

MANAGEMENT MEMO

NUMBER:	MM 15-04
DATE ISSUED:	May 13, 2015
EXPIRES:	UNTIL RESCINDED
ISSUING AGENCY:	DEPARTMENT OF GENERAL SERVICES

SUBJECT: **ENERGY USE REDUCTION FOR NEW, EXISTING, AND LEASED BUILDINGS**

REFERENCES: Governor's Executive Order B-18-12 and the Green Building Action Plan

Purpose

This management memo provides direction to all state agencies to reduce and to report energy use in:

1. New building design and construction
2. Major alterations and additions (new buildings and renovations)
3. Existing state-owned buildings (existing buildings)
4. New and renegotiated state building leases (building leases)

Policy

All state agencies shall achieve targets and timelines for energy use reductions established in Executive Order B-18-12 and the Green Building Action Plan for buildings they design, build, manage, or lease.

- Agencies shall include their strategies and procedures to achieve these targets in their existing building infrastructure plan updates.
- Agencies shall enter all energy consumption data into the ENERGY STAR® Portfolio Manager® annually, by March 1. As agencies automate their meters, this information will be collected monthly.

Authority

This management memo is executed under the Governor's executive authority established in Executive Order B-18-12 and the Green Building Action Plan.

Definitions

[Green California Glossary](#)

Who is Affected

All state agencies under the definition of Government Code §11000: (a) As used in this title, "state agency" includes every state office, officer, department, division, bureau, board, and commission. It is requested that entities of state government not under the Governor's direct executive authority also implement similar measures. This policy affects state agencies that manage state-owned buildings, or that lease building space not owned by the state.

Requirements

Requirements for state agencies are presented in the following four sections:

- 1. New Buildings and Renovations**
- 2. Existing Buildings**
- 3. Building Leases**
- 4. Reporting**

**New Buildings
And Renovations****1. New Buildings and Renovations**

- a. All new building and renovation project computer modeling, reports, and other related documentation prepared as part of the design process shall become the property of the state once the project is closed out and/or has received an occupancy permit.
 - b. All new building and renovation projects shall be designed and constructed to exceed by 15 percent the applicable version of the Title 24, Part 6, Building Energy Efficiency Standards.
 - c. All new building and renovation projects *less than 10,000 gross square feet of building area (gsf)* shall meet or exceed project applicable Title 24, Part 11, California Green Building Standards Tier One requirements.
 - d. All new building and renovation projects **larger than 5,000 gsf and exceeding an energy use intensity (EUI) of 50,000 British thermal units (BTU)/gsf, or larger than 10,000 gsf** shall be commissioned in accordance with Leadership in Energy and Environmental Design (LEED) requirements and California Title 24, Part 6, Energy Efficiency Standards that are in effect at the time.
 - e. All new building and renovation projects **larger than 10,000 gsf** shall:
 - i. Install and operate all design-appropriate and economically feasible clean, onsite power generation including, but not limited to solar photovoltaic, solar thermal, and wind power generation including clean backup power supplies.
 1. To the extent possible, explore methods of alternative financing including but not limited to [power purchase agreements \(PPAs\)](#) or other mechanisms to fund, install, and/or manage on-site renewable energy generation.
 - ii. Obtain LEED Silver or higher certification using the version of LEED that is in effect at the time the project schematic design documents are initiated by the state agency. Certification to an equivalent or higher rating system or standard (if any) is acceptable only when approved by the Sustainability Task Force.
 - f. All new building and renovation projects that are authorized to begin the schematic phase of design on or after **January 1, 2020, and before January 1, 2025**, shall be constructed as zero-net-energy (ZNE) facilities, **unless** the department has achieved the goal of at least 50 percent of new building and renovation projects during that period being ZNE. All new building and renovation projects that are authorized to begin the schematic phase of design on or after **January 1, 2025**, shall be constructed as zero-net-energy (ZNE) facilities.
 - g. All new buildings and renovation projects shall include an Energy Management Systems (EMS) with a training program for energy management and maintenance staff; or shall include an Energy Management Plan.
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Existing Buildings 2. Existing Buildings

- a. **Before January 1, 2016, all existing buildings over 50,000 gsf** shall complete LEED for Existing Building Operations and Maintenance (LEED-EBOM) certification. Buildings shall meet or exceed an ENERGY STAR rating of 75, to the maximum extent cost-effective.
- b. **For calendar year 2018 or before**, all state agencies shall take measures to reduce annual grid-based energy purchases for existing buildings by 20 percent, compared to a 2003 calendar year baseline. Total grid-based energy purchases shall be calculated in equivalent thousand British thermal units (kBtu) when compared to purchases in calendar year 2003 for all forms of energy provided (for example, electricity, natural gas, propane, and any other forms of energy) according to Table 1 below.

Table 1: Site Energy kBtu Conversion

Energy Type	Energy Unit	Site Energy Conversion
Electricity	1 kilowatt hour	3.412 kBtu
Natural Gas	1 therm	99.976 kBtu
Propane	1 gallon	95.500 kBtu

- i. Agencies shall enter current energy use data into the ENERGY STAR Portfolio Manager database, including electricity, natural gas, propane, on-site renewable energy, and any other forms of energy. Onsite renewable energy generated counts toward energy reductions and is not included in total energy purchases.
 - 1. Online access to the ENERGY STAR Portfolio Manager database shall be provided to DGS.
 - 2. Retail electricity purchases for water management activities directly associated with water conveyance and flood control are excluded.
 - ii. Agencies shall set up automated energy data transfers from their utility into the ENERGY STAR Portfolio Manager database, if available from their utility.
- c. **Before January 1, 2025**, all state agencies shall take measures toward achieving ZNE for at least 50 percent of total state-owned building area (gsf) that they manage. Agencies shall:
 - i. Reduce non-facility energy use (including plug loads affected by building occupant behaviors, computers, equipment and appliances).
 - ii. Assess feasibility, methods, and mechanisms to install on-site renewable energy to generate as much energy over a year as all combined sources of energy used on the site during the same year.
 - iii. To the extent possible, explore methods of alternative financing including, but not limited to [energy service companies \(ESCOs\)](#), on-bill financing, GS-\$Mart, and PPAs.
- d. **By December 31, 2016**, all state agencies shall participate in all available demand response power supply programs designed to reduce peak electrical loads when such programs do not adversely affect state agency building operations, occupant performance or indoor environmental quality.
- e. Existing buildings shall incorporate building commissioning to facilitate improved and efficient building operations as set forth in Table 2 below.

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Existing Buildings
(continued)

Table 2: Building Commissioning Criteria For Existing State Buildings

Building Type	Building Area (gsf)	EUI (kBtu/sq. ft.)	Required Commissioning
All existing state buildings	>50,000 gsf	EUI >20	Monitoring-based commissioning (MBCx)
	>5,000 gsf	EUI >100	MBCx
Metered state buildings	>10,000 gsf	EUI >30	MBCx

Building Leases

3. Building Leases

- a. All state agency build-to-suit leases shall be designed and constructed to meet the requirements of Section 1 above for New Buildings and Renovations.
- b. All new and renegotiated state building leases shall encourage lower-than-industry-standard energy and other resource use to the extent possible and economically feasible. These leases should also encourage landlords to participate in available utility programs that offer financial incentives and alternative financing to cover energy efficiency measure and renewable power system incremental costs.
- c. All new state building leases shall, where economically feasible, require the use of submeters for gathering energy use data as needed to complete ENERGY STAR Portfolio Manager reports.
- d. Renegotiated state building leases for buildings, where the state is a sole tenant, shall provide energy use data, if possible, for completing ENERGY STAR Portfolio Manager energy use evaluations and for benchmarking reports.
- e. All state-leased facilities shall participate in cost-effective demand response power supply programs designed to reduce peak electrical loads, if available, without adversely affecting state agency building operations, occupant comfort and performance, or indoor environmental quality requirements outlined in the [State Administrative Manual, Sustainable Operations and Practices Ch. 1825](#).

4. Reporting Requirement

Reporting Requirements

Each state agency shall be responsible for developing annual energy use reduction goals and intended actions for achieving the goals stated in its five-year infrastructure plan.

- a. Agency Reporting Requirements for State-Owned (Existing) Buildings and New and Renegotiated State Building Leases
The annual energy use reduction goals of existing buildings, as well as new and renegotiated state building leases, shall be included in the annual state agency five-year infrastructure plan, and annual whole building energy use shall be entered into the ENERGY STAR Portfolio Manager database, with access provided to DGS.

Benchmarking of initially occupied new buildings and build-to-suit leases should begin upon building occupancy.

Exceptions

Building leases of three years or less are exempt from the requirements of this Management Memo.

All public safety and health requirements take precedence over the requirements of this management memo.

Background

On April 25, 2012, the Governor issued [Executive Order B-18-12](#), including a [Green Building Action Plan](#), to accomplish the goals and requirements of the Executive Order. The State of California has the policy goal of achieving all new construction ZNE in the 2020 Title 24 code update for residential buildings and the 2030 Title 24 update for commercial buildings.

Alternative Funding Mechanisms

Alternative funding sources to support agency five-year infrastructure plans to meet or exceed the requirements of this management memo can include power purchase agreements ([PPA's](#)), [GS \\$Mart](#), the [Energy Efficient State Property Revolving Fund](#), or other funding mechanisms .

Additional Resources

Title 24, Part 6, Energy Efficiency Standards
<http://www.energy.ca.gov/title24/>

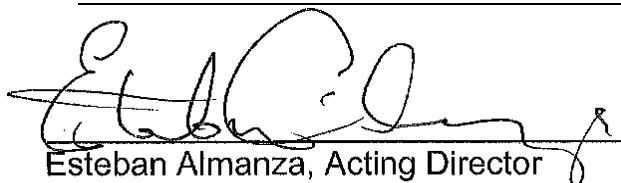
Design Guidelines to Consider

- Energy Design Resources, Investor-Owned Utilities [PG&E](#), [SDG&E](#), [SCE](#), [SMUD](#), and [LADWP](#)
- [Savings by Design Program Savings by Design Online Program Handbook](#)
- [Saving Energy in Commercial Buildings, NREL , U.S. Department of Energy](#)
- [Energy Star Building Upgrade Manual, U.S. Environmental Protection Agency](#)
- [National Institute of Building Sciences Whole Building Design Guide](#)
- [California Commissioning Guides for New Buildings and Existing Buildings Leadership in Energy and Environmental Design \(LEED\) Resources, US Green Building Council](#)
- [Database of State Incentives for Renewables & Efficiency](#)

Questions

Contact: Energy Standards Hotline, California Energy Commission, (916) 654-5106

Signature



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Date