialized equipment to dispense it, hydrogen pumps are becoming more prevalent, with three locations in the Sacramento area. But even if you do need to travel a little further to get to these special pumps, it's OK—these cars can go about 310 miles on a full tank.

LOOKING TOWARD THE FUTURE

DCA isn't just converting its fleet to green vehicles; it's also building the infrastructure to power it. To keep DCA moving in the right direction, we have installed 144 chargers statewide, with more on the way.



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EAT YOUR GREEN(S): SIX WAYS TO REDUCE FOOD WASTE THIS HOLIDAY SEASON

Thanksgiving marks the beginning of a holiday season filled with care and giving, not to mention big dinners with plenty of side dishes. Regrettably, these grand meals can lead to food waste, and too much of this food will end up in landfills where it has the potential to become methane: a potent greenhouse gas. California's Department of Resources Recycling and Recovery (CalRecycle) estimates that Californians throw away nearly 6 million tons of food scraps and food waste each year—approximately 18% of materials going to landfills annually. Here are six ways to make your meals more sustainable this holiday season:



1. Shop wisely—Plan your meal carefully to avoid excess. Don't prepare more food than you really need. Not only will this benefit your wallet, but you also might spend less time preparing a meal, and more time enjoying the festivities!



2. Buy local—Food from local farms and orchards doesn't need to travel as far to get to your plate, therefore reducing its carbon footprint. Plus, because this food doesn't need to conform to market norms for packaging and these foods are often bigger than what you'd find in grocery stores.



3. Try more veggies—Studies have shown that modern commercial meat production can produce excessive methane. The U.S. Environmental Protection Agency estimates meat production helped increase agricultural methane and carbon dioxide emissions by more than 14% between 1990 and 2016. Turkeys and hams can still be on the menu, but reducing the amount of meat you consume can help the environment, too.



4. If you're not going to eat it, freeze it—For some, the best part of holiday meals are the leftovers! From turkey sandwiches to reheated mashed potatoes and stuffing, many look forward to lunch for days after a good Thanksgiving meal. Eating leftovers is a great way to reduce food waste. But if you're not going to eat it all before it spoils, don't forget to freeze it so you can enjoy that good meat a bit longer.



5. Donate unused catered leftovers—If you have your holiday meal catered, don't forget you can donate any prepared food that hasn't been opened yet. As long as the containers from the caterers are still intact, you can donate this food. The [Bill Emerson Good Samaritan Food Donation Act](#) means anyone can make a good faith

food donation. There may be procedural limitations, however, so it's worth checking with local food banks or food kitchens ahead of time.



6. Compost, compost, compost—Fall is a great time to start a compost pile because there are plenty of leaves around to help with the carbon component of composting. *Composting is so easy*, you don't even need a yard anymore. There are many options perfect for your porch or patio. However elaborate or simple your setup, composting your food waste can help both your garden and the environment.

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UPDATES FROM THE OFFICE OF HUMAN RESOURCES

2021 Wage and Tax Statement (W-2): The State Controller's Office will mail 2021 W-2s to employees' addresses of record in January.

2022 Timesheets (HR-634): The 2022 HR-634s are now available under the "Quick Hits" section on [Inside DCA](#).

2022 Calendars: These calendars are now available on [Inside DCA](#):

- Alternate Work Week Calendars.
- Human Resources Liaison Calendars.
- Pay Dates, Direct Deposit Dates, and Holidays.

Voluntary Personal Leave Program (VPLP) HR-44 Form: The HR-44 form has been updated.

- The collective bargaining unit identifiers (CBID) R02 and M09, and classification code 3428 (Senior Registrar, Board for

Professional Engineers and Land Surveyors) have been added to the HR-44.

- To enroll, complete the HR-44 and submit it to the Office of Human Resources (OHR). VPLP forms received prior to the 15th of the month, will be effective the first of the following pay period.

Retirement Deadlines: Information is now available on [Inside DCA](#).

Family Medical Leave Act (FMLA): Reminder to employees who are currently receiving Intermittent Family Medical Leave Act (FMLA) and California Family Rights Act (CFRA) leave to submit an [FMLA/CFRA leave request](#) to OHR if the need for FMLA/CFRA leave is expected to continue into the upcoming calendar year. Please visit [OHR's Intermittent FMLA/CFRA Leave Annual Renewal page](#) for information on continued eligibility requirements. For general information about FMLA/CFRA, visit [OHR's Family Medical Leave Act \(FMLA\)/California Family Rights Act \(CFRA\) page](#).

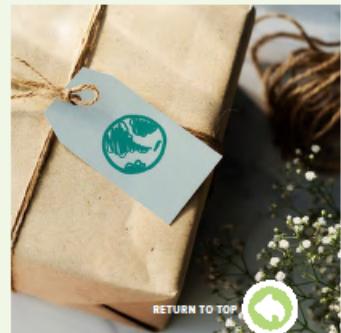


GREEN GIFT-GIVING FOR SUSTAINABLE LIVING

Are you having trouble coming up with a gift idea for that sustainability champion in your life? Or maybe you'd like to reward yourself for being the greenest person you know? Here are a few outside-the-box sustainable gift ideas:

- Start a new sustainable holiday tradition. Each holiday season sees a huge influx of wrapping paper waste. Even if all that wrapping paper is recycled afterward, it still takes water and energy to do so. This year, find a cool reusable holiday bag to present your gift and then invite the recipient to use the same bag for your gift next year.
- Winter celebrations mean candies, but most candies are petroleum-based and produce carbon dioxide emissions. Bring your holiday host a greener candle created from beeswax, soy, or another sustainable product.
- Instead of another knick-knack or trinket, give an experience. Gifting an experience can produce less waste and more memories.
- Gift certificates are always a good idea, but a gift certificate to a refill store is an even better idea. Many products have too much wasteful packaging, and a significant part of the cost for any product is the packaging. If you bring your own containers to refill stores, you'll likely find your favorite green products at reduced prices. Search online for refill stores near you.

- Home composting is a great practice for every household. Keeping organic waste out of the landfill is essential to reducing methane gas, which is an even more potent greenhouse gas than carbon dioxide. There are many compost container price and size options to fit any housing situation, and they create rich compost for gardening.
- Reusables are a great idea for anyone on your gift list. They help save money while helping the environment. Treat your green giftee to reusable straws, bottles, napkins, sandwich bags, utensils, and much more. And you can give them in a reusable gift bag.
- If you're looking to give that neighbor or co-worker chocolate or coffee, look for the fair-trade symbol that ensures the products were cultivated sustainably and fairly. Companies earning this logo practice fair-wage agreements with producers and set production standards to help ensure sustainability.



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