

# **Sustainability Roadmap 2018-2019: Green Operations**

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

**California State Lottery**

Edmund G. Brown Jr., Governor



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# California State Lottery

## Sustainability Roadmap: Green Operations

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# Acronyms

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<b>CALGREEN</b>	California Green Building Code (Title 24, Part 11)
<b>DGS</b>	Department of General Services
<b>EO</b>	Executive Order
<b>EPP</b>	Environmentally Preferable Purchasing
<b>GHGe</b>	Greenhouse Gas Emissions
<b>IEQ</b>	Indoor Environmental Quality
<b>LEED</b>	Leadership in Energy and Environmental Design
<b>MM</b>	Management Memo
<b>SAM</b>	State Administrative Manual
<b>SCM</b>	State Contracting Manual

# **EXECUTIVE SUMMARY**

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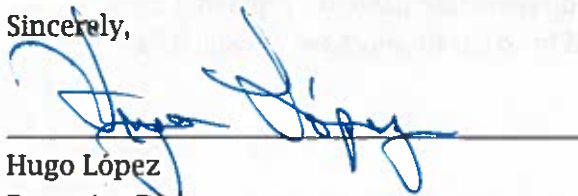
In 1984, Proposition 37 amended the California Constitution to authorize the establishment of a statewide lottery. As an initiative statute, the California State Lottery Act of 1984 (Lottery Act) created the California State Lottery Commission and gave it broad powers to oversee the operations of a statewide lottery. The purpose of the Lottery Act was to provide supplemental monies to benefit public education without the imposition of additional or increased taxes. The California State Lottery (Lottery) is administered by a five-person Commission appointed by the Governor and confirmed by the State Senate. In the 32 years since sales began in October 1985 through June 30, 2017, the Lottery has raised more than \$32.5 billion for California public education, including more than \$1.5 billion in Fiscal Year 2016-17. We're proud of the contributions we make to California's schools, and we work hard to increase our funding through efficient business practices.

The Lottery's Headquarters (HQ) building received Leadership in Energy and Environmental Design (LEED) "Gold" certification under the Building Design and Construction (BD+C) New Construction v2 rating system in 2012 and "Silver" certification under the Existing Buildings Operations + Maintenance (EBO+M) v.2009 rating system in February 2016. The Lottery's Santa Fe Springs District Office (DO) received LEED "Gold" certification under the Building Design + Construction - New Construction v.2009 rating system in November 2016. The Lottery's Southern Distribution Center (SDC) received LEED "Gold" certification under the Commercial Interiors v.2009 rating system in June 2017. The Lottery anticipates receiving LEED New Construction Gold for the Fresno DO by summer 2018. These facilities incorporate multiple sustainable features, including ice-based thermal energy storage, green roofs, daylight harvesting, a photovoltaic system, window glazing and automated window coverings--all of which reduce operating costs, improve energy efficiency, and reduce the structures' carbon footprint.

The Lottery's current Office Supply policy, Vehicle Replacement policy, Green Cleaning policy, Recycling and Waste Management policy, and Sustainable Purchasing policy all contain information regarding the use of green products and energy-efficient products.

The Lottery is committed to achieving the goals of both Executive Orders (EO) B-18-12 and B-16-12 and will continue to strive to do so.

Sincerely,



Hugo López  
Executive Director

# SUSTAINABILITY GOALS

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The Governor has directed California State Agencies to demonstrate sustainable operations and to lead the way by implementing sustainability policies set by the state. Sustainability includes the following general initiatives:

- Greenhouse Gas Emissions Reductions
- 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

The Governor has issued numerous executive orders directing sustainable state operations. The orders relevant to energy are:

## **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 onsite 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.

## **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 ten percent with ZEVs, and by 2020 to purchase at least 25% replacement fleet as ZEVs.

## **Executive Order B-30-15**

EO B-30-15 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 greenhouse gas emission reduction target of 40 percent below 1990 levels by 2030, and reaffirms California's intent to reduce greenhouse gas emissions by 80 percent below 1990



levels by 2050. To support these goals, this order requires numerous state agencies to develop plans and programs to reduce emissions.

## **Legislation**

### **AB 4**

Assembly Bill (AB) 4, was passed in 1989. The State Agency Buy Recycled Campaign 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 non-recycled products, and submit plans for meeting the annual goals for purchasing recycled content products.

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

The following sections of the State Administrative Manual (SAM), and associated Management Memos (MM), currently impose sustainability requirements on the department under the Governor's executive authority:

- MM 15-04: Energy Use Reduction for New, Existing, and Leased Buildings
- MM 15-06: Building and Grounds Maintenance and Operation
- MM 14-05: Indoor Environmental Quality: New, Renovated, And Existing Buildings
- MM 14-07: Standard Operating Procedures For Energy Management In State Buildings

# GREEN OPERATIONS

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## 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.

The Lottery's increase in square footage and its fleet since the baseline year of 2010 has made it challenging to meet the reduction of greenhouse gas emissions goals of 10% by 2015 and 20% by 2020. In order to achieve the 20% **minimum** reduction by 2020, the Lottery has and continue to do the following:

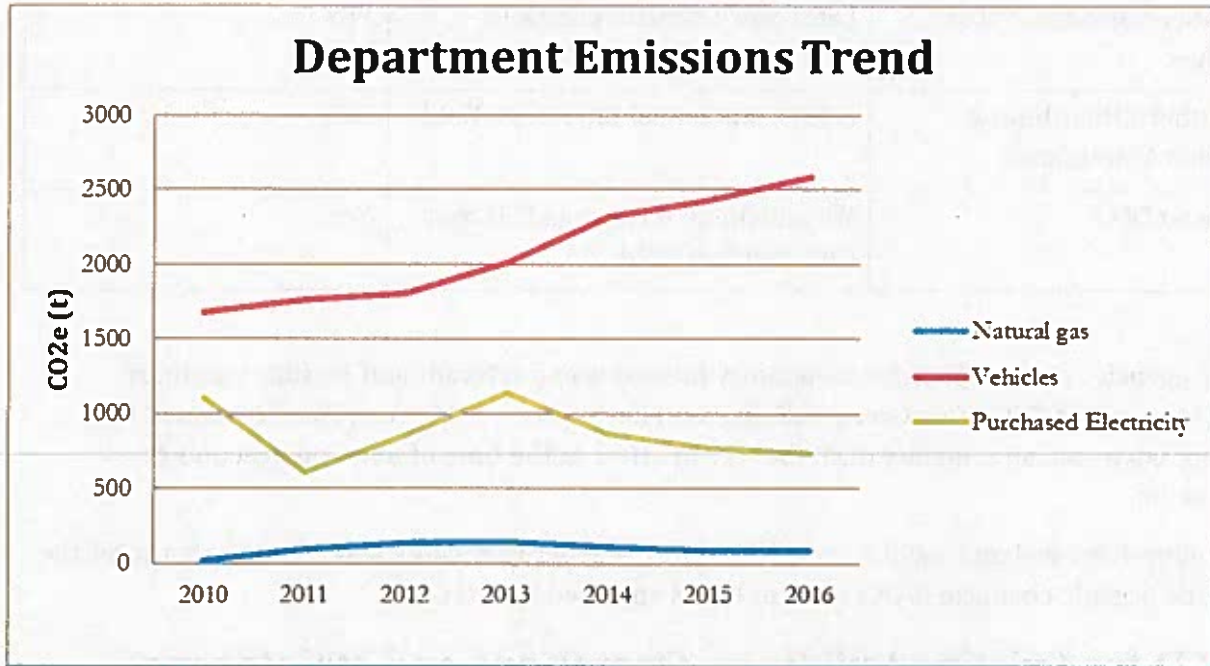
- Implement energy conservation principles at all buildings
- Complete energy analysis and audits, take consumption reduction measures, time-of-use (TOU) management and look into automated demand response (ADR) programs for all Lottery-owned facilities
- Identify and pursue zero-net-energy (ZNE) for all newly owned facilities
- Identify vehicles with high fuel use for ZEV/plug-in hybrid replacements

In Table 1, the Lottery had increased its use of natural gas and vehicles due to the additional growth in the number of facilities and people, however, all new facilities acquired since 2015 are 100% electric and do not use natural gas. The Lottery has updated all fixtures in Lottery-owned buildings to energy efficient fixtures. The Lottery's Santa Fe Springs DO, Fresno DO and SDC are buildings that generate solar energy; therefore, the Lottery purchased electricity has decreased despite the Lottery's growth.

Table 1 GHG Emissions since 2010

	2010	2011	2012	2013	2014	2015	2016	Percent Change since Baseline
Natural gas	16	99	138	144	111	90	85	432%
Vehicles	1,678	1,761	1,806	2,014	2,316	2,430	2,587	54%
Purchased Electricity	1,109	606	856	1,137	862	773	739	-33%
Total	2,803	2,465	2,800	3,295	3,289	3,293	3,411	22%

Graph 1: GHG Emissions since 2010



## Building Design and Construction

Executive Order 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.

Since July 1, 2012, the Lottery has completed three major renovation projects over 10,000 square feet and has obtained a LEED Gold certification for Santa Fe Springs DO and SDC. Those projects include the Santa Fe Springs DO, Fresno DO, and SDC. The Lottery ensures that new buildings or major renovation projects over 10,000 square feet obtain LEED Silver certification or higher by specifying that objective in the project scope. The Lottery's architect ensures the details and criteria for achieving this objective are specified in the project construction plans and specifications.

**Table 2: New Construction since July 1 2012**

<b>Project Name</b>	<b>LEED Level Achieved</b>	<b>Commissioning Performed (Y/N)</b>
Santa Fe Springs District Office	LEED New Construction Gold	YES
Southern Distribution Center Warehouse	LEED Commercial Interiors - Gold	YES
Fresno DO	We anticipate receiving LEED New Construction Gold	Yes

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.

Use adhesives, sealants, caulks, paints, coatings, and aerosol paints and coatings that meet the volatile organic chemical (VOC) content limits specified in *CALGreen*.

### **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.

The Lottery has three (3) buildings in its portfolio which meet the requirement for LEED Silver certification per EO B-18-12. Those buildings are HQ, NDC, and SDC. However, the NDC is not eligible, per LEED, to certify for EBOM because the building cannot meet the minimum Energy Star score of 75. Lottery project planning is underway with a goal of including it in the budget for FY 2018-2019.

The HQ building achieved LEED Silver certification under the Operations and Maintenance rating system in February 2016. The Lottery utilized a LEED consultant as well as an on-staff LEED AP to facilitate the certification. There was a brief struggle with meeting the Energy Star score of 75; however, after an energy audit and some slight modifications to the system, the Lottery met and exceeded the threshold and became an Energy Star Certified building. The Lottery HQ building continues to maintain an Energy Star score over 75.

The SDC was opened for business in the fall of 2016. The building obtained Gold certification under the LEED Commercial Interiors rating system in June of 2017. The Lottery has registered this building under O+M v. 2009 and anticipate achieving Gold certification in early 2019. The Lottery will be utilize the on-staff LEED AP, as well as a consultant for certification. There are no anticipated barriers in achieving this certification.

**Table 3: LEED for Existing Buildings and Operations**

Number of Buildings over 50,000 sqft and eligible for LEED EBOM	Number of Building over 50,000 sqft that have achieved LEED EBOM	Percentage of buildings over 50,000 sqft required to achieve LEED EBOM that have achieved it
2	1	50%

## **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

The Lottery has in place a Green Cleaning Policy and Program (GCP) which encourages the purchase of environmentally preferable products when compared to competing goods that serve the same purpose. Additionally, there is a Building Exterior Site Management Plan in place. The policy states:

- Recycled paint shall be used for appropriate exterior applications where recycled paint is of a quality comparable to virgin paint.
- Low or Zero Volatile Organic Compound (VOC) paint shall be used in building interiors to improve indoor air quality.
- Adhesives and sealants applied to the exterior of the building shall have a VOC content less than the VOC content limits of SCAQMD Rule #1168.
- Sealants used as fillers must meet or exceed the requirements of the Bay Area Air Quality Management District Regulation 8 Rule 51.
- Paints and coatings must have VOC emissions not exceeding the VOC and chemical component limits of Green Seal's Standard GS-11 requirements.

By specifying CALGreen and LEED requirements in the building plans, the Lottery ensures all new construction and renovation projects include the following:

- Commissioning to ensure proper operation of all building systems, including delivering the required amount of outdoor air.
- All relevant mandatory and all relevant and feasible voluntary measures from CALGreen Division 5.5 and Appendix section A5.5.
- Specialized air treatment for buildings where air quality standards are routinely exceeded, including Minimum Efficiency Reporting Value (MERV) 13 or MERV 16 air filters and ozone removing air cleaning devices.
- Outdoor airflow monitoring systems.
- An Indoor Environmental Quality (IEQ) Construction Management Plan that meets CALGreen Sections A5.501.1-A5.504.

In newly constructed facilities, the Lottery maximizes daylighting by:

- Designing regularly occupied areas to have direct line of sight to the outdoors when achievable. In cases where the building cannot accommodate direct line of site outdoor views, such as in the restrooms or interior offices, the architect uses Solatube fixtures that channel outside light inside the building.
- Using the standard specified light fixtures upright in order to eliminate glare and disperse light more evenly in the space. All light fixtures have photo sensor controls.

#### Furnishings

The Lottery recognizes the importance of purchasing sustainable products and strives to reduce the environmental impact of products used in business operations and building maintenance. The Lottery's goal is that at least 40% of the cost of goods purchased will meet standards to reduce toxic chemicals in the furnishings and comply with one or more of the following criteria:

- Contain at least 10% post-consumer and/or 20% post-industrial material
- Contain at least 70% salvaged material from off-site or outside the organization
- Contain at least 70% salvaged material from on-site through an internal materials and equipment reuse program
- Contain at least 50% materials harvested, extracted and processed within 500 miles of the facility/site
- Consist of at least 50% Forest Stewardship Council (FSC) certified wood

#### Cleaning Products

The Lottery has adopted a GCP in accordance with LEED O+M IEQ Prerequisite 3, and credit 3.1 (v.2009). The GCP indicates at a minimum of 30% based on cost, cleaning products and materials used meet sustainability requirements. Cleaning product types subject to the requirement include but are not limited to bio-enzymatic, hard floor, carpet, general purpose, specialty, odor control, disinfectants, disposable janitorial paper products, trash bags and hand soaps.

The Lottery ensures the use of low-emitting products by tracking janitorial purchases on a monthly basis.

#### Cleaning Procedures

The Lottery has adopted a GCP in accordance with LEED O+M IEQ Prerequisite 3, and credit 3.1 (v.2009). The GCP indicates at a minimum of 30% based on cost, cleaning products and materials used meet sustainability requirements. The GCP addresses:

Responsible Parties  
Quality Control  
Cleaning Products and Materials  
Cleaning Equipment  
Equipment Purchasing Criteria  
Equipment Record Keeping  
Hard Floor and Carpet Maintenance  
Entryway Systems Maintenance  
Hand Hygiene  
Handling and Storage of Cleaning Chemicals  
Use of Chemical Concentrates and Dilution Systems  
Dispensing Equipment Protocol  
Dispensing Equipment Maintenance  
Staffing and Training

## Vulnerable Building Occupants Occupant Feedback and Evaluation of New Technologies

The Lottery contracts with a third-party vendor to conduct an annual Green Cleaning Custodial Effectiveness Assessment in accordance with Association of Physical Plant Administrators (APPA) Leadership in Educational Facilities Custodial Staffing Guidelines.

### HVAC Operation

The Lottery has ensured the HVAC systems provide no less than required minimum outdoor air requirements by hiring an outside contractor to verify air quality for LEED certifications.

All HVAC systems are inspected annually and all inspections and maintenance are documented in our automated maintenance management system. The inspections include:

- Verifying minimum outdoor airflows by checking damper positions.
- Confirming that air filters are cleaned and replaced based on manufacturer's specified static pressure drop.
- Verifying air filters used have a MERV 8 pre-filter with MERV 15 bag filters.
- Performing weekly checks during morning walk-throughs to verify that all outdoor dampers, actuators and linkages are operating properly.
- Checking hot water coils on an annual basis.
- Checking the air handler quarterly to make sure clean and free of leaks.
- Ensuring a contracted company inspects cooling towers on a quarterly basis.
- Confirming cooling tower plumes are further than 25 feet from the building.

The Lottery purges the building with outdoor air sufficient for three complete air changes from 3:00a.m. to 6:00a.m. every morning and monitors the HVAC system through the Building Automation System(BAS).

## **Integrated Pest Management**

Department 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, physical barriers and other non-chemical practices. If non-chemical controls are ineffective Tier 3 herbicides and insecticides may be used, progressing to Tier 2 and then Tier 1 if necessary to manage pests.

In accordance with LEED IEQ standards, the Lottery has adopted an Integrated Pest Management Policy & Program. Contractors are required to maintain third party certification through GreenShield, EcoWise or GreenPro for the entire term of the respective Service Agreement. The following six elements are addressed in the program:

Monitoring

Recordkeeping

Action Levels

Prevention

Tactics Criteria

Evaluation

Service reports from contractor are reviewed monthly.

**Table 4: Pest control contracts**

<b>Pest Control Contractor</b>	<b>IPM Specified (Y/N)</b>
Advanced Integrated Pest Management	YES
Western Exterminator	YES

## **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.

### Lessening Impacts

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

In accordance with the Lottery's Sustainable Purchasing policy, the following purchases are tracked on a monthly basis to ensure sustainability purchasing goals are met:

- Ongoing consumables (office supplies and paper goods) - Goal 60% by cost
- Durable goods (office equipment, electronics, furniture) - Goal 40% by cost
- Lamps - Goal 100%
- Paint Products - Goal 100%
- Janitorial Equipment - Goal 30%
- Janitorial Supplies - Goal 30%

### Measure and Report Progress

The Lottery tracks purchases on a monthly basis to evaluate the percentage of purchases which meet sustainability criteria. There are designated staff members who report these purchases. Purchasers have a clear understanding of the policies, programs and goals.

In November 2010, the Lottery received confirmation from the Department of Resources Recycling and Recovery (CalRecycle) that the Lottery, based upon the statutes noted in the Lottery Act, is not subject to the State Agency Buy Recycled Campaign (SABRC) reporting requirements of the Public Contracts Code. It was also determined that the State Agency requirements of AB 75 (located in the Public Resources Code) are not impacted by this exemption. Due to this exemption, the Lottery does not track the expenditures listed in Table 5 and does not have the information available. However, the Lottery does track the purchasing of specific items for LEED requirements such as: IT equipment, furniture, green cleaning and paper custodial supplies, as well as office supplies, and follows the requirements of the Lottery's Sustainable Purchasing policy.



**Table 5: State Agency Buy Recycled Campaign 2016 Performance**

Product Category	SABRC Reportable Dollars	SABRC Compliant Dollars	% SABRC Compliant
Antifreeze	N/A		
Compost and Mulch	"		
Glass Products	"		
Lubricating Oils	"		
Paint	"		
Paper Products	"		
Plastic Products	"		
Printing and Writing Paper	"		
Metal Products	"		
Tire Derived Products	"		
Tires	"		

**Table 6: Commodities categories with the greatest Potential to Green**

Commodity	2016 Total Spend (\$)	2016 Percent EPP Spend (%)	Commitment to Increase EPP per commodity (%)
IT Equipment	\$89,406.98	131%*	We are exceeding our goal of 40% by cost.
Furniture	\$84,193.09	70%*	We are exceeding our goal of 40% by cost
Green Cleaning	\$48,472.80	65%	We are exceeding our goal of 30% by cost. Commitment to increase to 70%
Office	104,273.85	41%	Increase to 60%

\* The EPP percentage is a weighted value when items met more than one criteria for sustainability.

**Sustainability Development and Education**

The Lottery does not have a central purchasing process. Each division is responsible for securing bids for contracts, service agreements and purchasing of goods. These items are then submitted to the Contract Development Services Unit which ensures all appropriate rules and regulations are followed, processes the documents, and obtains approvals. Training is determined by the buyer's knowledge, goals, etc., and their management's requirements. Some training courses that Lottery buyers have attended are: Leverage Procurement Agreements, Service Contracting Workshop, Statement of Work and The Contract Manager's Role Prior to Contract Award. Staff have also obtained certification by taking the Contract Management Certificate Program through the College of Continuing Education at Sacramento State.

The Lottery incorporates all sustainable purchasing requirements in the Scope of Services during bid solicitation. Potential bidders certify their submitted bid meets the scope of services requirements.

Currently, the Lottery does not have one or more procurement staff dedicated to environmentally preferable products, however we do have a Sustainability Analyst (SA) on staff who is LEED AP certified. The SA tracks purchasing of IT equipment, furniture, green cleaning and paper custodial supplies, as well as office supplies. All bid documents for Facilities and Custodian related purchases, service agreements and contracts are reviewed by the SA to ensure all LEED requirements are met.

**Total Number of Employees Assigned as Buyers: 54**

**Table 7: Buyers who have completed EPP Training**

<b>CalHR Classification</b>	<b>Total Number of Buyers</b>	<b>Percent Completing EPP Training</b>	<b>Commitment to have buyers complete EPP training (%)</b>
Associate Governmental Program Analyst	1*	1	2%

\*EPP certification is not a requirement of Lottery buyers because purchases mentioned above are tracked by the SA to meet LEED requirements.

## **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 department 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 the department compete for a future workforce that prefers walkable, bikeable and transit-accessible worksites and aligns department operations with the California's planning priorities.

Our department's goal is to for the average location efficiency score for all new leases to be 10% higher than our average as of Jan. 1, 2017.

The Lottery currently has a Facilities Master Plan to purchase Lottery-owned facilities to replace its leased facilities. When searching for new facilities, the Lottery takes into consideration if the building's location is near public transportation, main streets and close to freeway access. Due to the Lottery's efforts to replace all leased buildings with owned ones, the Lottery has not entered into a new lease in 2017. Therefore, in Table 8 the Lottery will report on the four new buildings it has purchased in 2017.

**Table 8: Smart Location Score for new Owned 2017**

<b>Facility name</b>	<b>Smart Location Calculator Score</b>
Rancho Cucamonga	66
Los Angeles	60
Costa Mesa	74
Milpitas, CA	58
Average	64.5
Baseline	72.05
% change from Baseline	10.48%

**Table 9: Lowest Smart Location Score Leases**

<b>Facility name</b>	<b>Smart Location Calculator Score</b>
East Bay	50
San Francisco	57

# SUSTAINABILITY MILESTONES & TIMELINE



# DEPARTMENT STAKEHOLDERS

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<b>Greenhouse Gas (GHG) Emissions</b>	
Lottery, Operations Division	Colleen Uhlenhop, Facilities Manager
Lottery, Operations Division	Thea Heffernan, Facilities Analyst

<b>Building Design and Constructions</b>	
Lottery, Operations Division	Veronica Rahn, Sustainability Analyst
Lottery, Operations Division	Colleen Uhlenhop, Facilities Manager
Lottery, Operations Division	Derick Brickner, Facilities Development Manager

<b>LEED for Existing Buildings: Operations and Maintenance</b>	
Lottery, Operations Division	Veronica Rahn, Sustainability Analyst
Lottery, Operations Division	Colleen Uhlenhop, Facilities Manager
Lottery, Operations Division	Derick Brickner, Facilities Development Manager

<b>LEED for Existing Buildings: Operations and Maintenance</b>	
Lottery, Operations Division	Veronica Rahn, Sustainability Analyst
Lottery, Operations Division	Colleen Uhlenhop, Facilities Manager
Lottery, Operations Division	Mike Lilly, Stationary Engineer

<b>Integrated Pest Management</b>	
Lottery, Operations Division	Veronica Rahn, Sustainability Analyst
Lottery, Operations Division	Colleen Uhlenhop, Facilities Manager

<b>Environmentally Preferable Purchasing</b>	
Lottery, Operations Division	Veronica Rahn, Sustainability Analyst
Lottery, Operations Division	Colleen Uhlenhop, Facilities Manager
Lottery, Operations Division	Tina Miranda, Procurement Manager

<b>Location Efficiency</b>	
Lottery, Operations Division	Colleen Uhlenhop, Facilities Manager
Lottery, Operations Division	Thea Heffernan, Facilities Analyst