

# HB1390 Rulemaking: Decarbonization of Campus District Energy Systems

Clean Buildings Performance Standard

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Presenters

CLEAN BUILDINGS TEAM

3/7/2024



Washington State  
Department of  
**Commerce**

# We strengthen communities



HOUSING AND  
HOMELESSNESS



INFRASTRUCTURE AND  
BROADBAND



SMALL BUSINESS  
ASSISTANCE



ENERGY



PLANNING AND TECH  
ASSISTANCE



COMMUNITY  
SERVICES AND FACILITIES



CRIME VICTIMS AND  
PUBLIC SAFETY



ECONOMIC  
DEVELOPMENT

# Agenda

- 1 Introductions and rulemaking overview
- 2 Workshop 1- Comment Summary
- 3 HB1390 Recap
- 4 HB1390 Rule Integration
- 5 CBPS and the Decarbonization Plan
- Break!**
- 6 Proposed Rules
- 7 Case Studies and Resources
- 8 Q&A
- 9 Next Workshop
- 10 Adjourn

# Meet the Rulemaking Staff

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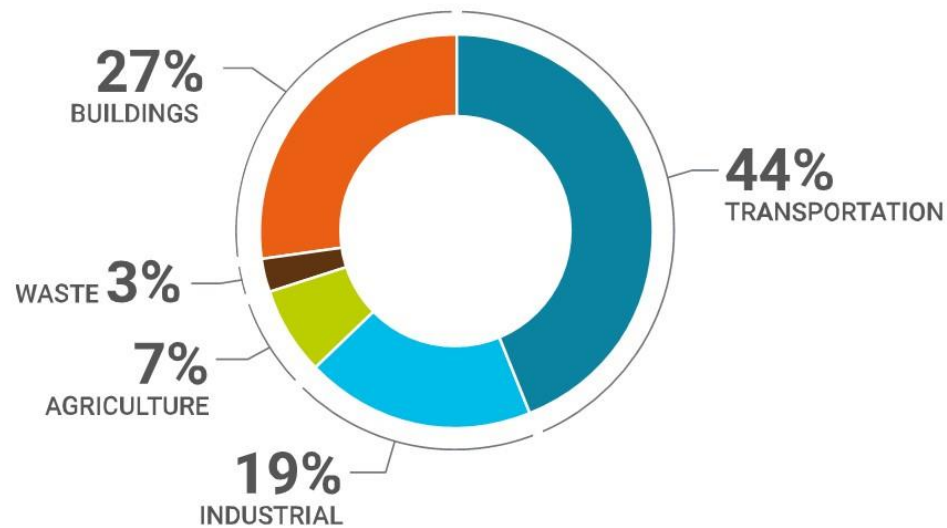
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Witherington

Aletha  
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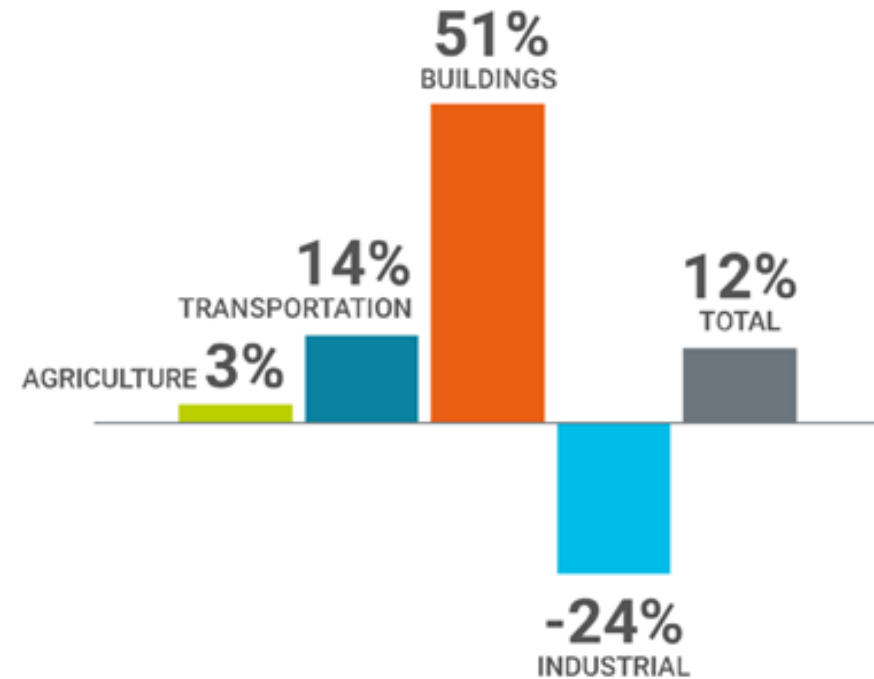


# Reducing emissions from existing buildings

Buildings are the second largest source of greenhouse gas emissions in Washington (2015)



As Washington's population has grown, greenhouse gas emissions from buildings jumped significantly from 1990-2015

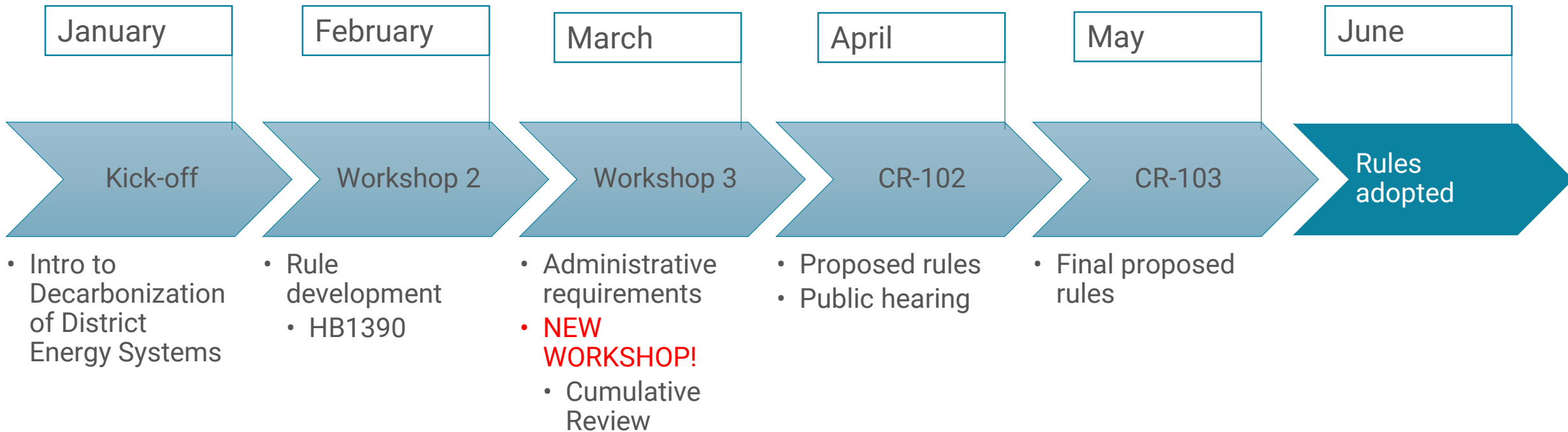


# Rulemaking process

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- CR-101 – Begins the rulemaking process
- Three to four workshops
  - Workshops are opportunities for public feedback and input
  - Cumulative draft review
- CR-102 – Proposed rules are filed
  - Public Hearing
- CR-103 – Final rules are filed

# 2024 Rulemaking Schedule



\*Subject to change

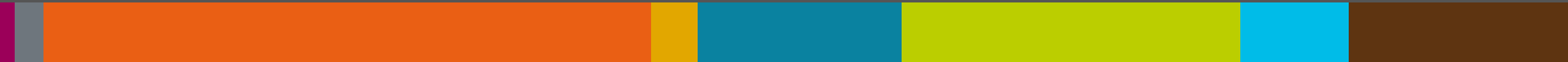
# HB1390 Public Comments



- Our objective is to be inclusive and participatory.
- We request that workshop participants be respectful.
- Submit comments using the chats or comment form



# Comment Summary



# Public Comment Summary

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## Clarification and Policy Suggestions

- Seeking clarity regarding energy metering for calculating *campus* EUI
- Suggested alignment with Seattle BEPS definitions and policy with regards to decarbonization of district energy systems
- Considerations for maintaining EMP lighting schedule exceptions for campuses with approved decarbonization plans

## Public-Private Partnerships

Encourage development and expansion of district energy systems through increased public and private sector partnerships to better justify substantial economic investments and build out decarbonized systems infrastructure.

# Public Comment Summary

## Decarb and the CBPS Requirements

- Clarification on integrating the decarbonization plan timeframe with CBPS compliance
- Clarification regarding investment criteria requirements for campuses with buildings that do not have an EUI and are decarbonizing their district energy system
- Clarification regarding facilities currently engaged in ongoing renovation/construction projects and whether or not they may utilize existing building/energy analyses in lieu of level 2 energy audits for compliance with decarbonization plans and investment criteria of the CBPS

# HB1390 Recap



# HB1390 applies to:

## State Campus District Energy Systems

- Mandatory
- Five or more buildings
- Over 100,000 combined square feet of floor area
- Owned By:
  - State of Washington owns district system and connected buildings
  - Public-Private partnership: Including one public buildings owner and one private entity

## Campus District Energy Systems

- Optional – approach to compliance
- Three or more buildings
- Over 100,000 combined square feet of floor area
- Owned By:
  - A Single Entity;
  - A public-private partnership: private owner of district system; public owner of buildings
  - Two private entities: private owner of district system; private owner of buildings

# Section 2(2)(a): Decarbonization Plan Requirements

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The decarbonization plan **must** include all of the following:

- **Mechanisms to replace fossil fuels in the heating plants**, including a schedule for replacement;
- An **evaluation** of possible options to partner with nearby sources and uses of waste heat and cooling;
- An **examination of opportunities** to add buildings or other facilities to the system once it is decarbonized, a strategy to incentivize growth of a decarbonized system, and requirements for facilities joining the system; and
- An evaluation, prioritization, and **scheduled plan** of reducing energy use through conservation efforts both at the central plant and in the buildings connected to district energy systems **that results in meeting the campus energy use intensity target (EUI<sub>t</sub>)**.



# Section 2(2)(b): Decarbonization Plan Recommendations

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- The following **recommended considerations are encouraged**, but not required in the *decarbonization plan*:
  - Distribution network upgrades;
  - On-site energy storage facilities;
  - Space cooling for residential facilities
  - Labor and workforce, including state-registered apprenticeship utilization
  - Options for public-private partnerships;
  - Incorporation of industrial symbiosis projects or networks as described in chapter 308, Laws of 2021.
    - Waste heat recovery from domestic sewage

# Clean Buildings Performance Standard(CBPS) Compliance and the Decarbonization Plan

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Approved decarbonization plans can be a pathway to CBPS compliance if the following conditions are met:

- The energy use intensity target is met at the time the decarbonization plan is fully implemented
  - Campuses unable to comply by meeting the EUI<sub>t</sub> can apply through an alternative path where an energy audit shows the energy saved from the decarb plan is greater than that required by energy efficiency measures identified for the campus.
- The Energy Management Plan (EMP) and the Operations and Maintenance Program (O&M) shall be implemented in accordance with the standard on all buildings connected to the district energy system.
  - One per campus
- Phased implementation may be included in the decarb plan

# HB1390 Rule Integration

Laws of 2023



# CBPS Breakdown

## Structure:

- Sections 1, 2 and 3 – Purpose, Scope and Definitions
- Section 4 – Compliance Requirements
- Section 5 – Energy Management Plan
- Section 6 – Operations and Maintenance Requirements
- Section 7 – Building Energy Use Intensity Target ( $EUI_t$ ) setting
- Section 8 – Energy Audit Requirements
- Section 9 – Implementation and Verification
- Normative Annex L – Operations and Maintenance Implementation
- **Normative Annex W – District Energy System Decarbonization Plan**
- **General Compliance & Reporting requirements**
- Normative Annex X – Investment Criteria
- Normative Annex Y – Tier 2 Administrative Procedures
- Normative Annex Z – Tier 1 Administrative Procedures

New Section!



## Washington State Clean Buildings Performance Standard

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# CBPS and the Decarbonization Plan



# CBPS Tier 1 & Tier 2 Compliance

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✓ Qualified Person is required for compliance.

✓ Basic requirements:

- Benchmark using Energy Star Portfolio Manager
- Establish the  $EUI_t$  and/or pursue the Investment Criteria (Energy Audit and LCCA)
- Develop and implement an EMP and O&M
- Meet the target

Or

- Comply with Investment Criteria by implementing cost-effective EEM



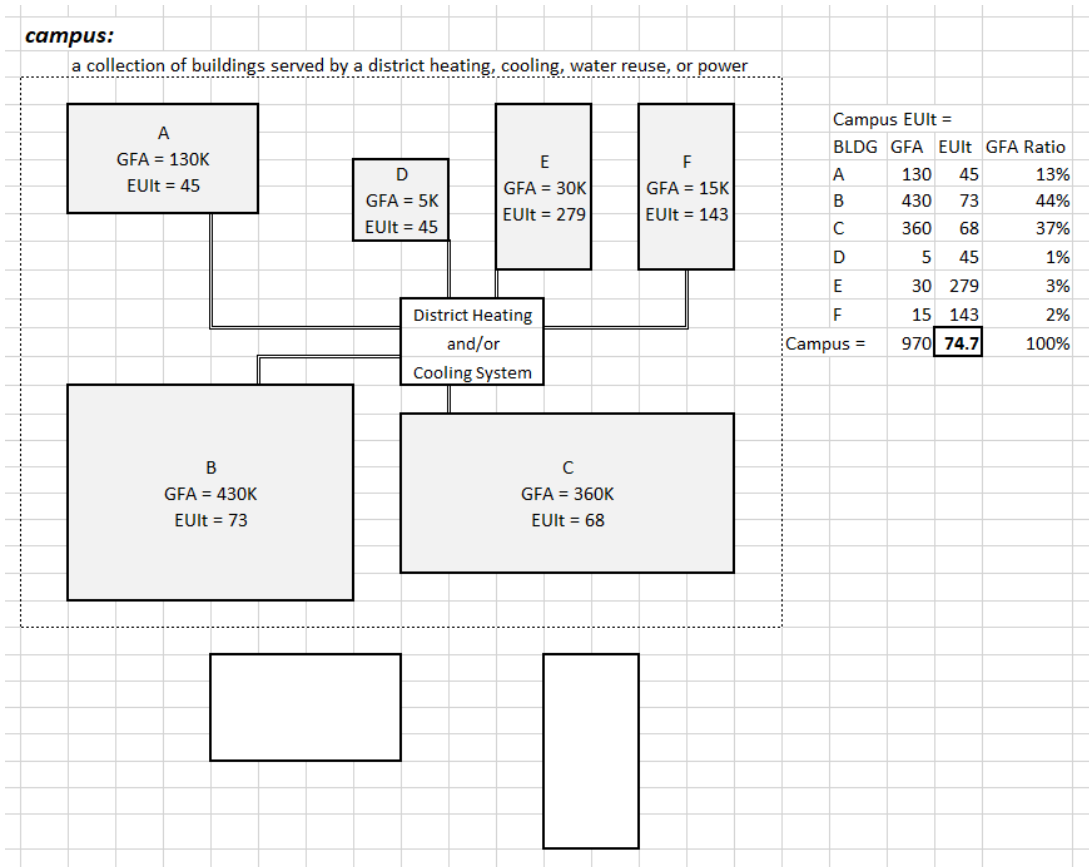
# CBPS Tier 1 & Tier 2 Compliance

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- ✓ Approved decarbonization plan extends the Tier 1 and Tier 2 compliance deadline
  - If decarbonization plan is not submitted or approved, Tier 1 and Tier 2 buildings may face penalties on their respective compliance date
- ✓ EMP and O&M program
  - EMP and O&M are expected to follow the compliance schedules:
    - 2026, 2027, or 2028 - Annex Z3.2 for Tier 1 covered buildings
    - 2027 - Annex Y3.2 for Tier 2 covered buildings
    - 2030 - for buildings not covered, connected to the district energy system

# Creating Campus EUIt

- Include all buildings connected to district energy system
- Targets shall be an area weighted average of targets developed at the building level
- Spaces/buildings without targets shall be submetered and not included in target or pursue compliance through the investment criteria
- Exempt buildings shall be submetered and not included in target



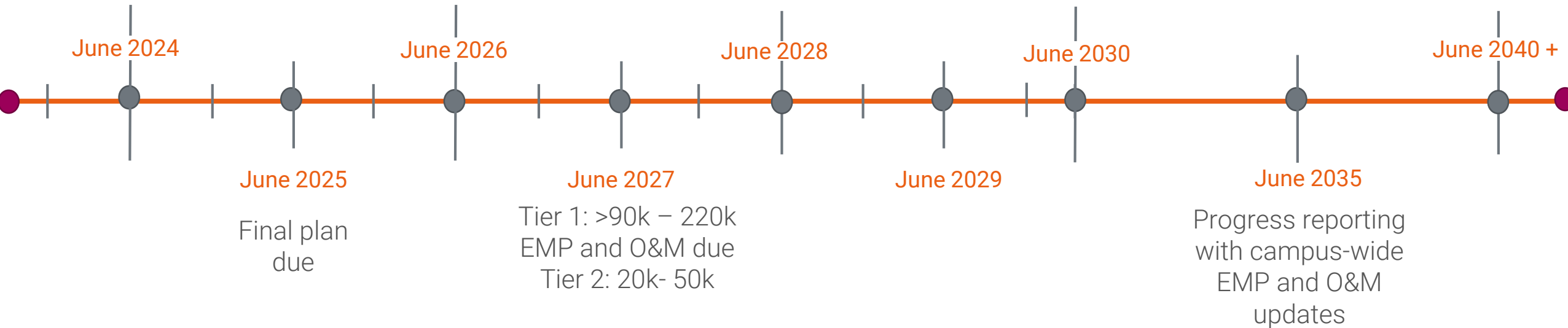
# Measurement of Campus EUI

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- Include all energy sources imported into buildings connected to district energy system
- District energy system heating plant energy shall be measured where imported into the plant
- Waste heat exported from the campus to be utilized in other buildings can be deducted
- Excess renewable energy produced on the campus and exported can be deducted

# EMP & O&M Timeline

- Rules adopted
- Start to develop initial plan
- Opt-in for private



# Notification to the AHJ

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- *For campus:*
  - State agency name or Organization name
  - Campus name
  - Campus owner name
  - Main point of contact: name, email, phone
- *For each building connected to the district energy system:*
  - Building name/identifier and associated gross floor area (GFA)
  - Address
  - Parcel number
  - Commerce building ID – where applicable
  - State Property Use Code



# Submit Final Plan

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- Submit detailed Decarbonization Plan to Commerce for review
- Submit Form K
  - Summarizes requirements of decarbonization plan
  - Review workshop supplement FormK\_DecarbPlanOutline.docx for details





# Compliance Forms

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Form	Description
Form J	Modified Form A- Provides the campus details, identifies the qualified person, and attestations
Form K	Decarbonization Plan content outline
Form B	Calculates the energy use intensity target
Form C	Calculates the EUI and WNEUI
Form D	DOE Energy Asset Score Tool
Form F	Life Cycle Cost Analysis (LCCA) Tool

## Progress Reporting

- Revised Decarbonization Plan
  - Status update on implementation schedule (each bulleted item)
  - Identify any changes to initial decarbonization plan
- Form J
- Form K
- Form B
- Form C
- Form D, as applicable and if revised
- Form F, as applicable and if revised



# Completion Reporting



## Exempt buildings connected to a District Energy System

- **There are no exemptions for a whole *campus*.**
- Refer to Annex Y6.7 and Z6.7

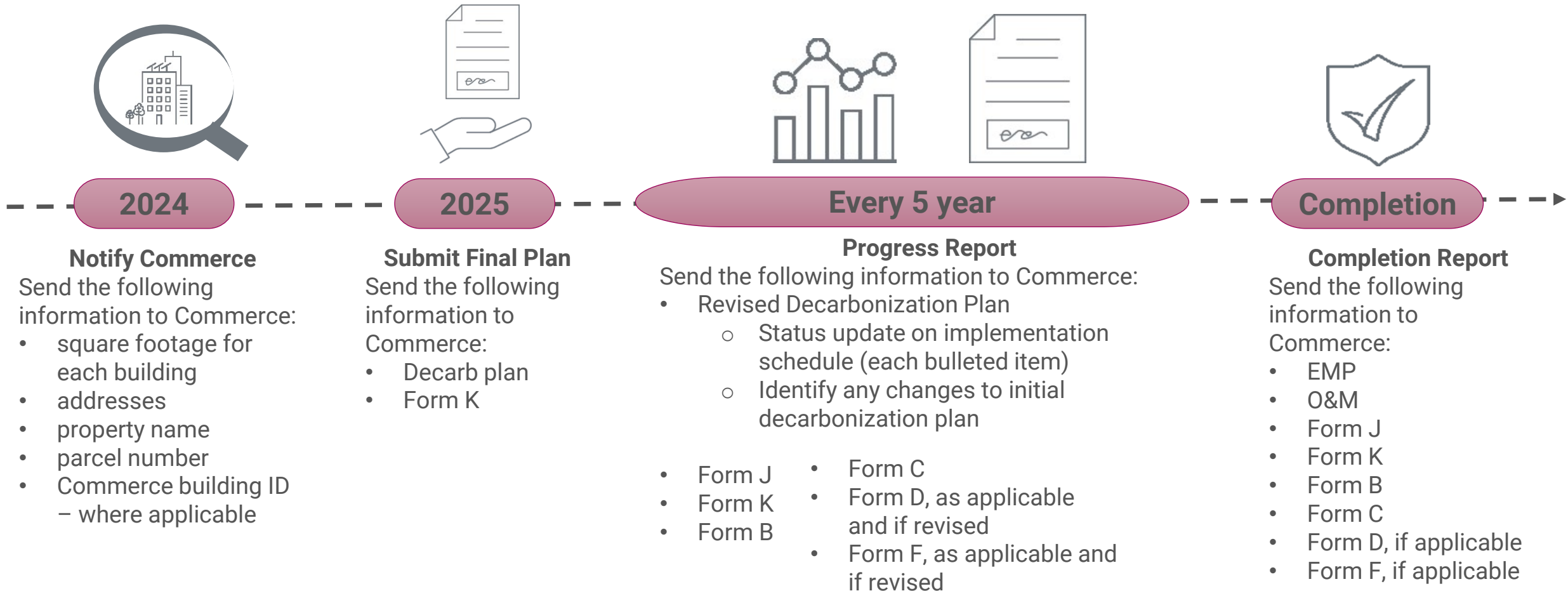
## Meeting the EUIt through the Decarbonization Plan

- EMP
- O&M
- Form J
- Form B
- Form C

## Investment through the Decarbonization Plan

- EMP
- O&M
- Form J
- Form B
- Form C
- Form D
- Form F

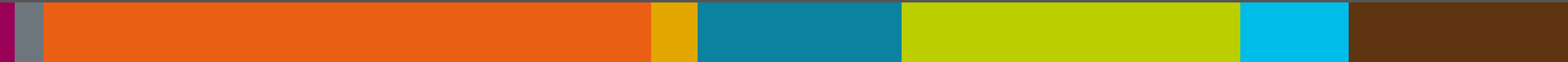
# Decarbonization Reporting Cycle



**Break!**

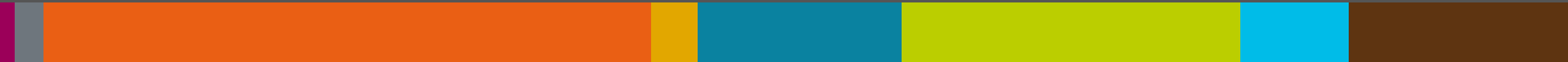


# Proposed Language





# Case Studies & Resources



# Resources

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- [International District Energy Association](#)
  - Best practices, case studies, connect with experts, events
- [DOE's Better Climate Challenge](#)
  - Offers opportunities for peer exchange and technical assistance

# Case Studies

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- [Wake Forest University- System Performance Best Practices](#)
- [District Energy Decarbonization, Addendum to California Building Electrification Workforce Needs and Recommendations. Luskin Center for Innovation, University of California, Los Angeles](#)
- [University of Colorado Energy Master Plan](#)

# Questions & Answers

For more information, visit the Clean Buildings webpages at [www.commerce.wa.gov/buildings](http://www.commerce.wa.gov/buildings) or email [buildings@commerce.wa.gov](mailto:buildings@commerce.wa.gov)





## HB1390 Public Comment Form

On May 4, 2023, Gov. Jay Inslee signed HB1390, amending the Clean Buildings Law to add a new section on buildings connected to district energy systems. The bill instructs owners of a publicly owned district energy system to develop a decarbonization plan for up to 15 years. The plans must contain strategies to decarbonize the central plant and reduce energy use through conservation efforts at the central plant and the connected buildings. Privately owned district energy systems are not required to participate, but they can choose to opt in.

The comment period is open for two weeks after each workshop. Comments will be considered in draft rules before the subsequent workshop, and all comments will be summarized after the final workshop in March 2023. Please use this form to write in your comments or submit as an attachment.

If you have questions, please contact [buildings@commerce.wa.gov](mailto:buildings@commerce.wa.gov)

First Name

Last Name

Email

Topic for Comment \*

Name of Organization \*

Organization Type \*

Open Comment Form \*

File Upload

Drag and drop files here or [browse files](#)

# Submit comments

- Use the comment form
- [buildings@commerce.wa.gov](mailto:buildings@commerce.wa.gov)
  - Subject: HB1390 Comments
- Public hearing
  - Testimony

# Next Workshop

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## Workshop 4

- Mar 21, 2024, 10 am to 12 pm
- Draft rules for HB 1390
  - Cumulative review

**Next workshop:**

HB 1390 Rules  
Thursday, Mar 21, 2024  
10:00am – 12:00pm  
Zoom



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# Thank You!

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