



Finance and Administration Committee Agenda Item 4g

April 18, 2017

Item Name: Annual Operational Sustainability Report

Program: Operations Support Services Division

Item Type: Information Consent

Executive Summary

CalPERS consistently aligns its business practices with sustainable principles that result in long-term benefits to the environment. In April 2012, Governor Brown issued Executive Orders which set aggressive new sustainability standards to green the State's buildings, reduce greenhouse gas emissions, improve energy efficiency and conserve water. Having sustainable practices in existence prior to the Governor's mandates allowed CalPERS to meet many of the requirements before their respective deadline. CalPERS is committed to being a leader in sustainable practices and will continue to operate in an environmentally responsible manner by reducing and recycling waste, purchasing environmentally preferred products, and aligning with green building operations to help reduce our carbon footprint.

Strategic Plan

Although a specific objective or initiative is not outlined in the 2012-17 Strategic Plan, this Agenda Item supports Goal B of the CalPERS 2012-17 Strategic Plan which is to cultivate a high performing, risk intelligent, and innovative organization while also supporting the CalPERS Core Values of Accountability and Integrity. Monitoring and refining CalPERS sustainable best practices are part of the regular and ongoing workload of the Operations Support Services Division (OSSD).

Background

Executive Orders (EO) B-18-12, B-16-12 and B-29-15 were introduced to increase state agencies sustainability initiatives. EO B-18-12 requires state agencies to reduce greenhouse gas emissions (GHG), energy and water usage, meet green building standards, purchase environmentally preferable products, improve indoor environmental quality and to develop infrastructure for electric vehicle charging stations. EO B-16-12 mandates agencies to develop infrastructure for charging stations and added the requirement for the integration of zero emission vehicles into the fleet. EO B-29-15 directs the state to reduce urban potable water use, also known as drinking water. Subsequent management memos provide further detail and clarification on these original Executive Orders.

OSSD collaborates with the Property Manager, Colliers International, to meet and exceed the Governor's requirements. In 2016, the Sustainability team attended workshops and conferences to network and share resources with other sustainability leaders, improved green building operations and completed recycling studies to evaluate the current recycling program.

Analysis

The activities outlined below provide highlights and accomplishments CalPERS has achieved in this last year since the April 2016 Annual Operational Sustainability Agenda Item to the Finance and Administration Committee.

Greenhouse Gas Emissions Reduction

- EO B-18-12 mandates a 10 percent reduction of GHG emissions by 2015 and a 20 percent reduction by 2020 based on a 2010 baseline. In 2015, a reduction of 75 percent GHG emissions, or 4,855 metric tons of carbon dioxide equivalent, were achieved based on the 2010 baseline. CalPERS exceeded the 2015 target by 65 percent.
- In 2016, The Climate Registry (TCR) recognized CalPERS for having the highest percent reduction in entity-wide GHG emissions as compared to other state agencies. TCR is a non-profit governing body that maintains the standards that allow agencies to measure, report and verify their entity-wide GHG emissions.
- TCR confirmed that CalPERS is one of the few state agencies that completes 3rd party verification. This is a voluntary measure in which verifiers review the prior calendar year data used to calculate the GHG inventory and ensure that the reported values have an accuracy of plus or minus 5 percent.
- CalPERS continues to purchase renewable energy certificates and participate in the Sacramento Municipal Utility District (SMUD) Greenergy Program. The SMUD Greenergy program allows CalPERS to report that the CalPERS facilities had zero emissions from electrical energy provided by SMUD. Since 2016, CalPERS has received a mix of Green-e certified wind and solar generation from the State of California to offset 100 percent of the electric energy consumed by CalPERS Lincoln Plaza. In addition, CalPERS participation in this program increases the demand for clean energy and supports SMUD's decision to have more renewable zero emission generation sources.

Energy Conservation and Initiatives

- EO B-18-12 mandates a 20 percent grid-based energy reduction by 2018 with 2003 as the energy baseline. CalPERS has increased the total area of Lincoln Plaza by 62 percent since 2003. Therefore, this increase does not allow for a direct comparison of energy as an accurate baseline for this mandate. The energy use intensity (EUI) or the total energy per square foot, however does provide a means for comparison. In 2016, CalPERS had a 34 percent reduction in EUI as compared to 2003, and reduced its grid-based energy by 3 percent compared to 2015.
- Energy Star is a voluntary labeling program led by the U.S. Environmental Protection Agency. All of CalPERS headquarters buildings surpassed the Management Memo (MM) 15-04 mandated Energy Star score of 75: Lincoln Plaza East and West (LPEW), 94, Lincoln Plaza South (LPS), 93 and Lincoln Plaza North (LPN), 85. Additionally, CalPERS grid-based energy use is automatically transferred from SMUD and Pacific Gas and Electric to the Energy Star Portfolio Manager monthly per MM15-04.
- In 2014, Governor Brown issued Management Memo 14-09 (MM 14-09), which directs all state agencies to meet data center and server room efficiencies. The memo also mandates that state data centers greater than 1,000 square feet, measure and report



their power usage effectiveness (PUE) annually. Data centers with a PUE that exceeds 1.5 must reduce the PUE by 10 percent per year until a PUE of 1.5 is reached.

- In 2016, it was reported that the Lincoln Plaza West (LPW) data center had a PUE of 1.39. The LPW data center is 1 of 4 state-owned and reported data centers with a PUE less than 1.5.
- In 2016, to comply with MM 14-09, CalPERS began decommissioning the LPN data center and converting it into an intermediate distribution frame (IDF) closet. This allowed CalPERS to migrate the LPN equipment to the more energy efficient LPW Data Center. The LPN data center will be fully decommissioned in April 2017.

Leadership in Energy and Environmental Design (LEED®)

- MM 15-04 mandates all existing State buildings over 50,000 square feet to complete LEED® Existing Building Operations and Maintenance (EB O+M) certification. The LEED® Green Building Certification Program, administered through the United States Green Building Council and Green Building Certification Institute, is the nationally accepted benchmark for green buildings.
- In 2014, LPN was certified Gold and LPEW was certified Platinum. In October 2015, LPS was certified for the first time as LEED® EB O+M Gold. CalPERS will evaluate recertifying these buildings under LEED® version 3 in 2018.

Water Conservation and Initiatives

- EO B-18-12 mandates a 20 percent water reduction by 2020. In 2016, CalPERS used 25 percent less water compared to the 2010 baseline, meeting this mandate 4 years ahead of schedule.
- In 2016, Governor Brown extended B-29-15, The Drought State of Emergency Declaration, ordering state agencies to take action and prepare for emergency conditions by reducing water use by 25 percent compared to the 2013 baseline. This mandate was met with a 44 percent water savings in 2016. Surpassing the mandate, CalPERS saved a cumulative 38 million gallons of water from 2013 through 2016.
- To further reduce water use, CalPERS added a recaptured water system that distributes cooling tower water that would otherwise be wasted. Recaptured water is now used for irrigation, window washing, pressure washing and other maintenance applications where potable water is not required. The expanded pipe delivery system will make the water accessible in key areas and will allow more of the recaptured non-potable water to be used for cleaning purposes.
- On a monthly basis, CalPERS water consumption is reported to Energy Star Portfolio Manager per MM15-04 and all water efficiency projects are reported to the Department of General Services (DGS) via the Drought Actions Matrix.

Electric Vehicles & Charging Stations

- In December 2016, Management Memo 16-07 (MM 16-07) Zero-Emission Vehicle (ZEV) Purchasing and Electric Vehicle Equipment Infrastructure Requirements was issued. The purpose of the memo is to support the requirements in EO's B-18-12 and B-16-12 that require state agencies to develop the infrastructure for electric vehicle charging



stations and directs state agencies to purchase at least 25% replacement fleet as ZEV's by 2020.

- MM 16-07 ordered state agencies to designate 5 percent of all parking spaces for electric vehicle supply equipment (EVSE) through Fiscal Year (FY) 2020/2021. CalPERS is working with Colliers International on an EVSE study to determine the best placement for the additional 71 Level 1 and 4 Level 2 chargers. The additional EVSE infrastructure will be designed and installed before the 2021 deadline.
- A Level 1 charger only requires CalPERS to provide a standard electrical outlet for employees to plug in their own charging equipment. A Level 2 charger requires CalPERS to purchase infrastructure that provides a plug for employees to charge their vehicles. The average charging time for a depleted Level 1 charger is 15-16 hours and a Level 2 charger is 3-4 hours. Most batteries are not completely depleted when they come to charge.
- The memo also requires an increase in annual light-duty (LD) ZEV purchasing by 5 percent each year through FY 2024/2025. CalPERS has a total of 31 LD vehicles in its fleet. Based on average mileage and purpose of the vehicle, over this period, a total of 17 vehicles would need to be replaced with either pure electric, plug-in hybrid or hybrid, which is permitted on the DGS contract.

Environmental Preferable Purchasing

- The State Agency Buy Recycled Campaign (SABRC) is a joint effort between CalRecycle and DGS. In addition to purchasing products containing recycled content, state agencies are required to track their purchases and submit an annual report on total expenses for each product category, with the goal of 50 percent post-consumer recycled content for each.
- For FY 2015/2016 CalPERS' total expenses for recycled content products were: 100 percent of metal products, 83 percent of plastic products, 84 percent of paper products, and 66 percent of printing and writing paper. This is an increase of 14 percent over last year's paper and writing paper percentage.

Waste Management and Organic Waste Diversion

- In 2014, Assembly Bill (AB) 1826 was passed, which mandated that by April 1, 2016, businesses that generate 8 cubic yards or more of organic waste per week must arrange for recycling services specifically for organic waste. In January 2017, AB 1826 reduced the required amount from 8 cubic yards or more to 4 cubic yards or more of organic waste per week. In partnership with Greenwise and Atlas, CalPERS has been recycling organic waste since 2013, three years prior to the implementation of AB 1826, and was even recognized by CleanWorld at the 2014 State of Organic's press conference for being a leader in sustainability through organic waste diversion. In 2016, CalPERS headquarters created 4.1 cubic yards per week which is recycled through Atlas Disposal and Carson Landscaping.
- Through this diversion program, the Café, Subway, Chocolate Fish & Montessori in the City collect their organic waste for disposal into a special Atlas Disposal organics bin. The food waste is then diverted to a digester that produces an alternative fuel product which is used by the City of Sacramento and Atlas to fuel their fleet vehicles.



- In addition to the organic waste diversion program, in September 2016, CalPERS began a recycling study to evaluate the current recycling program through waste audits of the Lincoln Plaza buildings. The study will provide best practices to implement regarding internal and external collection, receptacles and signage as well as programs and behavior changes aimed at increasing the amount of waste that CalPERS diverts from the landfill.

Café Vendor

- The Café vendor, Compass Group USA, continues their partnership with “The Imperfectly Delicious” program that utilizes fruits and vegetables that are usually discarded due to slight cosmetic imperfections, but that are perfectly suitable for consumption. In 2016, the Café rescued 8,500 pounds of produce and saved 221,000 gallons of water through this program.
- In 2016, Compass expanded the Hampton Creek product line from “Just Mayo” and “Just Cookies” to include “Just Dressings.” Hampton Creek focuses on finding new high quality plant-based ingredients and is known for solving intensive agricultural issues and making sustainable products.
- Compass continues to connect with sustainable businesses to align with CalPERS’ environmental goals. In 2016, Compass featured sustainable grains such as beans, rice medley and legumes from InHarvest. The InHarvest sustainable products are grown and packed in California and are whole-grain and gluten-free. In addition, InHarvest applies sustainable practices to their on-site production and processes.
- The Monterey Bay Aquarium’s Sustainable Seafood Watch program partners with Compass and makes recommendations about which seafood to buy or avoid. The program also helps to select items that are fished or farmed in ways that have a reduced impact on the environment. All tuna served in 2016 was caught without fish aggregating devices, which is a less destructive and more sustainable way to bring tuna to the table. In addition to the sustainable tuna, Compass still uses cage-free eggs and poultry free of antibiotics or hormones.

Industry Outreach and Recognition

- CalPERS was awarded the 2016 Sacramento Area Sustainable Business Award from the Business Environmental Resource Center (BERC) for CalPERS water conservation efforts. BERC recognizes top environmentally proactive Sacramento area businesses each year whose work practices demonstrate an outstanding commitment to enhancing sustainability. CalPERS award winning effort includes the cooling tower water recapture project, which is designed to collect approximately 1.7 million gallons of water annually for irrigation and maintenance purposes.
- The Association of Energy Engineers (AEE) presented CalPERS with the 2016 AEE Sustainability Award for continuous improvement through energy reduction. The AEE award recognizes local organizations for their leadership in sustainability and innovation in energy management practices.
- In 2016, CalPERS renewed its membership with the Building Health Initiative (BHI) Owners & Managers Working Group. BHI is comprised of approximately 45 companies



and institutions throughout California. All members are committed to revolutionizing building health and fostering sustainable communities.

- The California State Agency Green Employees (SAGE) holds quarterly meetings, which CalPERS attends. SAGE is led by CalRecycle and assists state agencies in reaching statewide waste diversion, environmentally preferable purchasing and recycling goals and mandates.
- CalPERS attends monthly Sustainable Building Working Group meetings led jointly by DGS and the Governor's office. These working groups are an opportunity to clarify and develop guidelines for the execution of the standards set forth in the EO's.
- The Sustainability Committee, formerly known as the Green Club continues to be a valuable part of the Sustainable Operations Program. In 2016, meetings were changed from monthly to quarterly. To replace the monthly meetings, on-site events are held to increase awareness and improve employees' sustainable habits. During the quarterly meetings, team members actively engage in discussion; share ideas on energy conservation, carbon footprint reduction, and other green initiatives. In April, the Sustainability Committee will participate in the annual Earth Month activities and educate employees about alternative commuting, energy efficiency, recycling, and waste reduction.

Budget and Fiscal Impacts

The majority of funding for the sustainability projects identified above spanned the course of two fiscal years and was included within existing budgetary resources. Savings in the areas of energy and water reduction, allowed CalPERS to implement sustainable projects such as the recaptured water system that distributes the recaptured cooling tower water.

In summary, CalPERS continues to be a leader in sustainability and is committed to help preserve our state's natural resources by implementing green building best practices to deliver measurable and effective contributions to the environment.

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