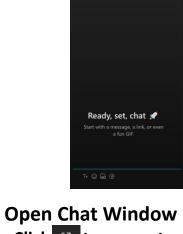




In Participant
Window
Second Raise Hand
Option next to
your name – click
hand icon

You can chat to
everyone or select
Direct to send a chat
to the Host or a specific
attendee



Click to pop out into a new window if needed

#### **Audio Options**



#### **Video Options**

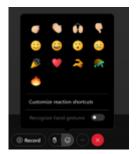


# Raise Your Hand Option 1

Click to Raise your hand.

Click again to lower hand.

#### **Reactions**



Open Participant
Window to view
attendees
Click to pop out
into a new window if
needed



- I. Introduction to Building Performance Standards
- II. Reviewing House Bill 3409
- III. Rulemaking and Stakeholder Engagement Process
- IV. Introduction to ASHRAE Standard 100-2024
- V. Closing and Next Steps

#### **Comment Portal**

https://odoe.powerappsportals.us/en-US/bps/





# OREGON DEPARTMENT OF ENERGY

Leading Oregon to a safe, equitable, clean, and sustainable energy future.

Our Mission The Oregon Department of Energy helps Oregonians make informed decisions and maintain a resilient and affordable energy system. We advance solutions to shape an equitable clean energy transition, protect the environment and public health, and responsibly balance energy needs and impacts for current and future generations.

What We Do On behalf of Oregonians across the state, the Oregon Department of Energy achieves its mission by providing:

- A Central Repository of Energy Data, Information, and Analysis
- A Venue for Problem-Solving Oregon's Energy Challenges
- Energy Education and Technical Assistance
- Regulation and Oversight
- Energy Programs and Activities

# Building Performance Standards - Introduction

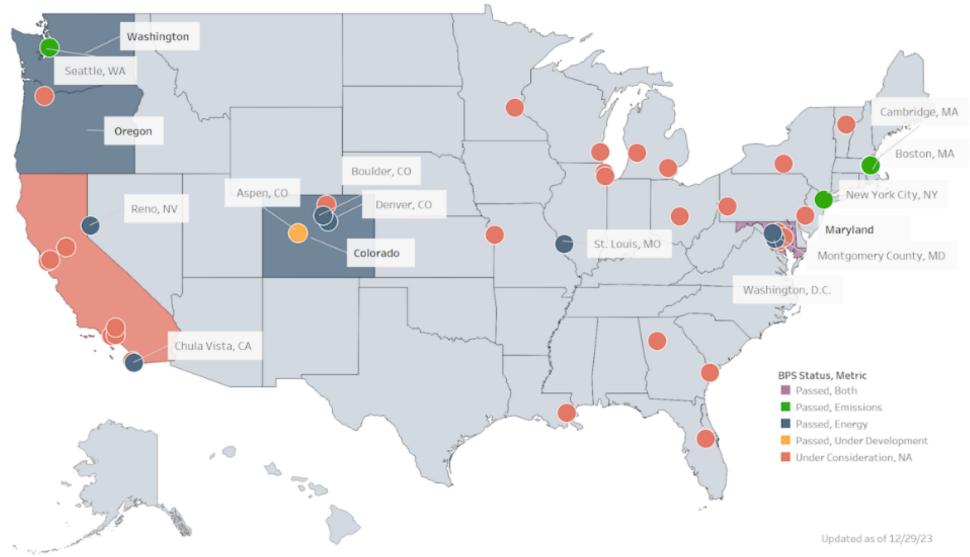


# BUILDING PERFORMANCE STANDARDS

- Building Performance Standard (BPS) policies are an emerging type of policy that establishes:
  - Specific performance levels that buildings must achieve
  - Timeframe by which buildings must meet the target
- Important tool for reducing energy use and emissions from the existing building sector
- Key part of helping the jurisdictions meet climate goals
- Complementary to energy codes
- Adopted by jurisdictions and applied to existing commercial and multifamily buildings



#### State and Local Building Performance Standards





## BUILDING PERFORMANCE STANDARDS

# Program components include:

Scope – size, type, exceptions?

Performance Metrics — site energy, source energy, GHG, water?

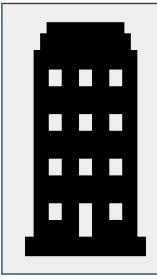
Targets — by building type, climate zone, how aggressive, basis?

Compliance and Phasing — First in, compliance pathways?



Implementation Mechanisms — documentation, database?

## BPS KEY CONSIDERATIONS



Building Performance
Standards require
certain buildings and
owners to meet certain
performance targets by a
specified date.



#### **Align and Establish Goals**

- Alignment with decarbonization goals
- Performance metrics



#### **Determine Covered Properties**

- Property Types
- Exemptions and Accommodations



#### **Consider Compliance Approaches**

- Compliance Approaches
- · Enforcement for Non-compliance



#### **Provide Support to Building Owners**

- Technical Support
- Funding Support



#### **Establish Reporting Requirements**

- Reporting Mechanism
- Access to Historical Data



## BENEFITS OF BUILDING PERFORMANCE STANDARDS



Energy use and greenhouse gas emissions reductions to support climate goals



Improved heating, cooling, ventilation, and lighting systems in buildings to use less energy and improve indoor air quality and comfort



Support local workforce and jobs to improve building performance through investment in energy efficiency measures and technology



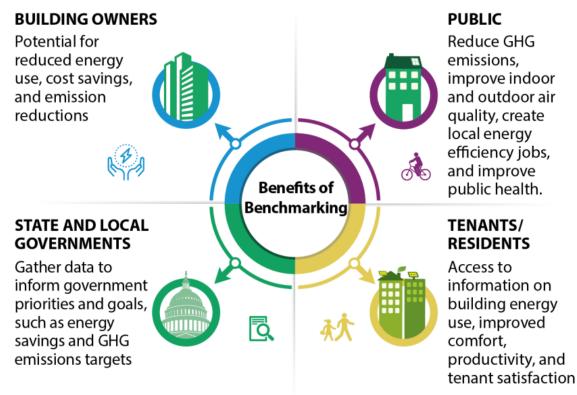
Implementation of costeffective energy measures to reduce operating costs for building owners and tenants



## BUILDING ON ENERGY BENCHMARKING

 Building performance standards build upon energy benchmarking by acting on the energy use information to lead to improvements

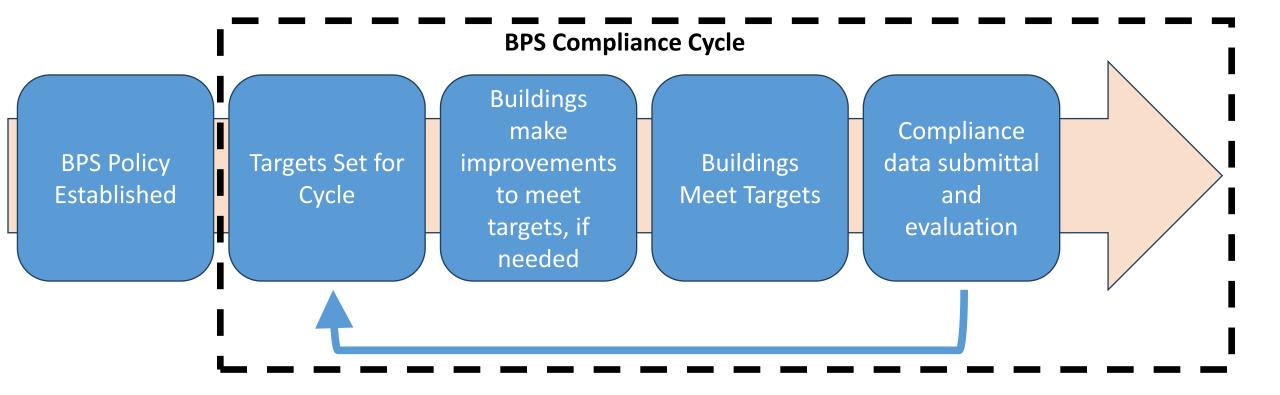
#### The Benefits of Benchmarking





# BUILDING PERFORMANCE STANDARDS: AN ITERATIVE PROCESS

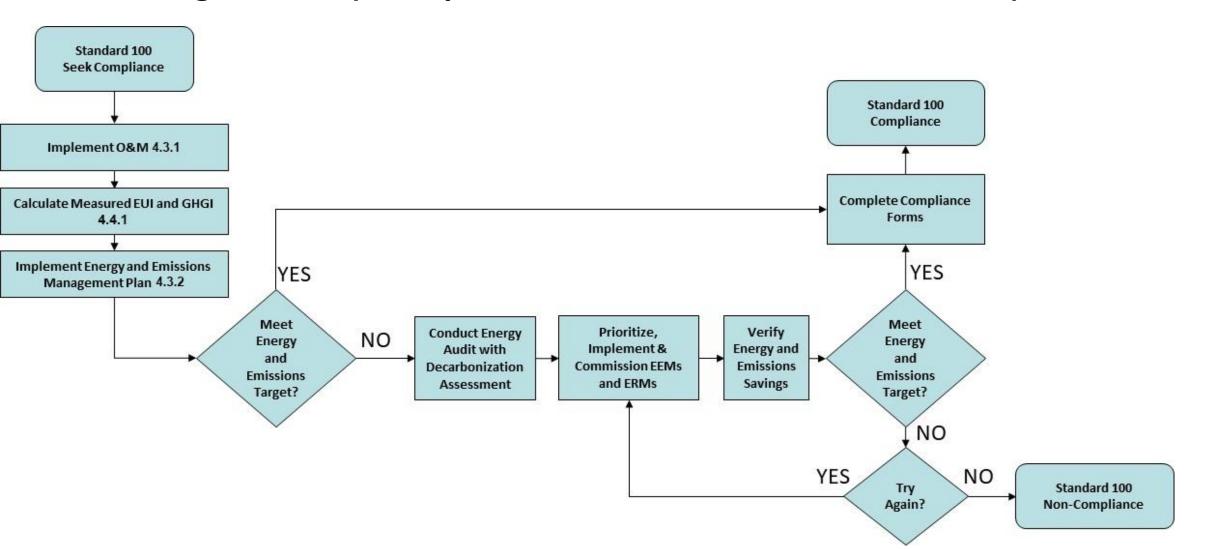
#### **For Jurisdictions**





# BUILDING PERFORMANCE STANDARDS: AN ITERATIVE PROCESS

#### For Building Owners (example from ASHRAE Standard 100-2024)



# BPS IMPLEMENTATION





# Reviewing House Bill 3409



# HOUSE BILL 3409

82nd OREGON LEGISLATIVE ASSEMBLY-2023 Regular Session

#### Enrolled House Bill 3409

Sponsored by Representatives RAYFIELD, MARSH, PHAM K, Senators DEMBROW, LIEBER: Representatives ANDERSEN, BOWMAN, CHAICHI, DEXTER, GAMBA, GRAYBER, HARTMAN, HOLVEY, HUDSON, KROPF, LEYY E, MCLAIN, NELSON, NERON, NGUYEN H, NOSSE, REYNOLDS, SOSA, TRAN, WALTERS, Senators CAMPOS, MANNING JR, PATTERSON, SOLLMAN

CHAPTER	

#### AN ACT

Relating to climate; creating new provisions; amending ORS 352.823, 468A.210, 468A.215, 468A.220, 468A.225, 468A.230, 468A.235, 468A.240, 468A.245, 468A.250, 468A.255, 468A.260, 469.754, 469.756 and 530.050 and sections 1 and 5, chapter 655, Oregon Laws 2019, and sections 2, 10, 14, 17, 21, 23, 24 and 29, chapter 86, Oregon Laws 2022; and declaring an emergency.

Be It Enacted by the People of the State of Oregon:

#### DESIGNATED STATE AGENCY PROGRAMS FOR ENERGY EFFICIENCY IN BUILDINGS

SECTION 1. (1) The Legislative Assembly finds that:

- (a) Energy consumption in residential and commercial buildings accounted for 34 percent of annual greenhouse gas emissions in this state in 2021, according to the Department of Environmental Quality;
- (b) Space and water heating account for 64 percent of an average residential building's energy use;
- (c) Heat pumps provide both heating and cooling benefits that keep people safe during extreme weather events that are becoming more frequent and more intense as a consequence of climate change;
- (d) Electric heat pumps can provide up to three times more heat energy than the electrical energy the heat pumps consume, which makes heat pumps the most energy efficient space heating option available in the market;
- (e) Upgrading space and water heating appliances with contemporary heat pump technologies can help people to save money on household energy bills:
- (f) Existing and forthcoming state and federal incentive programs will assist in energy efficiency improvements in homes and buildings, including adoption of energy efficient heating and cooling appliances;
- (g) Many residents of this state suffer from disproportionately high energy burdens, and environmental justice communities face greater barriers to purchasing and installing heat pumps and other energy efficient appliances; and

- BPS is part of HB 3409 from the 2023 Legislative Session
- This policy addresses energy use and emissions from existing commercial buildings, which account for nearly 20% of energy use in Oregon.
- It will require many large commercial buildings to enhance energy management practices and implement efficiency measures to meet energy use targets and will be modeled after ASHRAE Standard 100.
- Will be administered by ODOE
- Modeled after Washington state program

Enrolled House Bill 3409 (HB 3409-C)
Page 1

#### Section 8

- Definitions
- Tier 1, Tier 2 buildings
- "Energy use intensity" means a measurement that weather normalizes a building's site energy use relative to the building's size, calculated by dividing the total net energy the building consumes in one year by the building's gross floor area, excluding any parking garage, and that is reported in thousands of British thermal units per square foot per year.
- "Net energy use" means the sum of metered and bulk fuel energy that enters a building, minus the sum of metered energy that leaves the building

## Section 9

- Direction to ODOE for administrative rules, establishes BPS criteria
- Adopt rules for BPS, using ASHRAE Standard 100 as a model, that:
  - Seeks to maximize GHG emissions from covered commercial buildings
  - Includes EUI Targets for specific types of buildings
  - Offers conditional compliance pathway (energy management plan, audits, etc.)
- Develop EUI targets that are <u>not more stringent than the average energy use</u> <u>intensity</u> for each covered commercial building occupancy classification, adjusting as necessary for a covered commercial building's unique energy-using features;
- May require utilities, eligible building owners, and other entities to aggregate data for covered commercial buildings that have multiple meters

## Section 9 (continued)

 May consider occupancy classifications set forth on Standard 100 and US EPA Energy Star Portfolio Manager



**List of Property Types** 

Aug 2023

Portfolio Manager contains more than 85 property types to choose from when setting up your property.

Property types with an asterisk are eligible to receive a 1-100 ENERGY STAR Score (country in parentheses).

Category	Property Type	Detailed Property Type					
Danking/Financial Comisso	Bank Branch* (U.S., Canada)						
Banking/Financial Services	Financial Office* (U.S., Canada)						
	Adult Education						
	College/University						
Education	K-12 School*(U.S., Canada)						
Education	Pre-school/Daycare						
	Vocational School						
	Other - Education						
	Convention Center						
	Movie Theater						
	Museum						
	Performing Arts						
		Bowling Alley					
		Fitness Center/Health Club/Gym					
	Recreation	Ice/Curling Rink* (Canada)					
		Roller Rink					
Entertainment/Public Assembly		Swimming Pool					
		Other - Recreation					
	Social/Meeting Hall						
		Indoor Arena					
		Race Track					
	Stadium	Stadium (Closed)					
		Stadium (Open)					

EMPTH STAN	PortfolioManager®
<b>ENERGY STAIR</b>	r ul tiuliulvialiayei*

#### List of Property Types

Aug 2023

Category	Category Property Type Detailed P (where					
	Ambulatory Surgical Center					
	Hospital	Hospital (General Medical & Surgical)* (U.S., Canada)				
	Tiospital	Other - Specialty Hospital				
Healthcare	Medical Office* (U.S., Canada)					
	Outpatient Rehabilitation/Physical T	Outpatient Rehabilitation/Physical Therapy				
	Residential Care Facility* (Canada	Residential Care Facility* (Canada)				
	Senior Living Community* (U.S.,	Senior Living Community* (U.S., Canada)				
	Urgent Care/Clinic/Other Outpatient					
	Barracks* (U.S.)					
	Hotel* (U.S., Canada)					
	Multifamily Housing* (U.S., Canada)					
Lodging/Residential	Prison/Incarceration					
Louging/Residential	Residence Hall/Dormitory* (U.S.)					
	Senior Living Community* (U.S., Canada)					
	Single Family Home* (U.S.)					
	Other - Lodging/Residential					
Manufacturing/Industrial	Manufacturing/Industrial Plant	Manufacturing/Industrial Plant				
Mixed Use	Mixed Use Property	Mixed Use Property				
	Medical Office* (U.S., Canada)					
Office	Office* (U.S., Canada)					
	Veterinary Office	Veterinary Office				
	-					

## Section 9 (continued)

- Create a database of eligible building owners and covered buildings based on county assessor records and other sources
- Not later than July 1, 2025, notify eligible building owners of requirements for Tier 1 buildings
- Local municipalities may adopt energy performance and GHG emissions reduction standards that are more stringent or have broader application (with limitations)

#### Section 10

- Tier 1 building owner reporting requirements
- New reports required at the end of every successive 5 year period
- Exemption criteria
- Requires ODOE support program that includes information, periodic training, technical assistance, phone, and email support
- Compliance timelines, phased, starting with largest buildings first
- Civil penalties for non-compliance: up to \$5,000 + \$1/square foot/year

## Section 11

- ODOE to adopt rules to:
  - Ensure timely, accurate, and complete reporting for Tier 1 buildings
  - Enable ODOE to effectively enforce the standard and EUI targets
  - Provide means for affected eligible building owners to appeal decisions and enforcement actions
  - Ensure that eligible building owner is responsible for paying the costs of compliance
- ODOE to consult with an advisory committee before adopting rules

## Section 12

• County assessors to provide information about covered commercial buildings at ODOE's request

#### Section 13

 ODOE to report to Governor and Legislative Assembly on January 15 each year from 2025-2035 concerning the implementation of the energy performance standard, adoption of ASHRAE Standard 100 as an initial model, the financial impact the standard has had on eligible building owners of Tier 1 buildings, and incentives provided

## Section 14

- Clarifies that Tier 2 buildings are not required to meet the energy performance standard
- Clarifies that eligible Tier 1 building owners are not required to act before ODOE adopts rules
- ODOE may offer incentives for early or voluntary compliance with the energy performance standard

#### Section 15

- Sets initial rulemaking deadline of December 31, 2024 to establish a requirement and standards for owners of Tier 2 buildings to provide data that would enable ODOE to establish a benchmark for energy use in, and GHG emissions from, Tier 2 buildings
- ODOE to cooperate with Department of Education on schools data
- ODOE to notify Tier 2 building owners by July 1, 2025
- Tier 2 building owners to provide ODOE with energy benchmarking data by July 1, 2028 and every 5 years thereafter

## Section 15 (continued)

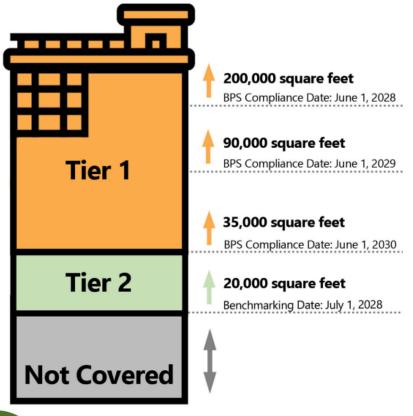
- By July 1, 2029, ODOE shall evaluate and use the Tier 2 data to calculate average energy use and GHG emissions for Tier 2 building categories
- By July 1, 2025 ODOE to consult an advisory committee to identify financial and nonfinancial implications of an energy performance standard for Tier 2 buildings
- By October 1, 2030 ODOE to report to Governor and Legislative Assembly on a recommendation for a cost-effective energy performance standard for Tier 2 buildings, including costs and challenges

#### Section 16-17

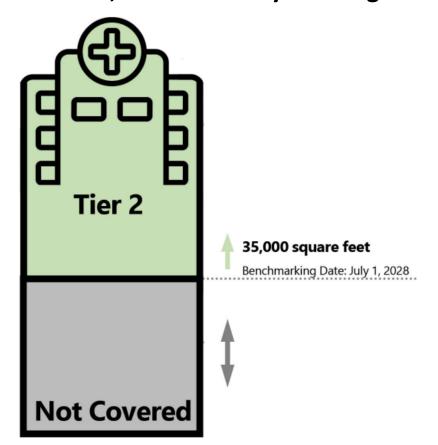
• Establishes incentives program for early or voluntary compliance

## BUILDING PERFORMANCE STANDARDS - SCOPE

# Commercial (Non-Residential), Hotels, and Motels



Multifamily Residential, Hospitals, Schools, Dormitories, and University Buildings



<u>Tier 1</u> = BPS Compliance

<u>Tier 2</u> = Energy Benchmarking / Reporting



# BUILDING SIZE REFERENCES



~ 35,000-45,000 square feet

~ 100,000 square feet





Note: the images on this slide are only meant to help visualize building sizes and do not imply any specific compliance requirements

# TIER 1 AND TIER 2 BUILDINGS

**Tier 1 building** means a building in which the sum of gross floor area for hotel, motel and nonresidential use equals or exceeds 35,000 square feet, excluding any parking garage.

#### Tier 2 building means:

- 1. A building with gross floor area, excluding any parking garage, that equals or exceeds 35,000 square feet and that is used as a multifamily residential building, a hospital, a school, a dormitory or university building; or
- 2. A building in which the sum of gross floor area for hotel, motel and nonresidential use exceeds 20,000 square feet but does not exceed 35,000 square feet, excluding any parking garage.



# TIER 1 AND TIER 2 BUILDINGS

#### Tier 1 buildings:

Not later than December 31, 2024, the State Department of Energy, in consultation with the Department of Consumer and Business Services, shall adopt rules that use the American National Standards Institute's standards for Energy Efficiency in Existing Buildings (ANSI/ASHRAE/IES Standard 100) as an initial model for specifying an energy performance standard for covered commercial buildings.

#### Tier 2 buildings:

Not later than December 31, 2024, the State Department of Energy by rule shall establish a requirement and standards under which eligible building owners of tier 2 buildings must provide to the department data that would enable the department to establish a benchmark for energy use in, and greenhouse gas emissions from, tier 2 buildings.



# BUILDING PERFORMANCE STANDARDS

#### Compliance for Tier 1 Buildings will generally require either:

Meeting energy use intensity (EUI) targets;

"Develop energy use intensity targets that are not more stringent than the average energy use intensity for each covered commercial building occupancy classification"

"Energy use intensity means a measurement that weather normalizes a building's **site energy use** relative to the building's size, calculated by dividing the total net energy the building consumes in one year by the building's gross floor area, excluding any parking garage, and that is reported in thousands of British thermal units per square foot per year."

- Meeting conditional compliance requirements that ODOE establishes (such as energy audits, energy investments, and energy management plans), or;
- Receiving approval for an eligible exemption allowed under HB 3409
  - A. No certificate of occupancy
  - B. Low occupancy <sup>1</sup>
  - C. Total gross floor area, less unconditioned and semiheated spaces, is <35,000 sq. ft.<sup>2</sup>
  - D. Primary use is manufacturing or industrial (Factory Group F, High Hazard Group H) <sup>2</sup>
  - E. Agricultural buildings <sup>1</sup>
  - F. Financial hardship <sup>1</sup>



<sup>&</sup>lt;sup>1</sup> Refer to text of HB 3409 for more detail

<sup>&</sup>lt;sup>2</sup> Refer to the building code for more detail

# BUILDING PERFORMANCE STANDARDS

#### Potential for penalties:

- The department may impose a civil penalty...upon an eligible building owner of a tier 1 building ...
- A civil penalty the department imposes...may not exceed \$5,000 plus an amount for the duration of a continuing violation, which may not exceed a daily amount that the department calculates by multiplying \$1 per year per square foot of gross floor area of the tier 1 building that is the subject of the department's notice.
- The department shall deposit the proceeds of any civil penalty the department imposes and collects under this subsection into the State Department of Energy Account established under ORS 469.120 and shall allocate the proceeds for the purpose of administering the department's energy efficiency programs.

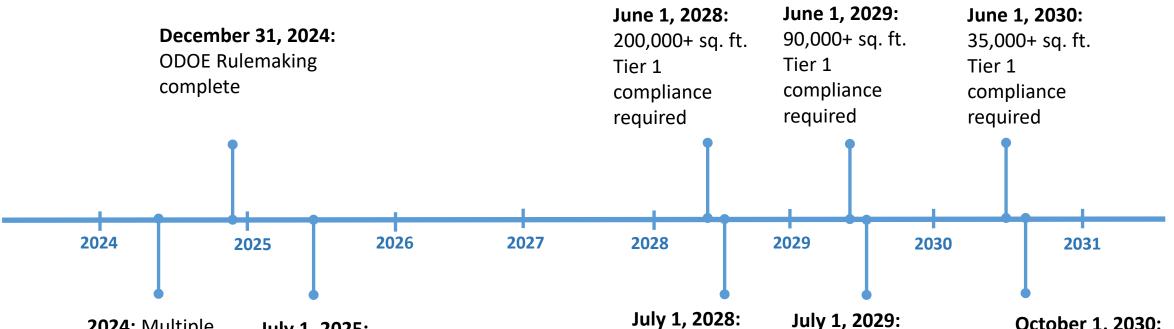


# WHY ASHRAE STANDARD 100?

- From HB 3409 <sup>3</sup>: "use...Standard 100 as an initial model for specifying an energy performance standard for covered commercial buildings"
- Alignment with:
  - Oregon's Energy Code based on ASHRAE Standard 90.1
  - State-owned building energy management process
  - Washington state
- Provides an established, national framework under continuous maintenance and with support of many resources and experts
- Customizable for Oregon needs



# BPS PROGRAM TIMELINE - KEY DATES



2024: Multiple stakeholder and **RAC** meetings to support rulemaking (~ 4)

July 1, 2025: ODOE to notify Tier 1 and Tier 2 **Building Owners** 

Tier 2 building benchmarking

required

 ODOE evaluation of Tier 2 benchmarking

data

 ODOE update rulemaking and EUI targets (every 5 years after)

October 1, 2030:

ODOE report to Governor and Legislature on recommendation for Tier 2 BPS



## OTHER ODOE ADMINISTRATIVE ACTIVITIES

- Staff on-boarding
- Identification of Covered Buildings
- Incentives
- RFPs / Consultants to support:
  - Target setting, covered building identification
  - Community-led stakeholder engagement

- ASHRAE Standard 100 licensing agreement
- Preliminary identification and evaluation of data and software needs
- Federal grant support



# Rulemaking and Stakeholder Engagement Process



# RULEMAKING PROCESS

- ODOE plans to file a public hearing notice, including draft rules, with the Oregon Secretary of State in fall 2024
- Public comment period will run for about four weeks
- Public hearing in October or November (including remote participation)
- ODOE staff will review public comments received and may revise draft rules
- ODOE plans to file the final rules with the Oregon Secretary of State by the end of 2024

State of Oregon: GET INVOLVED - Building Performance Standards Rulemaking

# RULEMAKING ADVISORY COMMITTEE (RAC)

"Before adopting rules under this section, the department shall establish and consult an advisory committee that includes representatives of:

- eligible building owners,
- tenants of covered commercial buildings,
- public utilities,
- organizations with experience in designing or implementing energy efficiency programs,
- local governments,
- organizations that focus on environmental justice, and
- other stakeholders the department identifies as needing representation."



## RULEMAKING MEETINGS

#### Rulemaking Advisory Committee

- February 21 kickoff
- April 24
- May 22
- June 26
- July 17
- September 4

Planning for individual Comment Portals for each stage

#### General Public Stakeholder

- March 21 (today!)
- May 2024 (April RAC activity)
- July 2024 (May/June RAC activity)
- September 2024 (July/September RAC activity)

#### Rulemaking Filing with Secretary of State

	Septe	September		October		November		December	
File Draft Rules/Notice with Oregon Secretary of State									
Rulemaking Public Comment Period									
Rulemaking Hearing									
File Final Rules									



## RULEMAKING SCOPE

#### ODOE Rulemaking in 2024 will define:

- Energy performance targets
- Energy management requirements and modification of ASHRAE Standard 100 for Oregon-specific requirements
- Conditional compliance pathway
- Reporting criteria and procedures
- Compliance documentation and enforcement
- Data aggregation
- Incentives structure
- ++ other administrative requirements

## BPS RULE STRUCTURE

#### ASHRAE 100-2024 Structure:



#### ANSI/ASHRAE/IES Standard 100-2024

(Supersedes ANSI/ASHRAE/IES Standard 100-2018)
Includes ANSI/ASHRAE/IES addenda listed in Appendix P

# Energy and Emissions Building Performance Standard for Existing Buildings

See Informative Appendix P for approval dates by ASHRAE, the Illuminating Engineering Society, and the American National Standards Institute.

This Standard is under continuous maintenance by a Standing Standard Project Committee (SSPC) for which the Standards Committee has established a documented program for regular publication of addends or revisions, including procedures for timely, documented, consensus action on requests for change to any part of the Standard. Instructions for how to submit a change can be found on the ASTHARE® website (www.ashrae.org/continuous-maintenance).

The latest edition of an ASHRAE Standard may be purchased from the ASHRAE website (www.ashrae.org) or from ASHRAE Customer Service, 180 Technology Parkway, Peachtree Corners, GA 30092. E-mail: orders@ashrae.org, Fax: 678-539-2129. Telephone: 404-636-8400 (worldwide), or toll free I-800-527-4723 (for orders in US and Canada). For reprint permission, so to www.ashrae.org/permissions.

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PDF includes hyperlinks for convenient navigation. Click on a reference to a section, table, figure, or equation to jump to its location. Return to the previous page via the book mark menu.

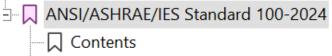


Includes online access to Jurisdiction-Specific Methodologies









□ Foreword

🖳 🔲 1. Purpose

2. Scope

∄ ☐ 3. Definitions

🖃 🔲 4. Compliance Requirements

± ☐ 5. Energy and Emissions Management Plan

 $-\Box$  6. Operations and Maintenance Requirements

1. Energy Use and Greenhouse Gas Emissions Analysis and Target Requirements

 $\square$  8. Energy Audit with Decarbonization Assessment Requirements

🗔 🔲 9. Implementation and Verification Requirements

10. Residential Buildings and Dwelling Units

☐ 11. References

Normative Appendix A: Forms



# BPS RULE STRUCTURE

#### WA Example:

#### Chapter 194-50 WAC

#### WASHINGTON STATE DEPARTMENT OF COMMERCE ADOPTION AND AMENDMENT OF ASHRAE STANDARD 100, 2018

#### **WAC Sections**

HTML	PDF	194-50-001	Foreword.
HTML	PDF	194-50-010	ASHRAE Standard 100, 2018—Section 1—Purpose.
HTML	PDF	194-50-020	ASHRAE Standard 100, 2018—Section 2—Scope.
HTML	PDF	194-50-030	ASHRAE Standard 100, 2018—Section 3—Definitions.
HTML	PDF	194-50-040	ASHRAE Standard 100, 2018—Section 4—Compliance requirements.
HTML	PDF	194-50-050	ASHRAE Standard 100, 2018—Section 5—Energy management plan.
HTML	PDF	194-50-060	ASHRAE Standard 100, 2018—Section 6—Operations and maintenance requirements.
HTML	PDF	194-50-070	ASHRAE Standard 100, 2018—Section 7—Energy use analysis and target requirements.
HTML	PDF	194-50-080	ASHRAE Standard 100, 2018—Section 8—Energy Audit Requirements.
HTML	PDF	194-50-090	ASHRAE Standard 100, 2018—Section 9—Implementation and verification requirements.
HTML	PDF	194-50-110	ASHRAE Standard 100, 2018—Section 11—References.
HTML	PDF	194-50-120	Normative Annex C Forms.
HTML	PDF	194-50-130	Normative Annex L—Operations and maintenance implementation.
HTML	PDF	194-50-140	Normative Annex X—Investment criteria—This is a normative annex and is part of the Tier 1 covered building requirements of this standard.
HTML	PDF	194-50-150	Normative Annex Z—Washington state Tier 1 covered buildings reporting requirements—This is a normative annex and is part of the Tier 1 covered building requirements of this standard.
HTML	PDF	194-50-160	Normative Annex Y—Washington state Tier 2 covered buildings reporting requirements—This is a normative annex and is part of the Tier 2 covered building requirements of this standard.



# BPS RULE STRUCTURE

- ODOE's plan is for rules to follow the same general structure as ASHRAE Standard 100-2024
- Similar to Washington State WAC 194-50

https://apps.leg.wa.gov/wac/default.aspx?cite=194-50

 Some chapters and areas will be straightforward and noncontroversial, while others will be more involved and require more discussion





# **Thank You**

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https://www.oregon.gov/energy/save-energy/Pages/BPS.aspx

https://www.oregon.gov/energy/Get-Involved/Pages/BPS-Rulemaking.aspx

#### **Comment Portal**

https://odoe.powerappsportals.us/en-US/bps/