

Energy Efficiency in the Built Environment

House Interim Committee on Energy and Environment

January 15, 2020



OREGON
DEPARTMENT OF
ENERGY

Executive Order 17-20

Signed by Governor Brown November 6, 2017

Three key sections with directives:

1. State-owned Buildings
2. New Construction
3. Existing Buildings

About **30% of Oregon's greenhouse gas emissions** can be traced to how much and what type of energy we use in buildings



EXECUTIVE ORDER NO. 17-20

ACCELERATING EFFICIENCY IN OREGON'S BUILT ENVIRONMENT TO REDUCE GREENHOUSE GAS EMISSIONS AND ADDRESS CLIMATE CHANGE

WHEREAS, climate change presents a significant threat to our livelihoods, economic security, environment, health, and well-being.

WHEREAS, there has been an increase in extreme weather events, including more frequent and intense heat waves and wildfires. According to the Oregon Climate Change Research Institute and other regional studies, the best available science indicates Oregon is at risk of serious impacts to its natural resources due to climate change.

- Water resources are being affected by decreased winter snowpack, changes to seasonal runoff patterns, decreased precipitation in Eastern Oregon, and increased intensity and occurrence of flooding.
- Agricultural resources are being affected by increases in temperatures.
- Ocean acidification is increasing and there are changes in ocean currents.
- Significant parts of the Oregon coastal region, stretching 363 miles, will be impacted by an expected rise in sea level up to 1 to 4 feet by 2100, incurring billions of dollars of damages and losses to roadways and structures.
- Climate change impacts threaten the State's agricultural, fishing, timber, recreation, and tourism industries, thereby threatening the livelihood of the State's residents and an important source of Gross State Product for the state.

WHEREAS, energy efficiency leads to significant greenhouse gas reductions that are essential to meeting our state greenhouse gas reduction goals and addressing climate change.

WHEREAS, Oregon is committed to meeting the international Paris Agreement targets to reduce greenhouse gas emissions by 26 to 28 percent below 2005 levels by 2025.

WHEREAS, Oregon has adopted goals to reduce greenhouse gas emissions to 10 percent below 1990 levels by 2020 and at least 75 percent below 1990 levels by 2050 as described in ORS 468A.20.

BUILT ENVIRONMENT EFFICIENCY WORKING GROUP

EO 17-20 established the “BEEWG,” a collaborative of State of Oregon agencies working to implement EO directives.

- Hold regular agency work group meetings to coordinate and identify any barriers to implementation of directives
- Created an online presence with meeting materials and opportunities for stakeholder feedback
- To date, the BEEWG has held three public meetings to discuss EO implementation progress, share analysis from reports, and gather stakeholder input on equitable access to energy efficiency
- Published a progress chart of directives and dashboard of completed action items online: www.oregon.gov/energy/Get-Involved/Pages/BEEWG.aspx



EO 17-20 DIRECTIVES

State Buildings

- High performance energy targets
- Carbon-neutral operations
- Statewide plug-load strategy
- Energy efficient equipment
- Lifecycle cost analysis

New Construction

- Solar-ready buildings
- Electric vehicle-ready buildings
- Zero-energy homes
- Energy efficiency in commercial construction
- Help expanding industries reduce energy footprint
- Improve appliance standards
- High-efficiency water fixtures
- On-site water reuse

Existing Buildings

- Energy Trust of Oregon pilot programs
- Prioritize energy efficiency in affordable housing
- Coordinate energy data to inform policy
- Evaluate energy and resilience efforts

Plug-Load Strategy

Develop a plug-load strategy for reducing energy use in state buildings.

- Outlined recommendations for reducing energy use for different types of equipment, including: computers, server rooms/data centers, personal devices, communal appliances, and others
- Held a Plug Load Strategy workshop in October 2019 to help state agencies learn how to reduce energy consumption

Oregon
Department of
Administrative
Services &
Department of
Energy

Executive Order 17-20
*Statewide Plug-Load
Strategy*

January 2019



DAS
DEPARTMENT OF
ADMINISTRATIVE
SERVICES



Appliance Standards

Develop a plan for adopting appliance standards that align with other leading states.

- Outlined history of appliance standards in Oregon and reviewed federal and other state-level appliance standards activities
- Identified potential future appliance standards Oregon could consider

Oregon Department of **ENERGY**

Executive Order 17-20
*Improved State Standards
for Appliances*

November 2018



10-Year Plan

Reduce the energy burden on low-income Oregonians, while prioritizing energy efficiency to achieve the reduction.

- Published GIS assessment tool of affordable housing stock: bit.ly/OHCS_AHA
- Outlined recommendations for achieving the goal
- OHCS and other BEEWG agencies will continue work to achieve actions in the 10-Year Plan



TEN-YEAR PLAN

Reducing the Energy Burden in Oregon Affordable Housing



2018

- Developed database of eligible state-owned buildings
- Identified opportunities for energy efficient appliance standards to continue Oregon's leadership
- Established tool to inform high performance energy use targets and carbon neutral requirements for state buildings
- Worked with Energy Trust of Oregon to evaluate meter-based savings pilot programs
- Published the *Ten-Year Plan: Reducing the Energy Burden in Oregon Affordable Housing*
- Developed a plug-load strategy for state building operations
- Completed *Expanding Industries & Building Code Amendments* report to identify industries with potential to realize significant cost and energy savings
- Evaluated how distributed energy resources could improve Oregon's recovery from a disaster

2019

- Completed *Efficient Building Equipment Procurement Requirements Report* to support state-purchased equipment meeting high-efficiency water and energy use specifications
- Completed draft update for state behavior-based efficiency policy
- Updated 2019 Oregon Zero Energy Ready Commercial Code to become one of the nation's most efficient building codes
- Developed cost analysis tool to help inform BEEWG agency work
- Worked with partners to coordinate data-sharing of projected energy use reductions in the region

2020

- Adoption of the next cycle of leading residential and commercial energy codes is expected October 1, 2020

NEXT STEPS

- The BEEWG will continue to hold meetings
- Coming 2020-2025: Code work to further water, solar-ready, EV-ready, and energy efficiency requirements
- BEEWG progress chart of directives and the dashboard of completed action items will be updated online:

www.oregon.gov/energy/Get-Involved/Pages/BEEWG.aspx

