

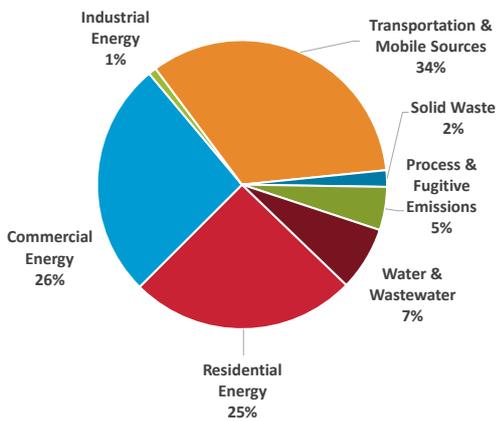
We make buildings work better.

Meeting the State's Energy Efficiency Requirements: The Role of City Leadership

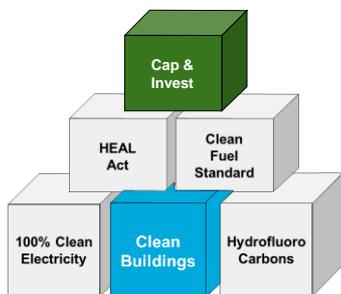
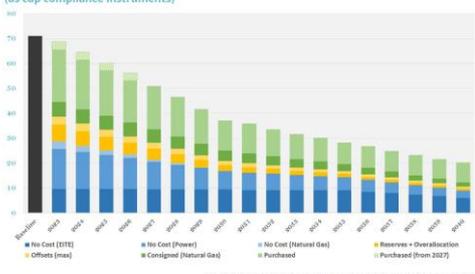


Legislation Is Driving Need for Your Attention

GHG Emissions by Sector - 2020



Million metric tons of CO2 emissions (as cap compliance instruments)



BACKGROUND

Responsible Agency:

www.commerce.wa.gov/growing-the-economy/energy/buildings/

Energy Use Intensity (EUI) Defined:
 Amount of a building's total energy consumed in one year per gross floor area (kBTU/SF/YR).
 Lower EUI numbers use less energy than higher EUI numbers.
 The Clean Buildings Standard rule-making order establishes a maximum acceptable EUI by building type.

MAY 7 2019		E3HSB 1257 Signed into Law by Governor Inslee	WA Clean Buildings Standard Established (RCW 19.27A.200)
NOV 1 2020		Rule-Making Order Complete	Tier 1 Energy Use Intensity (EUI) requirements adopted
MAY 1 2021		Guidelines Released	Clean Buildings Early Adopter Incentive Guidelines Released
JULY 1 2021		Owners Notified	Owners of Tier 1 buildings notified by Commerce and provided a unique Building ID
JULY 1 2021		Begin Submissions	Beginning of Early Adopter Incentive Application Submission Period
MAR 25 2022		Clean Buildings Expansion Bill Signed by Governor Inslee	Expands covered buildings to include 20,000 square feet and larger, creates a Tier 2 category inclusive of Multi-Family buildings, and allocates an additional \$150 million for Early Adopter Incentives
JULY 1 2022		Tier 2 Owners Notified	Owners of Tier 2 buildings notified by Commerce and provided a unique Building ID
JULY 1 2031		Tier 2 Rule-Making Order Complete	Energy Use Intensity (EUI) requirements for Tier 2 buildings take effect.

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KEY ELEMENTS OF THE LAW

Mandatory Compliance Dates

- ▶ **June 1, 2026** for buildings greater than 220,000 SF
- ▶ **June 1, 2027** for buildings 90,000 to 220,000 SF
- ▶ **June 1, 2028** for buildings 50,000 to 90,000 SF
- ▶ **July 1, 2027** for Tier 2 buildings 20,000 to 50,000 SF
- ▶ **Early Compliance Option begins June 1, 2023**



Non-Compliance Penalty

- ▶ **\$5,000 plus \$1.00 per GSF/year**
- ▶ Triggers extensive and costly non-compliance mitigation plan
- ▶ Third-party collection options are permitted for non-payment of penalty



Early Adopter Incentive Considerations

- ▶ **Reserved for only 36 months** from date of approval
- ▶ EUI at or greater than 15 points from target EUI
- ▶ Maximum incentive allocation of \$75M @ \$0.85/SF/Project
- ▶ **Application process currently open**



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CITY OF BELLEVUE



CITY OF ISSAQUAH



WA HOSPITALITY ASSOCIATION

Making an Impact – Sponsored Clean Buildings Compliance Programs

- 
Fully-funds Client's:
 - Benchmarking
 - Preliminary Scoping Assessment
 - Submission of Early Adopter Incentive Application

- 
Recognition as a Clean Buildings Ambassador



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Program Goals

- 32 Scoping Assessments / Energy Audits
- 4 Energy Services Agreements
- 10 Early Adopter Incentive Candidates / Applications
- 80 Benchmarks
- 15 Compliance Paperwork / M&C Contracts

Summary of Performance >>

Benchmark	203
Energy	33
Need Substantiating	18
NECUE Target for Compliance	31
ADOC Target (Water/Compliance)	25

44.6% ABOVE Target

55.4% UNDER Target

23,934,000 SQUARE FEET

- 36 Energy Assessments
- 3 Early Adopter Incentive Applications
- 12 Compliance Paperwork / M&C Contracts
- 44

Program Impact

1 Ton of CARBON Saved Per CITY INVESTMENT \$0.19

Financial Benefit

\$375 in Savings For Every \$1 Invested by City

City Cost per Building per Average Savings Identified

Cost per Bldg (In Progress & Completed)	\$657
Average Energy Savings per Bldg	\$43,006
Average EM Incentive per Bldg	\$62,770
Average PSE Incentive per Bldg	\$140,519
Total Average Utility Savings + Incentives	\$246,295

Community Benefit

Bellevue's \$0.19 investment provides \$94 in community benefit by removing CO₂e from building emissions.

Environmental Benefit

Based on 19 participants implementing identified energy improvements, Bellevue will reduce greenhouse gas emissions by:

3,374 METRIC TONS CO₂

Equivalent to:

154,923 Trees or 379,604 Gallons of Gas (Annually)

Bellevue Clean Buildings Incentive Program



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Questions?

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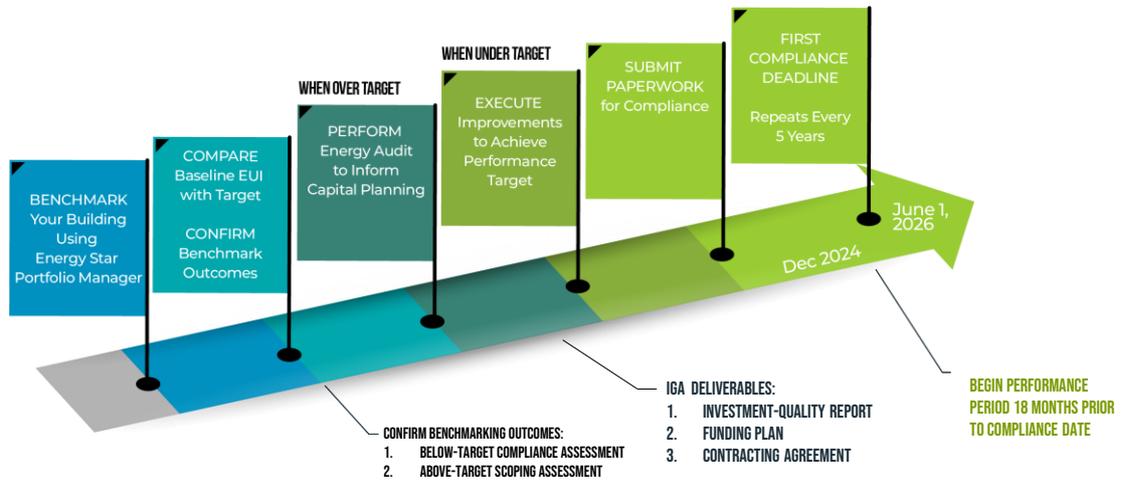
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Reference Material

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Clean Buildings Standard

STEPS TO ACHIEVE COMPLIANCE



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Cost to Reduce EUI

- Average of a sampling of commercial office, hospitality, and industrial office park buildings.
- Relationship between meeting the energy target and the project cost is linear across the building categories.
- Cost to achieve the emissions target is significantly dependent on the functional use of the space and primary heat source; electricity, natural gas, or district steam. A cost per square foot was not published due to these factors.
- Costs do not consider capital planning budgets, utility incentives, and other operational savings such as reduced R&M.



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Under Target Compliance Process

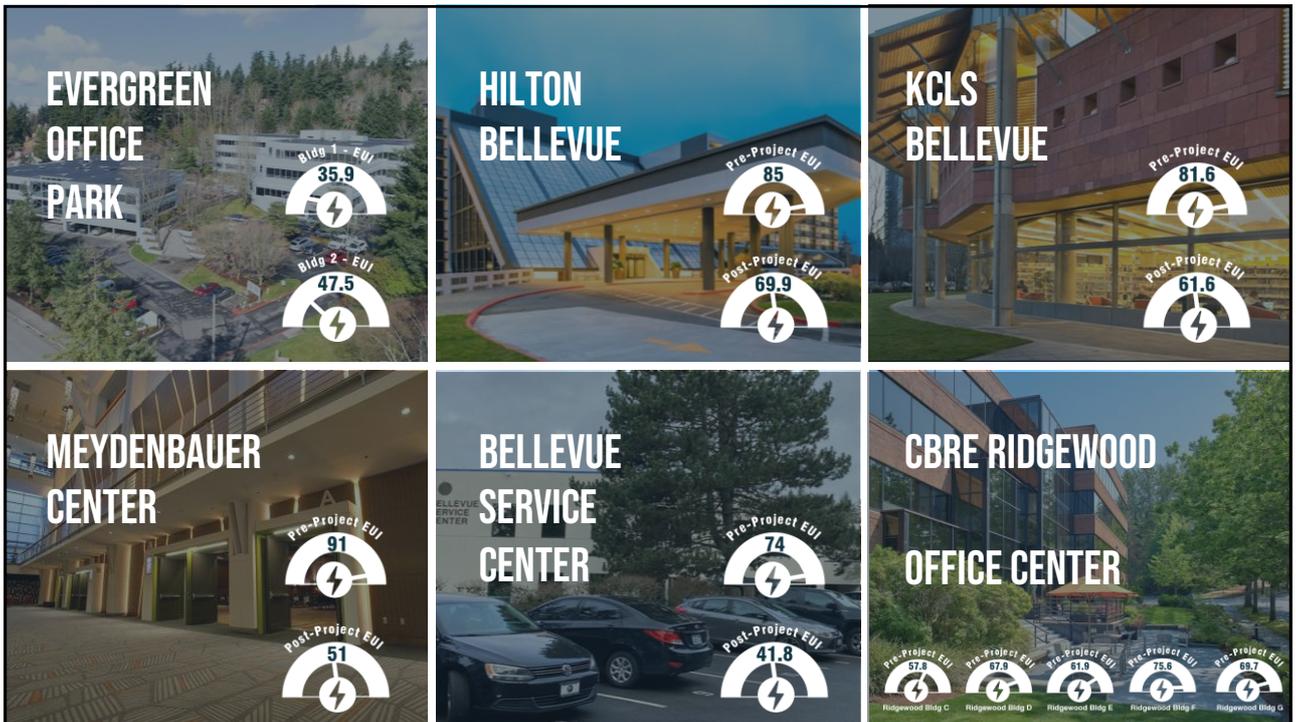
- Develop Energy Management Plan**
- O&M Program Review**
- Evaluate Capital Management Plan**
- Customer Confirm Capex Project(s) versus Smart Building Services**
- Customer Executes Compliance Proposal or Moves to Performance Contracting Pathway**
- Install Submeters (if applicable)**
- Validate Gross SqFt & Building Types**
- Submit Application for MBCx Incentive**
- Install/Modify Smart Building Services & Maintenance as Needed**
- Commission HVAC Systems Using Smart Building Services**
- Evaluate Smart Building Analytics Services**
- Implement Accepted Measures According to Plan**
- Submit Performance to Utilities for MBCx Incentive**
- Document 12 months of Compliance Performance**
- Populate & Submit Necessary Compliance Forms**

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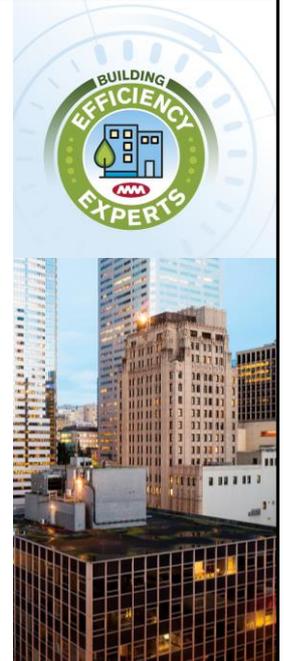
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What is accounted for in the Gross Square Footage Calculation?

It is based on who the “Qualified person” is. It is up to them to calculate the GSF and state that is correct. My guess is that the arch is not counting GSF per the definition in Energy Star.

Measure the GFA between the outside surface of the exterior walls of the building(s). This includes all areas inside the building(s) including supporting areas. GFA is not the same as rentable space, but rather includes all area inside the building(s).

- **Include in GFA:** lobbies, tenant areas, common areas, meeting rooms, break rooms, atriums (count the base level only), restrooms, elevator shafts, stairwells, mechanical equipment areas, basements, storage rooms.
- **Do not include in GFA:** exterior spaces, balconies, patios, exterior loading docks, driveways, covered walkways, outdoor play courts (tennis, basketball, etc.), parking ([How to enter parking?](#)), the interstitial plenum space between floors (which house pipes and ventilation), crawl spaces



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Qualified Person Criteria

A person having training, expertise and three-years of professional experience in building energy-use analysis and any of the following:

- Licensed professional architect or engineer
- Building Operator Certification (BOC) Level II by Northwest Energy Efficiency Council
- Certified Commissioning Professional by an ANSI/ISO/IEC 17024 accredited organization
- Qualified Energy Auditor certified by ASHRAE or AEE
- Certified Energy Manager (CEM) by Association of Energy Engineers
- Energy Management Professional (EMP) by Energy Management Association



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Building Exemptions

- Federal buildings and buildings belonging exclusively to recognized Tribes
- Did not have a Certificate of Occupancy or Temporary Certificate Occupancy for all twelve months of the calendar year prior to the compliance date
- Average physical occupancy less than 50% for the calendar year prior to the compliance date
- Primary use of building is manufacturing or other industrial purposes
- An agricultural structure
- Financial hardship:
 - Listed on a city's or county's annual tax lien sale list
 - Has a court appointed receiver
 - Owned by a financial institution through default
 - Acquired by foreclosure within the previous twenty-four months
 - Senior mortgage subject to a notice of default
 - Other conditions of financial hardship identified by a department ruling

Exemption requests accepted no sooner than 3-Years prior to Compliance Date.

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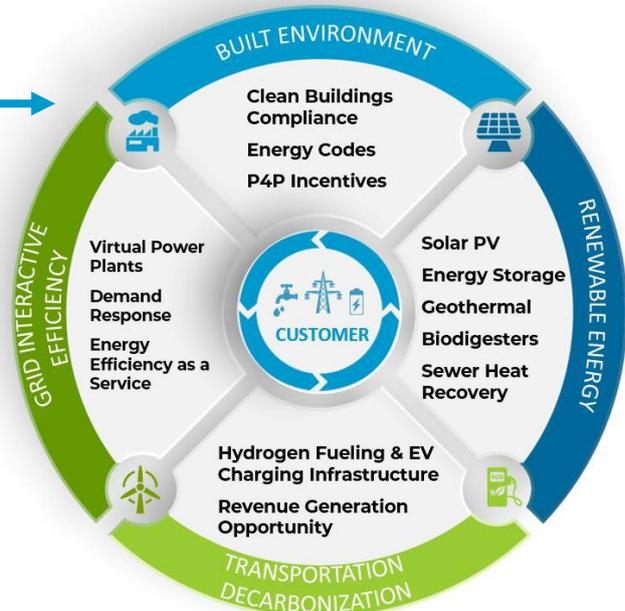
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Zero Carbon Continuum

Begins with the Built Environment

- Energy Efficiency is the Most Cost Effective Investment to Reduce Greenhouse Gas Emissions
- Utilities are Motivated to Provide Attractive Incentives
- Energy Efficiency Investments Create Grid Capacity
- On-Site Renewable Energy Installations Reduce Connected Load and Help Manage Demand
- Zero Carbon Transportation Infrastructure is a Potential Revenue Source
- Grid Interactive Efficiency makes Energy Efficiency a Dispatchable Energy Resources at Utility Scale



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	Clean Buildings Performance Standards (CBPS)	Building Emissions Performance Standards (BEPS)
Purpose	Energy Performance Standards	Greenhouse Gas Emissions Performance Standards
Matrix	Energy Use Intensity (EUI)	Greenhouse Gas Intensity (GHGI)
Units of Measure	KBTU/GSF/YEAR	KG CO2e/GSF/YEAR
Reporting Tool	Seattle OSE Reporting Portal via ESPM	Seattle OSE Reporting Portal
Compliance Intervals ¹		
>200,000	2026	2026 (2027 for 1 st interval) ^{3,4}
90,000-220,000	2027	2027 ^{3,4}
50,000-90,000	2028	2028 ^{3,4}
30,000-90,000	2027 ²	2029 ^{3,4}
20,000-30,000	2027 ²	2030 ^{3,4}
Footnotes		
1	Repeats every 5-years.	
2	Tier 2 buildings required to report. Performance targets not established.	
3	Add 5-years for multifamily compliance intervals.	
4	Achieve Net-Zero emissions by 4 th Interval (~20 years).	
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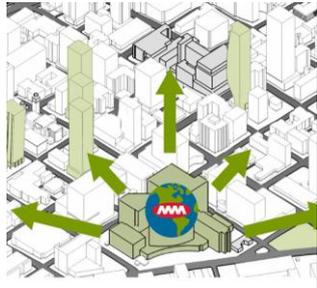
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	Clean Buildings Performance Standards (CBPS)	Building Emissions Performance Standards (BEPS)
Exemptions	<ol style="list-style-type: none"> 1. Federal buildings and buildings belonging exclusively to recognized Tribes 2. Did not have a Certificate of Occupancy or Temporary Certificate Occupancy for all twelve months of the calendar year prior to the compliance date 3. Financial hardship: <ul style="list-style-type: none"> • Listed on a city's or county's annual tax lien sale list • Has a court appointed receiver • Owned by a financial institution through default • Acquired by foreclosure within the previous twenty-for months • Senior mortgage subject to a notice of default • Other conditions of financial hardship identified by a department ruling 4. Average physical occupancy less than 50% for the calendar year prior to the compliance date 5. Primary use of building is manufacturing or other industrial purposes 6. An agricultural structure 	<ol style="list-style-type: none"> 1. All-electric buildings meeting CBPS requirements. 2. Scheduled for demolishing within 3-years. 3. Until 3rd Compliance Interval, fossil fuel used for: <ul style="list-style-type: none"> • Commercial cooking equipment • High intensity process equipment in healthcare & laboratories • High intensity laundry equipment in hospitality and healthcare 4. Until 2nd Compliance Interval, fossil fuel used for heating and permitted under the 2018 Seattle Energy Code.
Alternative Compliance Options	Yes	Yes (Potential compliance path for district steam users.)
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**Expertise
Managing
Decarbonization
Responsibly**



Climate Commitment Act

- Clean & Prosperous WA Institute led research
- Transportation Electrification
- Revenue generation from auctions begin in 1Q 2023
- Opportunities for investments in carbon reduction projects through Legislative action and/or offsets

Clean Buildings Standard Act

- City & Utility Scale Effort
- Bellevue, Issaquah, & WA Hospitality Association
- Leveraging compliance to reduce carbon emissions

Clean Energy Transformation Act

- Cleaning our power supply
- Identification of programs that benefit the most disadvantaged communities

Inflation Reduction Act

- Funding for climate action and decarbonization
- Areas of particular interest: GHG Reductions Fund, Climate Pollution Reduction Grants, Environmental & Climate Justice Block Grants

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MICROSOFT – THERMAL ENERGY CENTER (TEC)

12,000 Tons of Cooling
280,000 Gallons of Thermal Energy Storage
875 Geothermal Wells
47,000 Gallons of Rainwater Harvesting
222 Miles of Pipe

SWEDISH MEDICAL CENTER

Puget Sound Region's First Eco-District

LEWIS & CLARK COLLEGE

Executing Capital Plan to Achieve Zero Carbon Emissions

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