

# Code Updates for Climate Change

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## Motivation

As members of the City of Gladstone Planning Commission, it often comes to our attention that certain parts of our municipal code are outdated. There have been multiple efforts to update various areas of the code over time. This particular effort is to look at what changes might be necessary to accommodate climate change.

## Background

### Civic Design Standards

In the Planning Commission meeting from 15 August 2017, I presented the “Civic Design Standards” proposal. The idea behind this proposal was for the City of Gladstone to lead by example. Goal 1 of this proposal was focused on reducing the energy footprint of our Civic buildings.

The proposal can be found in the Planning Commission Agenda on [the city website](#)

([https://www.ci.gladstone.or.us/sites/default/files/fileattachments/planning\\_commission/meeting/6211/pcpacket.08152017.pdf](https://www.ci.gladstone.or.us/sites/default/files/fileattachments/planning_commission/meeting/6211/pcpacket.08152017.pdf)).

A copy of it is also located [here](#) (</assets/pdf/gladstone-climate/pcpacket.08152017.pdf>).

## 2020 Annual Work Plan

In the Planning Commission meeting from 18 February 2020, I requested that we add Energy Efficiency as a topic to our Annual Work Plan.

The goal here was to revisit whether our current residential siting requirements still make sense with regards to climate change.

17.44.020 (2) (<https://www.codepublishing.com/OR/Gladstone/#1/Gladstone17/Gladstone1744.htm>) currently says:

(a) Concentrate window areas on the south side (within twenty degrees of true south) of buildings where there is good southern exposure, and provide overhangs, balconies, or other shading devices to prevent excessive summer heat gains;

As many of us have large south-facing windows, we find that we are having to cool our houses more as temperatures rise.

The request to add this to the work plan can be found in the Planning Commission Minutes [on the city website](#)

([https://www.ci.gladstone.or.us/sites/default/files/fileattachments/planning\\_commission/meeting/7539/pcminutes.02182020\\_20200526151242.pdf](https://www.ci.gladstone.or.us/sites/default/files/fileattachments/planning_commission/meeting/7539/pcminutes.02182020_20200526151242.pdf)).

## Investigation

Chair Milch asked that we investigate what other cities or counties are doing to address these matters.

### Department of Land Conservation and Development (DLCD)

DLCD maintains a page entitled [Land Use Planning and Climate Change](#) (<https://www.oregon.gov/lcd/CL/pages/index.aspx>).

DLCD addresses mitigation and adaptation of climate change in three areas:

- Land Use and Transportation
- Natural Hazards
- Coastal Management

Their site does list the Climate Action Plan of two of our neighbors:

- [Milwaukie](https://www.milwaukieoregon.gov/sustainability/climateaction) (<https://www.milwaukieoregon.gov/sustainability/climateaction>)
- [Portland](https://www.portlandoregon.gov/hps/49989) (<https://www.portlandoregon.gov/hps/49989>)

In addition, there was also a regional [Metro Climate Smart Communities](#) (<http://www.oregonmetro.gov/climate-smart-strategy>).

I contacted the Land Use and Transportation Planner, [Cody Meyer](mailto:cody.meyer@state.or.us) (<mailto:cody.meyer@state.or.us>) identified on the DLCD page and inquired as to the current state of the code changes from the State or Agencies.

Cody forwarded me onto Laura Buhl ([laura.buhl@state.or.us](mailto:laura.buhl@state.or.us)), Land Use & Transportation Planner with TGM (Transportation & Growth Management).

Laura indicated that the current Oregon Standard building codes are about 2+ years behind the international building codes. She also stated that some of the international codes are focused on green/energy. She suggested I start my search there.

In addition, she directed me to the Sustainable Development Code ([sustainablecitycode.org](http://sustainablecitycode.org)).

Looking at the SDC website, Chapter 7 (<https://sustainablecitycode.org/chapter/chapter-7/>) is geared towards Energy. Diving into those chapters, they provide example ordinances (from various communities) and model code that can be used to incentivize green energy.

Laura also indicated that Jonathan Rosenbloom (<https://sustainablecitycode.org/team/jonathan-rosenbloom/>) of SDC will be hosting an event in October 2020 based on his book: *Remarkable Cities and the Fight Against Climate Change: 43 Recommendations to Reduce Greenhouse Gases and the Communities That Adopted Them* (Environmental Law Institute)

Laura indicated that TGM would still like to work with Gladstone, if we are interested; but that it should probably wait until after the Housing code changes are done.

## The Building Codes Assistance Project

From their site:

*The Building Codes Assistance Project (BCAP) (<http://bcapcodes.org/topics/climate-change/>) was established in 1994 as a joint initiative of the Alliance to Save Energy, the American Council for an Energy-Efficient Economy, and the Natural Resources Defense Council.*

BCAP's goal is to reduce the energy consumed in the construction and operation of buildings by working with national, state, and local governments and other international and national stakeholders to promote the adoption, enforcement, and compliance of building energy codes and standards. BCAP aspires to be the premier resource for energy code support coordination, technical assistance, news, and information.

While much of their site seems to be a couple years out of date, they do have a page dedicated to Oregon (<http://bcapcodes.org/code-status/state/oregon/>). I have not yet contacted the Oregon representatives listed.

## American Council for an Energy-Efficient Economy

One of the parties involved in creating the BCAP was the ACEEE. They maintain a State and Local Policy Database.

While Gladstone was not listed in it, Portland (<https://database.aceee.org/city/portland-or>) was.

A few key things listed (for Portland):

- Climate Mitigation Goal
- Energy Reduction Goal
- Renewable Energy Goal
- Fleet Policies and Composition
- Public Lighting
- Public Workforce Commuting

- Equity-driven approaches
- Mitigation of Urban Heat Islands
- Solar and EV-ready building codes
- Incentives and Financing for Efficient Buildings and Renewable Energy
- Low income programs
- Car sharing parking code

### Executive Orders

Governor Brown has issued a couple executive orders that directly relate to this investigation.

#### Executive Order No. 17-20

Accelerating Efficiency in Oregon's Built Environment to Reduce Greenhouse Gas Emissions and Address Climate Change

Signed on 6 November 2017, this order establishes timelines for changing the state building codes (residential and commercial). It also established the Built Environment Efficiency Working Group to carry out the executive order.

The executive order can be found on the state's website ([https://www.oregon.gov/gov/Documents/executive\\_orders/eo\\_17-20.pdf](https://www.oregon.gov/gov/Documents/executive_orders/eo_17-20.pdf)).

A copy of it is also located here ([/assets/pdf/gladstone-climate/eo\\_17-20.pdf](/assets/pdf/gladstone-climate/eo_17-20.pdf)).

Timelines (non-exhaustive list):

Date	Type	Description
Oct 2020	Residential	Require new buildings to be solar-ready
Oct 2022	Commercial	Require new buildings to be solar-ready
Oct 2022	All	Require parking structures for new buildings support at least level 2 EV charger
Oct 2023	Residential	Require new buildings to achieve zero-energy ready standard
Oct 2022	Commercial	New buildings (on average) exceed international ASHRAE 90.1
Jan 2020	Residential	Require high-efficiency water fixtures in new buildings
Oct 2025	Commercial	Require high-efficiency water fixtures in new buildings

#### Built Environment Efficiency Working Group

The Built Environment Efficiency Working Group (BEEWG) (<https://www.oregon.gov/energy/Get-Involved/Pages/BEEWG.aspx>) is a collaborative of state agencies including:

- Oregon Department of Energy
- Department of Administrative Services
- Building Codes Division
- Public Utility Commission
- Oregon Housing & Community Services.

You can view the state of their action items here (<https://www.oregon.gov/energy/Get-Involved/Documents/BEEWG-Action-Items.pdf>).

For example, EO Directive 4A:

BCD and Advisory Boards to amend code to require solar readiness requirements and exemptions for residential buildings

- The due date is 1 October 2020.
- The current code is here (<https://www.oregon.gov/bcd/codes-stand/Pages/index.aspx>)
- The proposed code changes are here (<https://www.oregon.gov/bcd/codes-stand/code-adoption/Pages/index.aspx>)
- Anticipated effective date is 1 April 2021. (see below)

The division has been working with its advisory boards to adopt the new codes. Due to the COVID-19 pandemic, the division's ability to adopt the next edition of the OESC, ORSC, and OPSC on schedule has been interrupted.

The adoption of the new codes is postponed to April 1, 2021.

#### Executive Order No. 17-21

Accelerating Zero Emission Vehicle Adoption in Oregon to Reduce Greenhouse Gas Emissions and Address Climate Change

Signed on 6 November 2017.

The executive order can be found on the state's website ([https://www.oregon.gov/gov/Documents/executive\\_orders/eo\\_17-21.pdf](https://www.oregon.gov/gov/Documents/executive_orders/eo_17-21.pdf)).

A copy of it is also located here ([/assets/pdf/gladstone-climate/eo\\_17-21.pdf](/assets/pdf/gladstone-climate/eo_17-21.pdf)).

A couple key callouts:

- The state will begin migrating their Fleet to electric
- DEQ is directed to conduct rulemaking to encourage Oregonians to purchase or lease electric vehicles
- PUC is directed to encourage greater electric vehicle adoption in moderate- and low-income communities
- BCD is directed to update state building code to require that parking structures for all newly constructed residential and commercial buildings support the installation of at least a level 2 EV charger
- School districts are to consider switching to electric buses
- ODOE is directed to engage with the utilities to provide assistance on handling the increased energy load

It established the Zero Emission Vehicle Working Group to carry out the executive order.

#### Zero Emission Vehicle Working Group

The Zero Emission Vehicle Interagency Working Group (ZEVIWG) (<https://www.oregon.gov/energy/Get-Involved/Pages/ZEVIWG.aspx>) is a collaborative of state agencies including:

- Oregon Department of Energy
- Department of Administrative Services
- Public Utility Commission
- Department of Environmental Quality

- Oregon Department of Transportation.

You can view the state of their action items here (<https://www.oregon.gov/energy/Get-Involved/Documents/ZEVIWG-Progress-Chart.pdf>).

#### Executive Order No. 20-04

Directing State Agencies to Take Actions to Reduce and Regulate Greenhouse Gas Emissions

Signed on 10 March 2020.

The executive order can be found on the state's website ([https://www.oregon.gov/lcd/CL/Documents/ExecOrder\\_20-04\\_climate.pdf](https://www.oregon.gov/lcd/CL/Documents/ExecOrder_20-04_climate.pdf)).

A copy of it is also located here ([/assets/pdf/gladstone-climate/ExecOrder\\_20-04\\_climate.pdf](/assets/pdf/gladstone-climate/ExecOrder_20-04_climate.pdf)).

This executive order was directed at:

- Business Oregon
- Department of Administrative Services (DAS)
- Department of Consumer and Business Services Building Codes Division (BCD)
- Department of Land Conservation and Development (DLCD) and Land Conservation and Development Commission (LCDC)
- Environmental Justice Task Force
- Environmental Quality Commission (EQC) and Department of Environmental Quality (DEQ)
- Oregon Department of Agriculture (ODA)
- Oregon Department of Energy (ODOE)
- Oregon Department of Fish and Wildlife (ODFW)
- Oregon Department of Forestry (ODF)
- Oregon Department of Transportation (ODOT) and Oregon Transportation Commission (OTC)
- Oregon Global Warming Commission
- Oregon Health Authority (OHA)
- Oregon Water Resources Department (OWRD)
- Oregon Watershed Enhancement Board (OWEB)
- Public Utility Commission of Oregon (PUC)

The order discusses:

- Communities that are under-represented and disproportionately affected
- OHA and OSHA to develop standards for protecting workers from both wildfires and excessive heat
- Protecting our natural landscapes (forest, wetlands) and agricultural lands
- Carbon reduction and zero-emission vehicle adoption
- Fuel economy changes
- Landfill emission changes
- Food waste recovery
- BCD to adopt new building efficiency standards (60% reduction in annual site consumption)
- ODOE to update efficiency standards for products sold in Oregon
- DAS to develop statewide policy for rapid migration of Fleet to zero-emission
- Amendments to Transportation Planning Rule that directs metropolitan planning to meet reduction goals
- ODOT and DLCD directed to provide financial and technical assistance with metro planning and reduction

## Additional Resources

### Oregon Climate Change Research Institute

[Fourth Oregon Climate Assessment Report \(http://www.occri.net/publications-and-reports/fourth-oregon-climate-assessment-report-2019/\)](http://www.occri.net/publications-and-reports/fourth-oregon-climate-assessment-report-2019/)

### U.S. Climate Resilience Toolkit

[Planning and Land Use \(https://toolkit.climate.gov/topics/built-environment/planning-and-land-use\)](https://toolkit.climate.gov/topics/built-environment/planning-and-land-use)

### U.S. Global Change Research Program (USGCRP)

[Land Cover and Land-Use Change - Fourth National Climate Assessment \(https://nca2018.globalchange.gov/chapter/5/\)](https://nca2018.globalchange.gov/chapter/5/)

## Summary

Gladstone is behind in addressing how climate change will affect our land use. Some of our neighbors (Mikwaukie and Portland) have developed Climate Action Plans. The State of Oregon (and various agencies) are also actively developing changes that will, in the near term, directly affect us and the land use applications that come before us.

We don't have a large team, and are not currently meeting in person. There are some code assistance programs available to assist with these kinds of changes.

Perhaps a better short-term plan for the Commission would be:

- Evaluate the proposed BEEWG code amendments
- Create our own Climate Action Plan
- Start to identify areas that would be harder for us to accommodate (like the protection from wildfires mentioned above).
- The residential BEEWG codes have been delayed until April. Perhaps we could get training on the proposed changes?



## Random Posts

[CORSAIR Dominator Platinum 128GB \(/blog/2017-11-13-dominator/\)](/blog/2017-11-13-dominator/) 13 Nov 2017

[MMRS: Monsoon Modular Reservoir System \(/blog/2017-12-31-mmrs/\)](/blog/2017-12-31-mmrs/) 31 Dec 2017

[Monsoon EV2 Hardline Economy Compression Fittings, 1/2" x 5/8" \(/blog/2017-11-11-monsoon-ev2/\)](/blog/2017-11-11-monsoon-ev2/) 11 Nov 2017

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**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.



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WHEREAS, saving energy by using less energy in buildings is one of the least cost ways to achieve emissions reductions in the energy system – often with a net financial savings over the life of these energy efficiency measures, in particular as energy efficiency technology continues to improve.

WHEREAS, studies have found that building codes in Oregon have had a 97 percent compliance rate; and as building codes become more energy efficient, we will continue to strive toward excellence in construction and building codes, which are applicable statewide and provide uniformity and predictability for building owners and contractors and equity for residents and businesses.

WHEREAS, Oregon is an international leader in energy efficiency, has in-state energy efficiency expertise, and a skilled workforce to continue to be a leader; and Oregon can build on its reputation through emphasis on state leadership, building codes for newly constructed buildings, and retrofits for existing buildings.

WHEREAS, energy efficiency is a critical and growing portion of the State's clean energy economy. Investments in energy efficiency sustain a workforce of over 40,000 jobs statewide; 70 percent of these are small businesses with 11 employees or fewer. Investments in energy efficiency result in an average annual increase of gross state product of over \$132 million, and the resulting reduction in energy costs generates an additional \$32 million per year.

WHEREAS, low income and other underserved communities often struggle to access energy efficiency programs that will save them money and improve housing quality over the long-term and the State can take steps to implement policies that increase the availability of energy efficiency to these residents.

WHEREAS, state government has a responsibility to lead by example in its adoption of energy efficiency to achieve a more cost-effective and clean energy future.

WHEREAS, energy efficiency actions increase the health, safety, and resiliency of Oregon's buildings and homes, resulting in lower health care costs borne by the State and its residents.



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WHEREAS, an energy system with distributed generation, energy efficiency, and storage capacity can build resiliency in the face of climate change related disruptions and other disasters.

**NOW, THEREFORE, IT IS HEREBY DIRECTED AND ORDERED:**

1. **Definition.** For purposes of this Executive Order, “state agency” shall be defined as any agency within the Executive Department as defined in ORS 174.112, other than the Oregon Secretary of State, Oregon State Treasury, Oregon Department of Justice, and Oregon Bureau of Labor and Industries.
2. **Statement of Policy.** It is the policy of the State of Oregon to establish an aggressive timeline to achieve net zero energy ready buildings as a standard practice in buildings across the state. Review and regular improvements to the energy provisions of the state building code will occur on at least a three-year cycle for residential and commercial buildings. Directives in this Executive Order related to energy efficiency, electric vehicle readiness, and solar installation readiness are essential to meeting this policy, as is a focus on retrofitting older, less-efficient buildings and demonstrating energy efficiency leadership in state-owned and state-leased buildings.
3. **Energy Efficiency Leadership in State Buildings**
  - A. **High Performance Energy Targets for Existing State Buildings.** State agencies will use high performance energy use targets for remodels in all existing state-owned buildings. Department of Administrative Services (DAS) and Oregon Department of Energy (ODOE) are directed to consider ASHRAE 100 Standard pathways and work with all state agencies to adopt targets for any remodels that begin after the date of this executive order. State agencies that are not meeting energy use targets will work with ODOE and DAS to undertake energy retrofits to increase the efficiency of their buildings. ODOE is directed to report on and track all state-owned building energy use to guide agencies to implement tactical and achievable energy use reductions. ODOE will work with all agencies to benchmark and identify buildings for retrofits. A database of all eligible state-owned buildings will be created by June 1, 2018.



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- B. Carbon-Neutral Operations for New State Buildings. DAS and ODOE are directed to work with state agencies to ensure that new state owned buildings permitted after January 1, 2022 and used primarily for office and other commercial work space are designed to be able to operate as carbon-neutral buildings defined with full fuel-cycle considerations that are inclusive of, but not limited to, off-site renewable energy and other provisions of ASHRAE standard 189.1. In addition, DAS and ODOE are directed to analyze feasible options with the Department of Environmental Quality that would lower the embodied carbon of building materials in new construction of state buildings.
- C. Statewide Plug-Load Strategy. DAS and ODOE are directed to develop a statewide plug-load management strategy and strategies for other occupant behavior changes to reduce energy uses not regulated by codes and standards. DAS and ODOE will develop a plug load strategy by January 1, 2019, and DAS will update policies for behavior-based efficiency by January 1, 2020.
- D. Energy Efficient Equipment. DAS, with support from ODOE, is directed to ensure that all equipment purchased by the state meets high-efficiency energy and water use specifications by incorporating efficiency standards into procurement requirements. DAS and ODOE will develop procurement requirements in the 2018-19 fiscal year.
- E. Lifecycle Cost Analysis. ODOE is directed to analyze state building costs, including lifecycle energy and water use costs or savings, when considering energy and water upgrades for state buildings. By January 1, 2019, ODOE, working with DAS, will develop analysis tools that can inform the high performance energy use targets and carbon neutral requirements for state buildings referenced above.
- 4. Increasing Energy and Water Efficiency in New Construction Across the State**
- A. Solar Ready Building Construction. The appropriate advisory board(s) and the Department of Business and Consumer Services Building Codes Division (BCD) are directed to conduct code amendment of the state



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building code to require all newly constructed buildings will be ready for the installation of solar panels and related technologies by October 1, 2020 for residential structures and October 1, 2022 for commercial structures. BCD may establish limited specific exemptions to this solar-ready policy for buildings where solar applications are infeasible.

- B. Electric Vehicle Ready Building Construction. The appropriate advisory board(s) and BCD are directed to conduct code amendment of the state building code to require that parking structures for all newly constructed residential and commercial buildings are ready to support the installation of at least a level 2 EV charger by October 1, 2022. BCD may establish limited specific exemptions related to types of parking lots, such as temporary parking lots.
- C. Zero-Energy Ready Homes. The appropriate advisory board(s) and BCD are directed to conduct code amendment of the state building code to require newly constructed residential buildings to achieve at least equivalent performance levels with the 2017 U.S. Department of Energy Zero Energy Ready Standard by October 1, 2023.
- D. Increasing Energy Efficiency in Commercial Construction. The appropriate advisory board(s) and BCD are directed to conduct code amendment of the state building code to require, by October 1, 2022, that newly constructed commercial buildings, averaged across building types, will exceed International Energy Conservation Code and ASHRAE 90.1 by achieving at least equivalent performance levels with the measurable prescriptive energy efficiency portions of the most current version of ASHRAE 189.1 that are construction-related.
- E. Helping Key, Expanding Industries to Save Costs by Reducing their Energy Footprint. ODOE, in consultation with BCD, is directed to work with industry stakeholders to identify key high-energy use industries that have the potential to realize significant cost savings and energy savings through building code amendments as it relates to their industrial building types. ODOE and BCD are directed to provide the Governor with a report of its analysis and findings by January 1, 2019.



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- F. Improved State Standards for Appliances. ODOE is directed to work with appliance industry stakeholders to identify categories of appliances for improved efficiency standards, while considering appliance standards of other states, potential efficiency gains, potential costs, and supply chains for the regional market for appliances. ODOE is directed to provide the Governor with a report of its analysis and identify categories of appliances for improved efficiency by November 1, 2018.
  - G. High Efficiency Water Fixtures. The appropriate advisory board(s) and BCD are directed to conduct code amendment of the state building code to require high-efficiency water fixtures in all new buildings by January 1, 2020.
  - H. Increased Water Efficiency in On-Site Reuse. The appropriate advisory board(s) and BCD are directed to conduct code amendment of the state building code to require water efficiency improvements in all newly constructed commercial buildings through standards for capture and safe reuse of water for irrigation purposes by October 1, 2025.
- 5. Increasing Energy Efficiency through Retrofits of Existing Buildings Across the State**
- A. Energy Trust of Oregon Pilot Programs. Oregon Public Utility Commission (PUC) is directed to work with the Energy Trust of Oregon and interested stakeholders to expand meter-based savings pilot programs, including pay-for-performance pilot programs, by January 1, 2019. PUC shall consider inclusion of pilot programs, which do not significantly raise energy efficiency delivery costs, and that focus on existing single family homes, multi-family residential buildings, commercial buildings, and methods to incentivize energy efficiency in building stock that is significantly below current building code requirements.
  - B. Prioritizing Energy Efficiency in Affordable Housing to Reduce Utility Bills. ODOE, PUC, and Oregon Housing and Community Services (OHCS) are directed to work together to assess energy use in all affordable housing stock and develop a ten-year plan for achieving



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maximum efficiency, as well as a continuum of efficiency levels up to maximum efficiency in affordable housing across the state by January 1, 2019. As part of the assessment, the agencies shall consider new resources and best practices and shall seek assistance from Energy Trust of Oregon and Bonneville Power Administration. OHCS is directed to expand its existing multi-family energy program and green energy path requirements, including a manufactured home replacement program through pilot programs and initiatives, while considering multiple values from energy efficiency improvements, such as health and habitability.

- C. Coordination of Data. ODOE and PUC are directed to support and assist private sector partners in efforts to coordinate sharing of data that shows projected energy use reductions in the region. This data will be made available to the public to inform energy efficiency policies, as appropriate, by January 1, 2020.
  - D. Evaluation of Energy and Resiliency Efforts. ODOE and PUC are directed to evaluate the state's distributed energy resources and the efficiency of energy systems needed to improve Oregon's recovery from a disaster situation. ODOE and PUC are directed to provide the Governor with a report of their analysis and findings by January 1, 2019.
- 6. Analysis of Cost.** State agencies are expected to implement this Executive Order using the least cost methods available. ODOE and BCD, in consultation with DAS, PUC, and OHCS, are directed to adopt a cost-analysis tool through a process that involves meaningful public input by December 1, 2019. State agencies shall use this cost analysis tool to determine whether any directive in this Executive Order should be deferred for one year or, if specific to a building code related directive, to the next building code cycle, due to significant cost at the time of implementation of that directive. All state agency processes for determining deferment of a directive in this Executive Order must include at least one public meeting that allows interested stakeholders to provide input.



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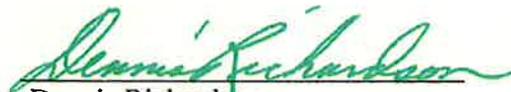
7. **Implementation.** The implementation of this Executive Order shall be coordinated through a Built Environment Efficiency Working Group, which will also identify any structural barriers or barriers to information sharing that may slow the progress of any directive in this Executive Order. The Built Environment Efficiency Working Group will review directives in this Executive Order, seek input from interested stakeholders, and recommend opportunities to provide equitable access to clean energy by removing barriers to achieving energy efficiency in the built environment to the Governor and state agencies. The Built Environment Efficiency Working Group shall include the following agencies: DAS, ODOE, BCD, PUC, and OHCS. Agencies shall implement each directive in this Executive Order using their existing internal processes and established rulemaking procedures, including recommendations from any boards. This Executive Order is intended to be consistent with obligations under federal and state law and shall be interpreted as to not violate any requirement of federal or state law.
8. The Governor encourages the Secretary of State, the State Treasurer, the Attorney General, and the Commissioner of the Bureau of Labor and Industries to adopt policies and practices to accelerate efficiency in the built environment consistent with measures in this Executive Order. DAS and ODOE are directed to assist the above-mentioned officials and entities of state government in accomplishing these objectives as they may request.

Done at Portland, Oregon, this 6<sup>th</sup> day of November, 2017.



  
Kate Brown  
GOVERNOR

ATTEST:

  
Dennis Richardson  
SECRETARY OF STATE



**EXECUTIVE ORDER NO. 17-21**

**ACCELERATING ZERO EMISSION VEHICLE ADOPTION IN OREGON  
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, climate-related pollution from transportation and other emissions is projected to create \$1.1 billion in health costs for Oregon families to bear by 2040, including asthma, heart disease, stroke, and cancer; and internal combustion engines burning fossil-based fuels are the largest contributor of greenhouse gas emissions in Oregon, with the transportation sector accounting for 37 percent of greenhouse gas emissions and light-duty vehicles alone accounting for 25 percent of greenhouse gas emissions, all while the state's transportation sector related greenhouse gas emissions continue to grow.

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.



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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.

WHEREAS, greater transition of internal combustion engines to zero emission vehicles, like electric cars, buses, and trucks, play a key role in helping Oregon achieve its climate change goals, improving the health of Oregon communities, and encouraging clean energy job development.

WHEREAS, zero emission vehicles provide multiple benefits to Oregonians, including operating quietly and cleanly; allowing home refueling; lowering operating, maintenance, and fuel costs; and reducing pollutants such as carbon dioxide and black carbon emitted through diesel combustion.

WHEREAS, emissions associated with the combustion of fossil fuels have a negative health impact for Oregonians and, in particular, communities located close to major highways, and the use of zero emission vehicles can have immediate positive impacts on local air quality and public health.

WHEREAS, the median Oregon household spends four to five percent of its income on transportation fuel costs, and Oregon businesses and residents could benefit from the lower costs of zero emission vehicle operation and maintenance and the diversification of our transportation fuels, including electricity, which can help offset price volatility and political instability associated with petroleum fuels.

WHEREAS, the development of a robust clean energy economy includes the sales of electric vehicles, chargers, and other equipment as well as the installation and maintenance of charging equipment that will encourage clean energy job development at a local level.

WHEREAS, Oregon is a member of the following organizations and coalitions that have zero emission vehicle goals and commitments:

- The International Zero Emission Vehicle Alliance has committed that all new light-duty vehicle sales will have an electric powertrain as soon as possible and no later than 2050.



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- The Pacific Coast Collaborative established and supports the West Coast Electric Fleets initiative to expand the use of electric vehicles in fleets and the West Coast Green Highway to provide resources for zero emission vehicles on Interstate-5.
- The Zero Emission Vehicle Multi-State Memorandum of Understanding has an Action Plan Goal of a minimum of 25 percent of new light-duty state fleet purchases and leases for applicable uses, to the extent available, will be zero emission vehicles by 2025.

**NOW, THEREFORE, IT IS HEREBY DIRECTED AND ORDERED:**

- 1. Definition.** For purposes of this Executive Order, “state agency” shall be defined as any agency within the Executive Department as defined in ORS 174.112, other than the Oregon Secretary of State, Oregon State Treasury, Oregon Department of Justice, and Oregon Bureau of Labor and Industries.
- 2. Statement of Policy and Establishing Statewide Goal.** It is the policy of the State of Oregon to establish an aggressive timeline to achieve a *statewide goal of 50,000 or more registered and operating electric vehicles by 2020*. This short-term goal will ensure the state is on track to meet ambitious long-term goals described above. There are currently approximately 16,000 electric vehicles registered in Oregon and establishing this new state goal will focus state agencies and partners in transitioning public and private fleets to electric vehicles to achieve multiple climate change goals and commitments. Strategies outlined in this executive order will close cost gaps, infrastructure gaps, and information gaps to help accelerate the transition toward electric vehicles.
- 3. Oregon State Agencies Leading by Example with Increased Use of Electric Vehicles.**
  - A. State Electric Vehicle Chargers to Support the State Goal.** The Department of Administrative Services (DAS) and the Oregon Department of Energy (ODOE) are directed to develop a plan and estimated budget through 2025 to install electric vehicle chargers for the operation of state agency owned electric vehicles, public charging at



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state facilities, and state employee charging. The number and placement of electric vehicle chargers will be designed to provide sufficient charging infrastructure necessary for the state to achieve the fleet conversion goals of the Pacific Coast Collaborative West Coast Electric Fleet initiative described above.

- B. Electric Vehicle Policy for State Parking Lots to Support the State Goal. DAS is directed to add electric vehicle charging as a priority criteria for parking lot waitlists, add electric vehicle charging capacity for employee and public visitor parking lots, develop contracts for the procurement and installation of charging infrastructure, and incorporate electric vehicle charging as a tenant improvement for state-leased buildings.
- C. Long-term Return on Investment of Electric Vehicles to Support the State Goal. DAS, in cooperation with ODOE, is directed to develop a tool to calculate the long-term return on investment and life-cycle costs of electric vehicles using costs and savings including but not limited to vehicles purchase, fuel, and maintenance. This tool will inform state agencies of potential cost savings for greater state agency fleet conversion toward zero emission vehicles to achieve the state goal established in Section 2. In addition, DAS is directed to develop a “Low-Emission Vehicle First” policy, to encourage state employees to first use electric vehicles or other low-emission vehicles in the state fleet.
- D. Bulk Electric Vehicle Purchases to Support the State Goal. DAS and ODOE are directed to improve the use of the West Coast Electric Fleets initiative for electric vehicle bulk procurement to reduce costs for electric vehicle purchases.
- E. Enabling Electric Vehicle Purchases and Infrastructure to Support the State Goal. DAS, in cooperation with all state agencies, is directed to inform and support legislative changes that would enable increased charging infrastructure and state agency electric vehicle purchases.

**4. Increasing Oregonians’ Access to Electric Vehicles.**

- A. Electric Vehicle Rebate Programs Designed to Achieve the State Goal. The Oregon Department of Environmental Quality (DEQ) is directed to



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conduct rulemaking for the electric vehicle rebate programs, established in HB 2017 (2017), to encourage Oregonians to purchase or lease electric vehicles such that these rebate programs are designed to achieve the state goal established in Section 2. As part of the rulemaking, DEQ is directed to develop strategies to help ensure Oregonians are informed about the opportunities to reduce the costs of electric vehicle purchases and leases through the Electric Vehicle Rebate program, in addition to robust outreach to low-income communities and organizations through the Charge Ahead Rebate program.

- B. Clean Fuels Program Designed to Achieve the State Goal. DEQ is directed to conduct rulemaking for the Clean Fuels Program to support greater electric vehicle adoption, in cooperation with the Oregon Public Utility Commission (PUC), such that the program is designed to support innovative solutions in the evolving electric vehicle market and achieve the state goal established in Section 2. DEQ is directed to develop a method to aggregate and monetize all eligible electric vehicle credits in the Clean Fuels Program to assist in achieving the state goal.
- C. Zero Emission Vehicle Regulation Designed to Achieve State Goal. Today, DEQ's zero emission vehicle regulation requires car manufacturers to sell six to eight percent electric vehicles for new light-duty sales by 2025. DEQ is directed to work with the Environmental Quality Commission to maintain consistency with California's zero emission vehicle regulation, including efforts to ramp up regulatory requirements. DEQ is directed to participate in federal assessments of vehicle emissions standards and work with the Department of Justice to take appropriate steps to retain California's exemption for vehicle standards that are more protective of air quality under the federal Clean Air Act Section 209.
- D. Consumer Engagement in Transportation Electrification Plans to Achieve the State Goal. PUC, with input from interested stakeholders, is directed to implement the transportation electrification program, established in SB 1547 (2015), to support consumer engagement in the investor-owned utilities' transportation electrification plans such that the transportation electrification program is designed to achieve the state goal established in Section 2. Wherever possible, the PUC is directed to



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encourage programs that support greater electric vehicle adoption in moderate- and low-income communities.

**5. Increasing Oregonians' Access to Electric Vehicle Charging Infrastructure.**

- A. Leveraging Volkswagen Mitigation Fund to Support the State Goal. DEQ, in cooperation with Oregon Department of Transportation (ODOT), ODOE, and Oregon Health Authority Public Health Division, is directed to engage interested stakeholders and receive public comments to inform development of a plan to leverage up to 15 percent of the Volkswagen Mitigation Fund to support vehicle electrification. This plan will use part of Oregon's share of the Volkswagen Diesel Settlement (Appendix D), consistent with the limitations on the use of such funds, to develop and maintain electric vehicle charging stations with a focus on connecting rural communities, low-income communities, and Oregonians living in multi-family homes, while complementing the Electric Vehicle Rebate Program and Charge Ahead Rebate Program that were established in HB 2017 (2017).
- B. Leveraging Volkswagen Zero Emission Vehicle Fund to Support the State Goal. ODOT, in cooperation with ODOE, DEQ, PUC, and local governments, is directed to facilitate the application process for fund deployment of the Volkswagen "Electrify America" investments and projects under the Zero Emission Vehicle Fund, which are developed in accordance with the Volkswagen Diesel Settlement (Appendix C). In addition, these agencies will develop proposals for future 30-month investment periods for the Volkswagen "Electrify America" Zero Emission Vehicle Investment Plans to achieve the state goal established in Section 2.
- C. Charging Infrastructure in Transportation Electrification Plans to Achieve the State Goal. PUC, with input from interested stakeholders, is directed to implement the transportation electrification program, established in SB 1547 (2015), to support electric vehicle charging in the investor-owned utilities' transportation electrification plans such that the transportation electrification program is designed to achieve the state goal established in Section 2. Wherever possible, the PUC is directed to



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encourage programs that support greater electric vehicle adoption in moderate- and low-income communities.

- D. Electric Vehicle Ready Building Construction to Achieve the State Goal. The appropriate advisory board(s) and the Department of Business and Consumer Services Building Codes Divisions (BCD) are directed to conduct code amendment of the state building code to require that parking structures for all newly constructed residential and commercial buildings are ready to support the installation of at least a level 2 EV charger by October 1, 2022. BCD may establish limited specific exemptions related to types of parking lots, such as temporary parking lots.

**6. Providing Partners with Information on Electric Vehicle Use and Functionality.**

- A. Assisting School Districts to Support the State Goal. ODOE, working with ODOT, PUC, DEQ, and the Department of Education, is directed to develop tools and provide information to assist school districts in making decisions about zero emission vehicle bus options when replacing school buses.
- B. Assisting Transit Agencies to Support the State Goal. ODOT, working with ODOE, PUC, and DEQ, is directed to develop tools, information, and best practices to assist transit agencies when making decisions about zero emission vehicle bus technology adoption in transit fleets for their transit districts. In addition, ODOT, working with ODOE, DEQ, and Oregon Health Authority Public Health Division, is directed to engage with transit agencies and interested stakeholders to assess how zero emission vehicle technologies can help to reduce lifecycle emissions, improve public health, and save costs in the heavy-duty sector, including through the accelerated transition to zero-emission buses.
- C. Assisting Consumer Owned Utilities to Support the State EV Goal. ODOE is directed to engage with consumer and public-owned utilities to enable increased electric vehicle adoption in their service territories and provide technical assistance on strategies to accommodate increased



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loads on their electric systems in order to achieve the state goal established in Section 2.

- D. Assisting Investor Owned Utilities to Support the State EV Goal. PUC, in collaboration with utilities and stakeholders, is directed to oversee development of strategies to encourage continuous improvement of the investor-owned utilities' transportation electrification plans, established pursuant to SB 1547 (2015), to achieve the state goal established in Section 2.

**7. Celebrating Achievements by Recognizing Businesses and Organizations that Lead Oregon in Electric Vehicle Adoption.**

- A. Establishing Governor's Awards for Automobile Dealerships. ODOE is directed to design and establish "Governor's Awards" for automobile dealerships to encourage sales of electric vehicles, such as highest annual electric vehicle sales and highest percentage per capita of electric vehicle sales in a year.
- B. Establishing Governor's Awards for Businesses or Organizations. ODOE is directed to design and establish "Governor's Awards" that recognize businesses and organizations which support increased electric vehicle adoption, such as through installing charging infrastructure and converting fleets to electric vehicles.

- 8. Implementation.** The implementation of this Executive Order shall be coordinated through a Zero Emission Vehicle Working Group, which will also identify any structural barriers or barriers to information sharing that may slow the progress of any directive in this Executive Order. The Zero Emission Vehicle Working Group will review directives in this Executive Order, seek input from interested stakeholders, and recommend opportunities to provide equitable access to clean energy by removing barriers to electric vehicles and electric vehicle chargers to the Governor and state agencies. The Zero-Emission Vehicle Agency Working Group shall include the following agencies: DAS, ODOE, OPUC, ODOT, and DEQ. ODOE will lead a collaborative effort through this interagency working group to develop goals, metrics, and other indicators of progress and will establish a website to share information about the directives in this Executive Order with the public. Agencies shall implement each directive in



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this Executive Order using their existing internal processes and established rulemaking procedures, including recommendations from any boards. This Executive Order is intended to be consistent with obligations under federal and state law and shall be interpreted as to not violate any requirement of federal or state law.

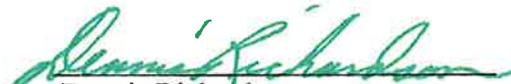
9. The Governor encourages the Secretary of State, the State Treasurer, the Attorney General, and the Commissioner of the Bureau of Labor and Industries to adopt policies and practices to accelerate zero emission vehicle adoption consistent with measures in this Executive Order. DAS and ODOE are directed to assist the above-mentioned officials and entities of state government in accomplishing these objectives as they may request.

Done at Portland, Oregon, this 16<sup>th</sup> day of November, 2017.



  
Kate Brown  
GOVERNOR

ATTEST:

  
Dennis Richardson  
SECRETARY OF STATE





**EXECUTIVE ORDER NO. 20-04**

**DIRECTING STATE AGENCIES TO TAKE ACTIONS TO REDUCE AND  
REGULATE GREENHOUSE GAS EMISSIONS**

WHEREAS, climate change and ocean acidification caused by greenhouse gas (GHG) emissions are having significant detrimental effects on public health and on Oregon's economic vitality, natural resources, and environment; and

WHEREAS, climate change has a disproportionate effect on the physical, mental, financial, and cultural wellbeing of impacted communities, such as Native American tribes, communities of color, rural communities, coastal communities, lower-income households, and other communities traditionally underrepresented in public processes, who typically have fewer resources for adapting to climate change and are therefore the most vulnerable to displacement, adverse health effects, job loss, property damage, and other effects of climate change; and

WHEREAS, climate change is contributing to an increase in the frequency and severity of wildfires in Oregon, endangering public health and safety and damaging rural economies; and

WHEREAS, the world's leading climate scientists, including those in the Oregon Climate Change Research Institute, predict that these serious impacts of climate change will worsen if prompt action is not taken to curb emissions; and

WHEREAS, the Intergovernmental Panel on Climate Change has identified limiting global warming to 2 degrees Celsius or less as necessary to avoid potentially catastrophic climate change impacts, and remaining below this threshold requires accelerated reductions in GHG emissions to levels at least 80 percent below 1990 levels by 2050; and

WHEREAS, Oregon, as a member of the U.S. Climate Alliance, has committed to implementing policies to advance the emissions reduction goals of the international Paris Agreement; and

WHEREAS, GHG emissions present a significant threat to Oregon's public health, economy, safety, and environment; and



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WHEREAS, the transition from fossil fuels to cleaner energy resources can significantly reduce emissions and increase energy security and the resilience of Oregon communities in the face of climate change; and

WHEREAS, emissions from the transportation sector are the single largest source of GHG emissions in Oregon; and

WHEREAS, actions to reduce GHG emissions in Oregon's transportation sector will provide substantial public health co-benefits by reducing air pollutants from the combustion of gasoline and diesel fuel that are harmful to human health; and

WHEREAS, the rapid transition from internal combustion engines to zero-emission vehicles will play a key role in reducing emissions from the transportation sector and advancing the state's GHG emissions reduction goals; and

WHEREAS, zero-emission vehicles provide multiple benefits to Oregonians, including lower operating, maintenance, and fuel costs, and lower emissions of GHGs and other pollutants; and

WHEREAS, the Legislature established ambitious goals for the adoption of zero-emission vehicles in Senate Bill 1044 (2019); and

WHEREAS, rapid actions and investments by Oregon's utility sector to reduce GHG emissions and improve the resilience of the energy system in the face of climate change and wildfire risk can reduce risks for utility customers; and

WHEREAS, transitioning the traditional natural gas supply to renewable natural gas can significantly reduce GHG emissions; and

WHEREAS, energy efficiency standards in the built environment can reduce operating costs, save renters and homeowners money on their utility bills, improve the comfort and habitability of dwellings, and reduce GHG emissions; and

WHEREAS, product energy efficiency standards reduce costs for consumers, save energy, and reduce GHG emissions; and



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WHEREAS, in the absence of effective federal engagement on these issues, it is the responsibility of individual states to take immediate actions to address climate change and ocean acidification; and

WHEREAS, after thorough hearings within the Oregon Legislature, a majority of both chambers support addressing climate change, and the failure of the Oregon Legislature to attain quorum has thwarted legislative action to achieve science-based GHG emissions reduction goals; and

WHEREAS, given the urgency and severity of the risks from climate change and ocean acidification, and the failure of the Legislature to address these immediate harms, the executive branch has a responsibility to the electorate, and a scientific, economic, and moral imperative to reduce GHG emissions and to reduce the worst risks of climate change and ocean acidification for future generations, to the greatest extent possible within existing laws; and

WHEREAS, existing laws grant authority to state agencies to take actions to regulate and encourage a reduction of GHG emissions in a variety of circumstances; and

WHEREAS, the Legislature through the Emergency Board took action on March 9, 2020, to provide permanent funding to the executive branch to pursue executive action on reducing GHG emissions; and

WHEREAS, considering climate change in agency planning and decision making will help inform decisions regarding climate change risks and avoid higher mitigation and adaptation costs in the future; and

WHEREAS, all agencies with jurisdiction over the sources of GHG emissions will need to continue to develop and implement programs that reduce emissions to reach the state's GHG goals; and

WHEREAS, all agencies with jurisdiction over natural and working landscapes in Oregon will need to prepare and plan for the impacts of climate change and take actions to encourage carbon sequestration and storage; and



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WHEREAS, the Legislature previously established the goal of achieving GHG levels “at least 75 percent below 1990 levels” by 2050, and our State has an urgent, moral obligation to set and achieve more ambitious GHG reduction goals.

**NOW, THEREFORE, IT IS HEREBY DIRECTED AND ORDERED:**

1. **State Agencies.** The following state commissions and state agencies are subject to the directives set forth in this Executive Order:
  - A. Business Oregon;
  - B. Department of Administrative Services (DAS);
  - C. Department of Consumer and Business Services Building Codes Division (BCD);
  - D. Department of Land Conservation and Development (DLCD) and Land Conservation and Development Commission (LCDC);
  - E. Environmental Justice Task Force;
  - F. Environmental Quality Commission (EQC) and Department of Environmental Quality (DEQ);
  - G. Oregon Department of Agriculture (ODA);
  - H. Oregon Department of Energy (ODOE);
  - I. Oregon Department of Fish and Wildlife (ODFW);
  - J. Oregon Department of Forestry (ODF);
  - K. Oregon Department of Transportation (ODOT) and Oregon Transportation Commission (OTC);
  - L. Oregon Global Warming Commission;
  - M. Oregon Health Authority (OHA);
  - N. Oregon Water Resources Department (OWRD);
  - O. Oregon Watershed Enhancement Board (OWEB); and
  - P. Public Utility Commission of Oregon (PUC).



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2. **GHG Emissions Reduction Goals.** Consistent with the minimum GHG reduction goals set forth in ORS 468A.205(1)(c), this Executive Order establishes science-based GHG emissions reduction goals, and calls for the State of Oregon to reduce its GHG emissions (1) at least 45 percent below 1990 emissions levels by 2035; and (2) at least 80 percent below 1990 emissions levels by 2050.
  
3. **General Directives to State Agencies.** From the date of this Executive Order, the state commissions and state agencies listed in paragraph 1 are directed to take the following actions:
  - A. **GHG Reduction Goals.** Agencies shall exercise any and all authority and discretion vested in them by law to help facilitate Oregon's achievement of the GHG emissions reduction goals set forth in paragraph 2 of this Executive Order.
  - B. **Expedited Agency Processes.** To the full extent allowed by law, agencies shall prioritize and expedite any processes and procedures, including but not limited to rulemaking processes and agency dockets, that could accelerate reductions in GHG emissions.
  - C. **Agency Decisions.** To the full extent allowed by law, agencies shall consider and integrate climate change, climate change impacts, and the state's GHG emissions reduction goals into their planning, budgets, investments, and policy making decisions. While carrying out that directive, agencies are directed to:
    - (1) Prioritize actions that reduce GHG emissions in a cost-effective manner;
    - (2) Prioritize actions that will help vulnerable populations and impacted communities adapt to climate change impacts; and
    - (3) Consult with the Environmental Justice Task Force when evaluating climate change mitigation and adaptation priorities and actions.
  - D. **Report on Proposed Actions.** The following agencies are directed to report to the Governor by May 15, 2020, on proposed actions within their statutory authority to reduce GHG emissions and mitigate climate change impacts: DEQ, DLCD, ODA, ODOE, ODFW, ODF, ODOT, OWRD, OWEB, and PUC.



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- E. Participation in Interagency Workgroup on Climate Impacts to Impacted Communities. The Governor's Office will convene an interagency workgroup on climate impacts to impacted communities to develop strategies to guide state climate actions, with participation by the following agencies and commissions: DEQ, DLCDD, ODA, ODF, ODFW, ODOE, ODOT, OHA, OWEB, OWRD, PUC, Environmental Justice Task Force, Oregon Global Warming Commission, Oregon Parks and Recreation Department, and Oregon Sustainability Board.
4. Directives to the Environmental Quality Commission and the Department of Environmental Quality. In addition to the general directives set forth in paragraph 3, the EQC and DEQ are directed to take the following actions:
- A. Oregon's Clean Fuel Standards. Pursuant to its authority under ORS 468A.265 *et seq.* and other applicable laws, the EQC and DEQ shall take actions necessary to amend the low carbon fuel standards, and the schedule to phase in implementation of those standards, with the goal of reducing the average amount of GHG emissions per unit of fuel energy by 20 percent below 2015 levels by 2030, and 25 percent below 2015 levels by 2035.
- B. Clean Fuel Credits for Electrification. The EQC and DEQ are directed to advance methods accelerating the generation and aggregation of clean fuels credits by utilities that can advance the transportation electrification goals set forth in Senate Bill 1044 (2019).
- C. Sector-specific GHG Cap and Reduce Program. Pursuant to its authority under ORS 468A.005 *et seq.* and other applicable laws, the EQC and DEQ shall take actions necessary to:
- (1) Cap and reduce GHG emissions from large stationary sources of GHG emissions, consistent with the science-based emissions reduction goals set forth in paragraph 2 of this Executive Order;
  - (2) Cap and reduce GHG emissions from transportation fuels, including gasoline and diesel fuel, consistent with the science-based emissions reduction goals set forth in paragraph 2 of this Executive Order; and



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- (3) Cap and reduce GHG emissions from all other liquid and gaseous fuels, including natural gas, consistent with the science-based emissions reduction goals set forth in paragraph 2 of this Executive Order.
  - D. Regulation of Landfill Methane Emissions. The EQC and DEQ shall take actions necessary to reduce methane gas emissions from landfills, as defined in ORS 459.005(14), that are aligned with the most stringent standards and requirements for reducing methane gas emissions from landfills adopted among the states having a boundary with Oregon.
  - E. Reduction of Food Waste. The EQC and DEQ are directed to take actions necessary to prevent and recover food waste, with the goal of reducing food waste by 50 percent by 2030, to reduce GHG emissions resulting from such waste, including but not limited to engaging with states and other jurisdictions, industry, food retailers, and brand manufacturers to develop and implement strategies to prevent and recover food waste.
  - F. Timeline and Implementation.
    - (1) No later than May 15, 2020, DEQ shall submit a report to the Governor regarding an estimated timeline for rulemaking necessary for implementing the directives of paragraph 4(A)–(B) and paragraph 4(D)–(E), above.
    - (2) DEQ shall submit a preliminary report to the Governor by May 15, 2020, regarding program options to cap and reduce emissions from large stationary sources, transportation fuels, and other liquid and gaseous fuels that can commence no later than January 1, 2022. A final report shall be due by June 30, 2020.
    - (3) Reports submitted pursuant to paragraph 4 of this Executive Order also should detail DEQ’s plans to engage impacted communities during the rulemaking process, in a manner consistent with ORS chapter 183.
5. Directives to the Public Utility Commission of Oregon. In addition to the general directives set forth in paragraph 3, the PUC is directed to consider the following factors and values, consistent with state law:



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- A. Statement of Public Interest. It is in the interest of utility customers and the public generally for the utility sector to take actions that result in rapid reductions of GHG emissions, at reasonable costs, to levels consistent with the GHG emissions reduction goals set forth in paragraph 2 of this Executive Order, including transitioning to clean energy resources and expanding low carbon transportation choices for Oregonians.
- B. Regulatory Considerations. Executive Order 00-06, which ensures that the PUC maintains its independence in decision making, is reaffirmed. The directives in this Executive Order are consistent with Executive Order 00-06. When carrying out its regulatory functions, the PUC is directed to:
- (1) Determine whether utility portfolios and customer programs reduce risks and costs to utility customers by making rapid progress towards reducing GHG emissions consistent with Oregon's reduction goals;
  - (2) Encourage electric companies to support transportation electrification infrastructure that supports GHG reductions, helps achieve the transportation electrification goals set forth in Senate Bill 1044 (2019), and is reasonably expected to result in long-term benefit to customers;
  - (3) Prioritize proceedings and activities, to the extent consistent with other legal requirements, that advance decarbonization in the utility sector, and exercise its broad statutory authority to reduce GHG emissions, mitigate energy burden experienced by utility customers, and ensure system reliability and resource adequacy;
  - (4) Evaluate electric companies' risk-based wildfire protection plans and planned activities to protect public safety, reduce risks to utility customers, and promote energy system resilience in the face of increased wildfire frequency and severity, and in consideration of the recommendations made by the Governor's Council on Wildfire Response 2019 Report and Recommendations;



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- (5) Convening periodic workshops for purposes of assisting electric companies, consumer-owned utilities, and operators of electrical distribution systems to develop and share best practices for mitigating wildfire risk; and
  - (6) In cooperation with Oregon Housing and Community Services, establish a public process to address and mitigate differential energy burdens and other inequities of affordability and environmental justice, including rate design and other programs to mitigate energy burden.
6. **Directives to the Department of Consumer and Business Services Building Codes Division.** In addition to the general directives set forth in paragraph 3, BCD is directed to take the following actions:
- A. **Energy Efficiency Goal for New Construction.** BCD, through its advisory boards and committees, and in cooperation with ODOE, is directed to adopt building energy efficiency goals for 2030 for new residential and commercial construction. That goal shall represent at least a 60 percent reduction in new building annual site consumption of energy, excluding electricity used for transportation or appliances, from the 2006 Oregon residential and commercial codes.
  - B. **Code Progress and Updates.** BCD, through its advisory boards and committees, and in cooperation with ODOE, is directed to evaluate and report on Oregon's current progress toward achieving the goal for new residential and commercial buildings, pursuant to paragraph 6(A) of this Executive Order, and options for achieving steady progress toward the goal over the next three code cycles (2023, 2026, and 2029). Pursuant to its authority under ORS 455.500, BCD also is directed to update the Reach Code on the same timeline. No later than September 15, 2020, BCD should submit a report to the Governor on current progress and options for achieving the goals over the next three code cycles. The report should be updated every three years thereafter.
  - C. **Baseline Metrics and Reductions.** BCD, in cooperation with ODOE, is directed to agree on metrics, based on best practice and academic research, to inform the baseline and reductions associated with the code updates set forth in paragraph 6(B).



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7. **Directives to the Oregon Department of Energy.** In addition to the general directives set forth in paragraph 3, ODOE is directed to take the following actions:
- A. **Energy Efficiency Standards.** ODOE is directed to pursue emissions reductions by establishing and updating energy efficiency standards for products at least to levels equivalent to the most stringent standards among West Coast jurisdictions, including grid-connected appliances that can be utilized to manage end-use flexible electrical loads. ODOE also is directed to periodically evaluate and update those standards, as practicable, to remain at least equivalent to the most stringent standards among West Coast jurisdictions.
  - B. **Rulemaking.** ODOE is directed to take actions necessary to establish and update energy efficiency standards for products sold or installed in Oregon that include but are not limited to the following:
    - (1) High CRI fluorescent lamps;
    - (2) Computers and computer monitors;
    - (3) Faucets;
    - (4) Shower heads;
    - (5) Commercial fryers;
    - (6) Commercial dishwashers;
    - (7) Commercial steam cookers;
    - (8) Residential ventilating fans;
    - (9) Electric storage water heaters; and
    - (10) Portable electric spas.
  - C. **Timeline.** Any rulemaking necessary to implement the directives set forth in paragraph 7(B) should be completed by September 1, 2020.
  - D. **Third-Party Validation for Cost Savings.** ODOE, in cooperation with BCD, is directed to contract with a third party consulting firm to assess cost implications, including long-term energy cost savings, of the energy efficiency and building code actions set forth in paragraph 6(A)–(B) of this Executive Order.



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8. **Directives to the Department of Administrative Services.** In addition to the general directives set forth in paragraph 3, DAS is directed to take the following actions:
- A. **Procurement Model for Zero-Emission Vehicles.** DAS is directed to develop a statewide policy and plan for state agencies to follow for procuring zero-emission vehicles, which local governments and special government bodies may use as a model program for furthering adoption of zero-emission vehicles for their fleets. The model program shall provide for a rate of procurement of zero-emission vehicles consistent with the findings and goals set forth in ORS 283.398 and the provisions of ORS 283.327. The model program may provide for DAS to participate in, sponsor, conduct, or administer cooperative procurements in accordance with ORS 279A.200 to ORS 279A.225, under which DAS, local governments, and special government bodies may procure zero-emission vehicles.
  - B. **GHG Implications of Contracting.** DAS is directed to review existing state procurement laws and practices to identify potential improvements that can reduce GHG emissions, consistent with the GHG reduction goals set forth in paragraph 2 of this Executive Order. DAS shall provide a report to the Governor no later than September 15, 2020, detailing options.
  - C. **GHG Reduction Goals and Electrification Goals.** DAS is directed to support the state in meeting the GHG reduction goals set forth in paragraph 2 of this Executive Order, and the zero-emission vehicle adoption goals set forth in Senate Bill 1044 (2019), through the rapid conversion of state fleets to zero-emission vehicles, and the expansion of electric vehicle charging infrastructure for public buildings. DAS shall provide a report to the Governor no later than September 15, 2020, detailing its plan.
9. **Directives to the Oregon Transportation Commission, Oregon Department of Transportation, Land Conservation and Development Commission, Environmental Quality Commission, and Oregon Department of Energy.**



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- A. In a letter from the Governor, dated September 23, 2019, the OTC, LCDC, EQC, and ODOE were directed to prioritize implementation of the Statewide Transportation Strategy, adopted by the OTC. Those agencies are further directed to include the following elements in their implementation of the Statewide Transportation Strategy:
- (1) Establishment of GHG emissions reduction performance metrics; and
  - (2) Amendments to the Transportation Planning Rule that direct changes to the transportation plans of metropolitan planning areas to meet GHG reduction goals.
- B. ODOT and DLCD are directed to identify and implement means to provide financial and technical assistance to metropolitan planning areas for amendment to transportation and land use plans that meet the state GHG reduction goals, or more stringent goals adopted by a metropolitan planning area.
- C. Implementation of the directives set forth in paragraph 9(A)–(B) shall be at the highest level within the agencies, with regular and direct reporting to the Governor. The first report shall be made to the Governor no later than June 30, 2020.
10. **Directives to the Oregon Department of Transportation.** In addition to the general directives set forth in paragraph 3, ODOT is directed to take the following actions:
- A. In consultation with DEQ, ODOE, other appropriate state agencies, and public utilities, ODOT is directed to conduct a statewide transportation electrification infrastructure needs analysis, with particular focus on rural areas of the state, across use types and vehicle classes, to facilitate the transportation electrification goals set forth in Senate Bill 1044 (2019). The study should be completed no later than June 30, 2021.
  - B. ODOT is directed to develop and apply a process for evaluating the GHG emissions implications of transportation projects as part of its regular capital planning and Statewide Transportation Improvement Program planning processes. ODOT shall provide a report on the process to the Governor no later than June 30, 2021.



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11. **Directives to Oregon Health Authority.** In addition to the general directives set forth in paragraph 3, OHA is directed to take the following actions:
  - A. OHA is directed to deliver a report to the Governor, the Oregon Global Warming Commission, and the Environmental Justice Task Force no later than September 1, 2020, on the public health impacts of climate change in Oregon, with particular emphasis on the risks faced by vulnerable communities, including Oregon's nine federally recognized Native American tribes, communities of color, low income communities, and rural communities. OHA is directed to update the report annually.
  - B. OHA is directed to study the impacts of climate change on youth depression and mental health in Oregon and deliver a report to the Governor no later than June 30, 2021.
  - C. OHA and the Oregon Occupational Safety and Health Administration (OSHA) are directed to jointly develop a proposal for standards to protect workplace employees from exposure to wildfire smoke and excessive heat. The proposal should be completed no later than June 30, 2021.
  
12. **Directives to Oregon Global Warming Commission.** In addition to the general directives set forth in paragraph 3, the Global Warming Commission is directed to take the following actions:
  - A. In coordination with ODA, ODF, and OWEB, the Oregon Global Warming Commission is directed to submit a proposal to the Governor for consideration of adoption of state goals for carbon sequestration and storage by Oregon's natural and working landscapes, including forests, wetlands, and agricultural lands, based on best available science. The proposal shall be submitted no later than June 30, 2021.
  - B. Consistent with its reporting requirements in House Bill 3543 (2007), the Oregon Global Warming Commission shall also include reporting on progress toward the GHG reduction goals set forth in paragraph 2 of this Executive Order, and the zero-emission vehicle adoption goals set forth in SB 1044 (2019).



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13. **Effectiveness.** This Executive Order will remain in effect unless and until it is superseded by statute or another Executive Order.

Done at Salem, Oregon, this 10<sup>th</sup> day of March, 2020.

Handwritten signature of Kate Brown in blue ink.

Kate Brown  
GOVERNOR



ATTEST:

Handwritten signature of Bev Clarno in blue ink.

Bev Clarno  
SECRETARY OF STATE

# Civic Design Standards

I spoke with Jacque last night with regards to the potential grant to help with the Code and Ordinances review. She is currently working on putting a grant process in place and has asked that we hold off on requesting the grant until that is done. They will be discussing the process on August 8th.

In the meantime, I think there are areas of our code that could use some improvement without waiting on the grant. Like we did with the Telecommunications section, I think we should choose something that is likely to affect us in the near future.

One area that I think would be timely is Civic Design Standards. We have regulations for homes and businesses, but nothing is really in place for municipal/civic buildings. If there is something we wish we could ask a developer to do, why would the city itself not do it? Since we have some upcoming projects, I propose that we put some Civic Design Standards in place that 1) show that we hold the city to a higher standard [rather than letting ourselves slide]; 2) encourage the city to be a role model to other developments; 3) discourage consultants from designing 1970s-era buildings for our new Civic projects.

I would like to stress that I am not promoting any particular brand; rather I am pointing out some options to start the conversation. I do not believe our code should favor any one company or brand, but instead focus on the goals themselves.

Currently I have these ideas broken up into two primary Goals. I hope the Planning Commission could further refine it so that we are giving a sense of direction, not just mandates.

- Goal 1: Reduce Energy Footprint
  - Solar Roof
  - Battery Backup
  - Solar (Wifi?) Street Lights
- Goal 2: Community Contribution
  - Landscaping
  - Indoor Air Quality
  - Weather Underground
  - Public Transportation
  - Commuter Parking
  - Municipal Fiber

## Goal 1: Reduce Energy Footprint

Besides the obvious eco nature of this goal, there is also the more practical aspect of reducing our monthly PG&E bill. Many of these things would cost more up front, but I believe the long term benefits could outweigh the initial investments.

### Solar Roof

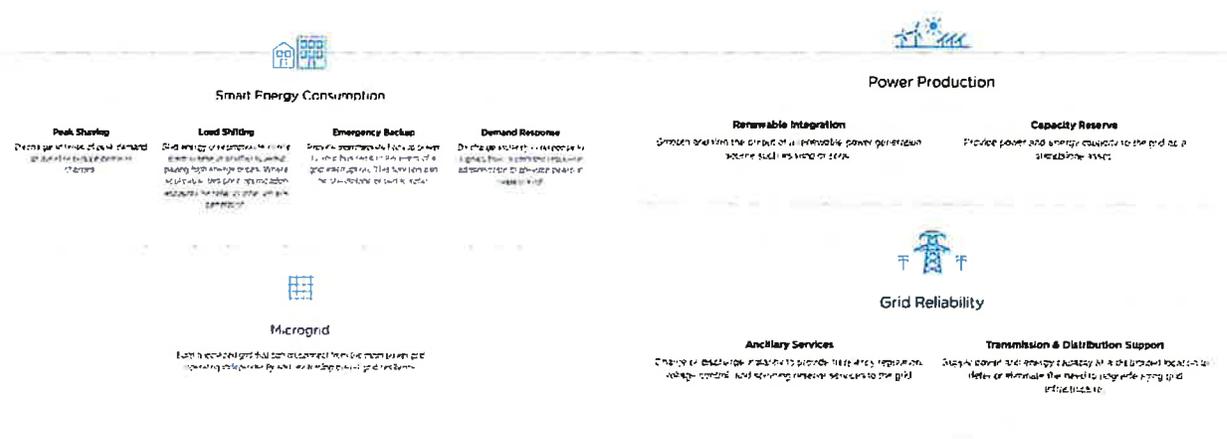
There are many products out there. From simple solar panels to full roof. These are just some example roofs from Tesla - but as I said, our code should not favor any one company.



## Battery Backup

Battery backup serves dual purpose. First, in the case of an outage, it can help the city keep running. Second, when the power is restored, I believe it could help reduce the surge that sometimes takes our power grid back offline almost immediately. To be completely honest, I have not confirmed that second assumption with PG&E. It should be noted that we have already placed this requirement on Telcos in our new Telecommunication code.

Tesla has a "Powerpack" designed for utilities and businesses. There are other companies that provide similar equipment. Some notes from the Tesla site (<https://www.tesla.com/powerpack>):



## Solar (Wifi?) Street Lights

Another option to reduce our energy costs is to replace our street lights with solar. For the purposes of this conversation, we are focusing solely on those on-premise, but it could eventually be more city-wide.

A quick google search showed quite a few examples. <http://www.darksky.org/fsa/fsa-products/> had a few listed, for example. One interesting find was <https://www.engoplanet.com/engoplanet-smart-solar-street-light>

I particularly like that it can be remotely monitored and managed by public works.



## Goal 2. Community Contribution

For the purpose of this section, we would need to define a Municipal Complex in the code. Some requirements may be for an entire complex rather than per building. For example, we may require that the Police/Fire Municipal Complex have a bus stop, but not that both buildings have independent bus stops.

## Landscaping

Landscaping is a constant struggle for us. We want to see more, developers claim they don't have enough room and various density/parking requirements contradict our landscaping desires. It would be ideal if any civic project could go above and beyond. If we could point to local buildings that were able to achieve more

landscaping, that might give us more leverage to request additional landscaping. The key to that might be for our civic buildings to showcase more creative out-of-the-box options. This "City Tree", for example, reportedly has the same environmental impact as 275 urban trees.

<http://www.cnn.com/2017/06/07/world/citytree-urban-pollution/index.html>



## Indoor Air Quality

NASA has released a list of plant that help improve indoor air quality.

Much like we require street trees, maybe we should require specific plants inside municipal buildings.

<http://www.openculture.com/2017/08/graphic-shows-the-house-plants-that-naturally-clean-the-air-in-your-home.html>

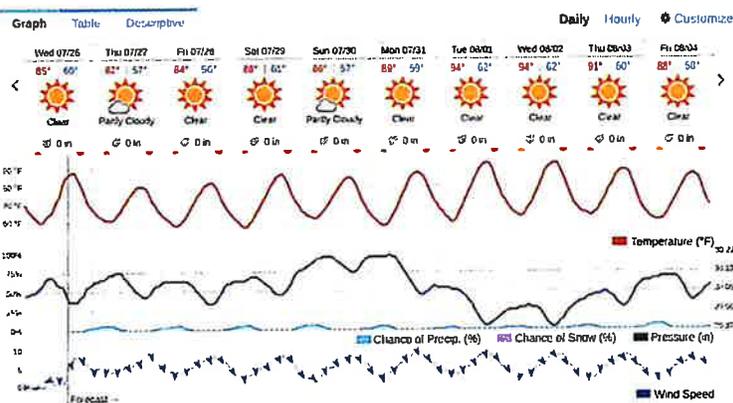


## Weather Underground

Weather is usually reported based on the nearby airports. The Weather Underground collects data from over 250k personal weather stations, one of them right in Gladstone.

Our Civic/Municipal facilities should contribute to projects like this. This would probably be required at one installation per Municipal Complex. Plug it in, turn it on and provide data to the community.

<https://www.wunderground.com/weatherstation/buyingguide.asp#featurematrix>



## Public Transportation

City/Municipal facilities should help improve the transit system for local residents. While TriMet is out of our jurisdiction, there are some minimum requirements we could put in place.

If a bus route already exists adjacent to the municipal complex, we should require that a covered bus stop be added - without specifying a traffic study to justify it.

If a bus route does not already exist adjacent to the municipal complex, we should require that the City make a formal request to have that route added - even if it is fruitless.

## **Commuter Parking**

Parking is obviously a big consideration for us in Gladstone. One thing we might consider is having a couple dedicated commuter parking spots to encourage shared rides.

## **Municipal Fiber**

This is already in the planning stages with the City - but we should codify it. Every Municipal Complex must be connected to the Municipal Fiber.

This might not belong under Goal 2 and we may need a different goal for it. Infrastructure Improvements?