

Clean Buildings Legislative Report



Required per RCW 19.27A.210, RCW 19.27A.220

CLEAN BUILDINGS

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Report to the Legislature

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Executive summary

Overview

In 2019, Washington state passed the State Energy Performance Standard ([RCW 19.27A.210](#)), which applies to existing large buildings. The Washington State Department of Commerce was charged with establishing the performance standard (Standard) and developing the administrative framework to support building owners in complying with the law.

Washington was the first state to pass such a standard. According to the 2021 State Energy Strategy, buildings are the state's second-biggest carbon polluter, behind transportation. The intent of this law is reducing greenhouse gas emissions from the building sector.

Key Activities

This report summarizes the work to date in establishing and implementing Washington state's energy performance standard for existing large buildings. It is early in the process of implementation. Commerce was required by law to complete rulemaking, create a database of covered commercial buildings, launch an incentive program, and provide customer support and technical assistance during the period covered by this report.

- **Rulemaking:** The process was robust and broadly attended. This resulted in administrative rules that were developed with thorough public input and vetting.
- **Data opportunities:** Continued refinement of the state's covered commercial building dataset will result in a deeper foundational knowledge of the state's large building stock and opportunities to reduce greenhouse gas emissions through reducing energy use, fuel type selections and on-site electricity generation.
- **Incentive program:** Building owners are incentivized to bring buildings into compliance with the Standard early, before it is required. The opportunity for early adoption helps offset potential costs of improvements and can be paired with other financial incentives, such as utility conservation programs.
- **Customer support and technical assistance:** Assistance for building owners and affected industry professionals will result in better compliance and tools to aid this process. Customer support is critical for successful implementation and for building professionals needing assistance.

Recommendations

There are three key priority recommendations as the state moves forward with implementing the Standard:

- Continue data quality assurance and evaluation to increase understanding of the state's building stock and opportunities to reduce greenhouse gas emissions from the building sector.
- Continue communication outreach to building owners about the Standard and requirements so they are aware of the law and the path to compliance is clear.
- Provide ongoing customer support and technical assistance to building owners and professionals to increase participation in the incentive program phase and aid them in compliance once it becomes mandatory.

Introduction

Background

Investment in building energy efficiency is the most cost-efficient way to [significantly reduce greenhouse gas emissions](#). The solution to cutting building emissions lies in energy efficiency – the fastest, cheapest way to cut carbon emissions and other harmful pollution.

To accomplish this, the Clean Buildings bill ([HB 1257, 2019](#)) was signed in order to lower costs and pollution from fossil fuel consumption in the state's existing buildings, especially large commercial buildings. According to the [2021 State Energy Strategy](#), the buildings sector is the state's second-biggest carbon polluter behind transportation and buildings are the most rapidly growing source of greenhouse gas emissions in Washington.

The law requires the Washington State Department of Commerce (Commerce) to develop and implement an energy performance standard for these buildings and to provide incentives to encourage efficiency improvements. The Legislature directed Commerce to adopt the [American Society of Heating, Refrigerating and Air-Conditioning Engineers](#) (ASHRAE) [Standard 100-2018](#) as a reference standard and to establish energy use intensity targets¹ specific to Washington for different building occupancy types.

All covered commercial buildings in the state are required to benchmark through ENERGY STAR's Portfolio Manager, which is a free tool supported by the U.S. Environmental Protection Agency. These buildings are required to produce energy management and operations and maintenance plans. Buildings determined to be over the energy use intensity targets by building type are then required to produce and implement a building improvement plan to bring their energy use intensity within the target or demonstrate that cost-effective measures have been implemented by building owners or managers.

Mandatory compliance with the Standard begins in 2026 with a phase-in from larger to smaller covered commercial buildings:

- 220,000 square feet and larger: Must be in compliance by 2026
- 90,000-219,999 square feet: Must be in compliance by 2027
- 50,000-89,999 square feet: Must be in compliance by 2028

Compliance is demonstrated on a five-year cycle according to administrative and reporting procedures developed in WAC 194-50.

To implement the law, Commerce is in the process of:

- Conducting rulemaking to establish administrative rules
- Creating a database of covered commercial buildings
- Notifying building owners of the requirements
- Establishing an incentive program for early adopters

¹ Energy use intensity is a function of a building's energy use relative to its size and other metrics. It is expressed as energy per square foot per year.

- Providing customer support to the industry

Beginning in January 2022 and each year thereafter through 2029, Commerce must submit a report to the governor and the appropriate legislative committees on the implementation of the Standard. The reports shall include information regarding the adoption of the ASHRAE Standard 100-2018 as an initial model, the financial impact to building owners required to comply with the Standard, and the amount of incentives provided. Since the program has just begun, Commerce does not yet have cost data available to implement the Standard.

Beginning the process

Rulemaking

Commerce was required by law to conduct rulemaking to establish the standard for covered commercial buildings² by Nov. 1, 2020.

Commerce staff conducted 15 workshops and comment periods from 2019 through 2020 to establish the new standard and set state-specific targets. The public process began in November 2019, before the ongoing COVID-19 pandemic. After the pandemic began, the workshops were adapted for full remote participation. These workshops were attended by a broad group of stakeholders including building owners, utilities, architects, engineers, non-profit entities, higher education, and trade and membership associations.

Through these rulemaking workshops, Commerce covered topics such as technical overviews of ASHRAE Standard 100, proposed methodology for establishing energy use averages by building type, scenarios for target setting, customer support, diversity and inclusion, and incentive program design. All workshop materials were posted online with a two-week public comment period. Each workshop included opportunities for participant input and discussion.

Commerce filed rules on Oct. 30, 2020, which became [WAC 194-50](#).

Data collection and database development

Commerce was required to use data from county assessor offices, in addition to other available sources, to identify covered commercial buildings. County assessor data records what is built on a land parcel, but does not necessarily indicate whether these structures make up one specific “building.” In addition, county assessor data did not always contain information about whether the built environment on one parcel was connected to adjoining parcels. For the Standard, a building can be on one parcel, multiple buildings can be on one parcel and a building can span multiple parcels.

Intersect method to identify buildings

In order to identify possible covered commercial buildings, Commerce created 39 different geographic information system (GIS) applications – one for each county. Commerce contracted with ESRI, a geographic information system company, to create building footprint data containing estimated building square footage. Commerce overlaid these data with imagery data and parcel data in order to capture the intersections of buildings and parcels. ESRI used available state light detection and ranging data (LiDAR) sources to create the building footprint layer. In some cases, the county-specific layer only covered urban portions of the county or only covered specific cities. In other cases, the most recent LiDAR source for an area was a decade old.

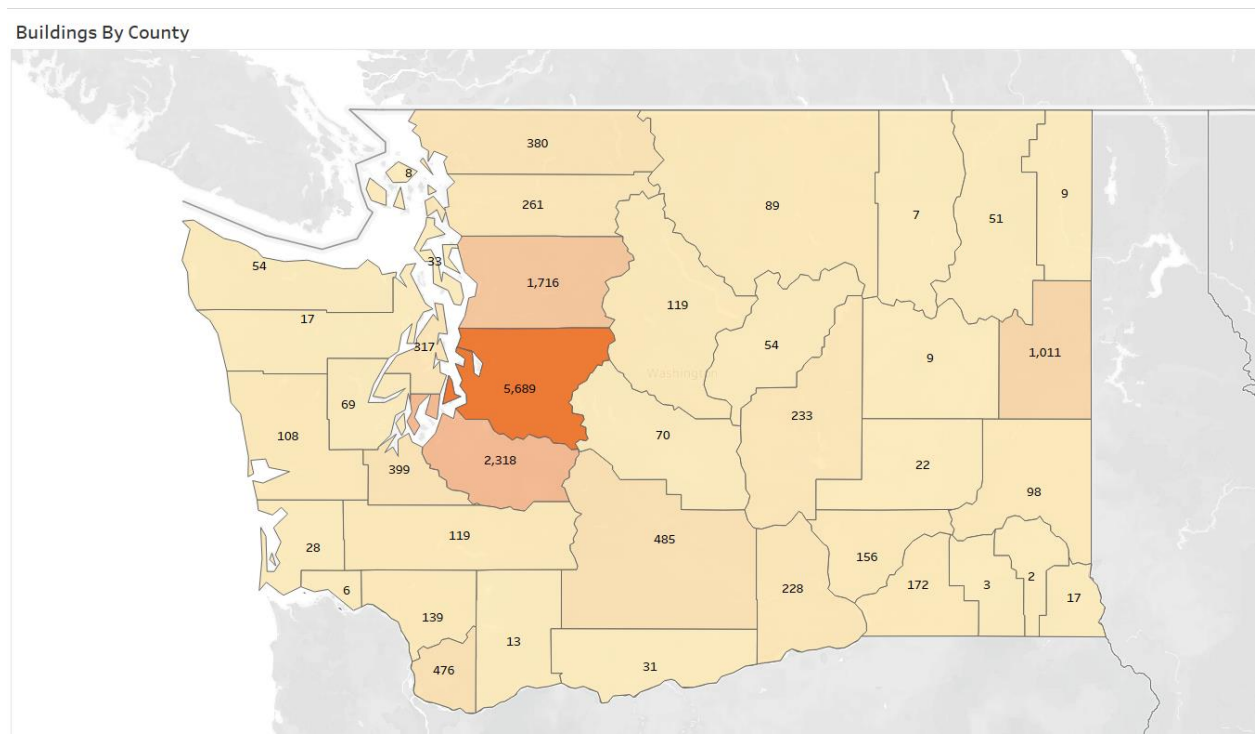
After running the intersect program, Commerce staff did a visual scan of each county to capture additional buildings. Commerce then added K-12 schools from a dataset provided by the Washington Office of Superintendent of Public Instruction (OSPI) and state-owned facilities from an Office of Financial Management

² [WAC 194-50-030](#) defines a “Covered Commercial Building” as: “A building where the sum of nonresidential, hotel, motel, and dormitory floor areas exceeds fifty thousand gross square feet, excluding the parking garage area.”

(OFM) database. Staff assigned each building a unique building identification number, and then pulled these building-parcel relationships into the Clean Buildings Portal (Portal), which is the database. Building owners will use the Portal to track compliance status and requirements.

As of Dec. 2, 2021, there are 15,020 possible covered commercial buildings in Washington. Building owners are in the process of providing Commerce with additional information to confirm whether their building is required to comply with the Standard. Commerce staff expect the number of covered commercial buildings to decline as additional information is processed. Nearly two-thirds of all identified buildings are in King, Pierce and Snohomish counties.

The map below shows the geographic distribution of buildings throughout the state. The darker the orange shading, the more buildings there are in that county.



Building owner notification

Commerce staff posted a list of parcels and associated building identification numbers to the Clean Buildings webpage in July 2021, then conducted a broad communication effort to notify building owners the list was available. While the intersect method describe earlier was helpful in identifying buildings, it caused some rendering errors, projecting buildings onto parcels that did not actually contain a building. Commerce staff determined it was important to delay sending building owner notification letters until data quality checks were completed in order to remove as many misidentified building-parcel relationships as possible.

After completing data quality checks, letters were mailed to building owners informing them of the Standard and the incentive program. Commerce mailed letters to mixed use (commercial plus residential) building owners, owners subject to compliance through exemption, and commercial building owners whose buildings might be over 50,000 gross square feet. Because of the way multifamily condo buildings appeared in the assessor data,

with one record per condo owner, Commerce did not mail letters regarding the incentive program to multifamily building owners. In total, Commerce mailed more than 11,000 letters to building owners.

Incentive program

RCW 19.27A.220 requires Commerce to administer an early adopter incentive program for building owners who want to get a head start on compliance. The Legislature authorized \$75 million for this program. The incentive is paid by utilities participating in the program. The utilities then file for a public utility tax credit for the amount paid out in incentive funds. Buildings eligible to receive incentive program funds might be eligible for utility conservation incentives, in addition to other financing mechanisms.

To be eligible for the incentive program, buildings must be served by at least one electric utility, gas company or thermal energy company participating in the program. Buildings must be at least 15 energy use intensity units, expressed as energy per square foot per year, over the target by building type. In order to receive the incentive, the building must be brought into full compliance with the Standard. Eligible buildings that have demonstrated early compliance with the Standard receive 85 cents per gross square foot of floor area.

Commerce hosted four workshops to engage with stakeholders on program design. Each workshop included interactive discussion and was followed by a two-week comment period. Based on stakeholder feedback, half of the available incentive funding has been reserved for buildings and building owners meeting certain equity criteria, including buildings located in rural communities, buildings providing affordable housing to residents, buildings with the highest energy burdens, and buildings located in high risk communities based on the Department of Health's Environmental Health Disparities map.

The incentive program launched July 1, 2021. As of Dec. 1, 2021, there were 14 applications in draft form in the Portal.

Customer support and training

Program development

Commerce staff developed a robust customer support and outreach program for the Standard. The Clean Buildings staff provides ongoing technical assistance for existing buildings over 50,000 square feet. Stakeholders can request assistance by phone, email or customer support form. As of December 2021, Commerce has responded to more than 1,100 support requests.

In July 2021, in partnership with ASHRAE, Commerce released an integrated version of ASHRAE Standard 100 with Washington state amendments ([WAC 194-50](#)). The [integrated document](#) is available on Commerce's website and has been downloaded more than 500 times since it was made available.

Program support

Commerce staff conducted approximately 45 trainings and presentations and four live Q&A sessions in 2021 to increase awareness, solicit feedback, and support stakeholders in pursuing compliance with the Standard. Commerce produced various educational materials, including training videos, flowcharts, tools, FAQs and guide sheets. Commerce also collaborated with utilities, nonprofit organizations and the Washington State University Energy Program to develop training workshops for consultants and energy professionals.

To help building owners comply with the Standard, Commerce created a directory of qualified individuals and energy auditors to complete energy efficiency updates to their buildings. Commerce also developed a suite of webpages designed to inform and support building owners in complying with the Standard.

Recommendations

Data tracking and evaluation

Ongoing review of the covered commercial buildings dataset will give Commerce staff a thorough understanding of the state's covered commercial building stock. This information will help the state gain better foundational knowledge of average energy use by building type, identify opportunities to reduce energy usage, and cost implications for complying with the Standard. Reporting requirements should balance administrative efficiency and time costs with the benefits of developing clear data in meeting the state's greenhouse gas emissions limit goals.

Outreach and awareness building

While letters were mailed to building owners identified through county assessor's records, additional outreach to building owners and the industry as a whole is necessary. Mandatory compliance begins in five years and some buildings will change ownership, change use or be renovated, making ongoing outreach necessary.

Customer support and technical assistance

To successfully implement Washington's Clean Buildings Performance Standard, ongoing technical assistance will be needed. Technical assistance might include providing guidance on specific building scenarios and building configurations that could affect whether a building is covered. Operations and maintenance planning is a low-cost way for building owners to reduce energy use and extend the useful life of equipment, and many owners can take advantage of these opportunities with guidance from Commerce and experts.

Industry trainings will need to be developed, refined and made broadly available. Building operators, managers and other professionals will need access to workforce training and certification programs. These programs should be developed to encourage broad participation.