

The multi-agency Built Environment Efficiency Working Group (BEEWG) is tasked with implementing Executive Order 17-20, a directive to improve the built environment in Oregon.

Directive 3. Energy Efficiency Leadership in State Buildings

Directs the Oregon Department of Energy to create a database of all eligible State-owned buildings by June 1, 2018.

A. High Performance Energy Targets for Existing State Buildings.

- State agencies will use high performance energy use targets for remodels in existing state-owned buildings.
- DAS and ODOE directed to consider American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 100 pathways, work with all state agencies to adopt targets for any remodels that begin after date of EO.
- ODOE to report on and track all state owned energy use to guide agencies to implement tactical and achievable energy use reductions.
- ODOE to work with agencies to benchmark and identify buildings for retrofits.
- A database of all eligible State-owned buildings will be created by **June 1, 2018**.

Directive Complete

Agencies began reporting building-level energy use to the ENERGY STAR Portfolio Manager (ESPM) platform on January 1, 2015. The ESPM is an existing energy reporting database built and maintained by the U.S. Environmental Protection Agency. Electricity and fossil fuel use is reported for State-owned facilities over 5,000 square feet using more than 10 kBtu/square foot/year. ODOE has also collaborated with agencies to develop energy use targets, based on ASHRAE Standard 100 targets when available, that can be used as a reference for remodels and operational improvements at agency facilities. ODOE publishes these targets, along with State building energy use intensity (as EUI¹), in the State Energy Efficient Design (SEED) Biennial Report.

History of State Energy Efficiency Policy

ORS 276.900-915(2001) directed State agencies to report energy use in State-owned facilities at the agency level, with an energy reduction goal of 10 percent agency wide by 2010. In 2008, the goal was increased to a 20 percent reduction goal by 2015, which was met in 2013. ODOE initiated agency stakeholder meetings in the fall of 2014 to discuss how energy use reporting would continue. ODOE proposed that agencies measure energy performance in their State-owned facilities at the building level in order to help agencies identify opportunities for energy savings through more detailed benchmarking and energy use tracking. Agencies agreed to begin reporting building-level energy use to the ESPM platform beginning January 1, 2015. Agency stakeholders and ODOE agreed that electrical and fossil fuel use would be reported for State-owned facilities larger than 5,000 square feet using more than 10 kBtu/square foot/year. This requirement was included in the 2017 revisions to OAR 330-130-0080.

Buildings with Established Targets

2016 Results for State-owned Buildings with ASHRAE Target EUIs			
Building Type	Total Number by Type	Below Target EUI	Above Target EUI
Office	75	42	33
Other Services	31	26	5
Labs	4	3	1
Library	2	1	1
Distribution Center	3	3	0
Repair Shop	3	0	3
Senior Care	2	0	2
Hospital	2	2	0
Total	122	77	45

ODOE used the baseline energy use for 2015 to determine each building’s EUI, which was then compared to high-performance EUIs for similar building types, i.e. office, hospital, laboratory, etc.

The intent was to “benchmark” agency buildings, comparing their EUI to similar buildings and to national targets. The target EUIs are based on ASHRAE Standard 100-2015² for climate zones 4C (western Oregon) and 5B (Eastern Oregon). This standard’s targets represent high performing buildings for each building category and region. 63 percent of all buildings performed better than their target EUIs.

Buildings without Established Targets

ASHRAE Standard 100 targets are not available for all building types. A total of 138 facilities/campuses do not have ASHRAE targets. ODOE staff has been working with those agencies to establish performance targets for their facilities.

For some agencies, alternative targets have been set. For example, the Department of Corrections has been tracking energy use at the campus level since 2013 and has set a goal of a 20 percent reduction in campus energy use by 2023. Other agencies with unique building types are now looking more closely at their facilities in an effort to establish targets or goals for them.

¹ EUI, or Energy Use Intensity, is energy use per square foot per year, which is calculated by dividing the total annual energy consumed (in units of thousand Btus, or kBtus) by the gross floor area (in units of square feet) of the building.

² ASHRAE Standard 100-2015 is a data-driven, internationally recognized standard for improving energy efficiency in existing buildings, and provides a comprehensive approach for addressing energy efficiency in a quantitative, objective manner.