POLICY OPEN HOUSE #4
Reducing carbon emissions from existing large buildings
February 23, 2021

Mayor Martin J. Walsh
We received a request for American Sign Language (ASL) interpretation. Meeting facilitators will “spotlight” both the ASL interpreters’ and presenters’ video feeds.

Interpretation services provided by Elita Hill and Elizabeth Platt.
ZOOM MEETING GUIDANCE

- Presentation followed by breakout discussions and comments.
- During the presentation, all microphones will be muted.
- If you are experiencing technical issues or have a clarifying question about something in the presentation, please let us know using the chat function.

- You can also let us know you’re having an issue or ask a question by “raising your hand”. Click on “Participants” then “Raise Your Hand” in the pop-up window, either by hovering on your name or at the bottom of the window.
We are recording this meeting. The recording will include the presentation and any comments shared. If you do not wish to be recorded during the meeting, please turn off your video.

If you do not feel comfortable participating in the discussion, you can share comments or questions in the chat.
MEETING AGENDA

6:00-6:10: Welcome & introductions

6:10-6:40: Group presentation

6:40-7:25: Comments and feedback

7:25-7:30: Wrap-up

KAT ESHEL
she/her
Carbon Neutrality Program Manager
EQUITABLE CLIMATE ACTION THAT SUPPORTS GREEN JOB OPPORTUNITIES

CARL SPECTOR
Commissioner, Environment Department

TRINH NGUYEN
Director, Office of Workforce Development and Office of Financial Empowerment
PRESENTATION OUTLINE

- Recap of our goals and process
- Presentation of the draft policy
- Next steps and how to stay involved
- Comments and discussion
EQUITABLE CLIMATE ACTION
Our changing climate is causing sea level rise, extreme heat and stormwater flooding in Boston. Communities of color and other socially vulnerable populations are disproportionately impacted by the effects of climate change.

Buildings account for 70% of Boston’s greenhouse gas emissions. Our emissions are not decreasing fast enough.

We need to accelerate carbon reductions by pursuing:

1. Efficiency
2. Electrification
3. Clean energy
4. Social equity
BUILDING RETROFITS ARE A TRIPLE WIN FOR...

**BETTER BUILDINGS FOR RESIDENTS**
Building rehabs can improve comfort levels and indoor air quality, help lower energy use and bills, and support resilience.

**QUALITY JOBS FOR WORKERS**
Retrofitting Boston’s buildings will create high-quality construction, energy efficiency and clean energy job opportunities for workers.

**HEALTHIER CLIMATE FOR EVERYONE**
By making Boston’s buildings carbon neutral, we will reduce our largest contribution to global climate change and make our city more resilient.
DESIGNING FOR EQUITY

- Community oversight
- Funding for emissions reduction projects in environmental justice populations in Boston
- Support for economic inclusion
- Transparency and accountability
- Connecting residents and building owners to resources
In collaboration with a community working group with over 65 participating organizations, the 2019 Climate Action Plan Update:

- Accelerated the rate of carbon emission reductions in Boston;
- Identified opportunities for equitable action within each strategy;
- Mapped implementation of high-priority next steps through 2024.

One of the high-priority strategies was to develop a carbon emissions performance standard to decarbonize existing large buildings.
A building performance standard sets carbon targets for existing large buildings that decrease over time.
Our commitment in the 2019 Climate Action Plan:

- Develop carbon targets that decrease over time and reduce annual carbon emissions 100% by 2050
- Evaluate lowering the threshold from 35,000 square feet
- Include multiple pathways, including on-site retrofits and electrification, renewable energy purchases, alternative compliance payment
- Evaluate development of a fund that can be used to support affordable housing retrofits or community energy projects
- Introduce amendment to BERDO by 2021
Building Energy Reporting and Disclosure Ordinance (BERDO)

1. Buildings over 35,000 square feet or 35 units are required to report their annual energy and water usage to the City each year. The City then publishes energy, water and emissions data.

2. After five years of being covered under the policy, buildings must complete an energy action or assessment.

The new policy would maintain the annual reporting requirement, and shift from energy action or assessment to an emissions performance standard.
POLICY DEVELOPMENT PROCESS
OUR GOAL

To develop a building emissions performance standard that minimizes harm and maximizes benefits and opportunities for impacted residents, while achieving carbon neutrality in covered buildings by 2050.
POLICY DEVELOPMENT PROCESS

CITY of BOSTON

Project team

Technical Advisory Group

Resident Advisory Group

Advise & Inform

Building Owners
Commercial Tenants
Labor
etc.

Community Open Houses

Policy principles
Maximize opportunities
Health outcomes

Carbon targets
Building pathways
Cost analysis
POLICY DEVELOPMENT PROCESS

PROJECT SETUP

2020

Ongoing stakeholder engagement and education

TECHNICAL ADVISORY GROUP

Technical analysis complete

RESIDENT ADVISORY GROUP

Draft policy

2021

OH 1

OH 2

OH 3

OH 4

OH ...

Legislative process

Mayor Martin J. Walsh
The City convened a Technical Advisory Group (TAG) of Boston area experts in building science, architecture, engineering, construction, operations, energy policy, renewable energy, and sustainability.

The TAG was tasked with providing expertise on carbon targets, retrofit strategies and costs, clean energy purchases, and case studies.

The TAG met 12 times (6 times as a full group plus 6 focus group meetings) and concluded in October.

For more detail on the technical analysis, we encourage you to look at the meeting recording and materials from the September open house.
Goal: Develop a building emissions standard that minimizes harm and maximizes benefits and opportunities for Boston’s frontline populations most affected by the proposed policy

Approach:

- Receive community expertise and feedback
- Raise awareness of potential impacts and opportunities
- Collaborate with and center communities that will be impacted by the policy

The resident advisory group has met twice; its third meeting takes place next week.
What did we hear that residents want?

Carbon reduction in Boston that:

- Improves air quality for residents
- Reduces renter energy bills
- Does not contribute to displacement
- Improves heating + cooling in homes
- Creates jobs for residents
- Is good for the environment
What We Heard in the Open Houses

In July, we discussed the policy concept and you shared questions about the impact on residents, financing, building decarbonization, and technical and policy-specific questions.

Opportunities You Saw

- Lower threshold (more efficient buildings benefiting more Bostonians)
- Buildings in need of efficiency
- Regional collaboration
- Education and training opportunities
- Job opportunities

Concerns You Shared

- Potential impact on residents
- Strength of enforcement
- Building managers in smaller buildings may have limited capacity
- Confidence in building technology
- Transparency and accountability
- Limited City capacity
WHAT WE HEARD IN THE OPEN HOUSES

In September, we presented preliminary results from the technical analysis and broke out into small groups to discuss questions you raised in July:

**Designing for equity:** support for workforce development, need for comprehensive weatherization programs that include health and safety priorities, need more support for solar and storage in low- and mid-income communities and for improved Mass Save incentives

**How to decarbonize a building:** importance of net-zero tenants and green tenant engagement, European models being tested in Massachusetts, importance of financing options and of on-site efficiency to counter uncertain future energy prices

**Financing retrofits:** need for guidance on how to take advantage of funding opportunities, limitations of Mass Save due to the cost-effectiveness test, gas projected to become more expensive than electricity in 5 years
In November, we shared different policy design elements we were considering and sought your feedback. Comments included:

- Funds should be used for affordable housing, with a health lens. Neighborhoods with poor air quality should be prioritized.
- We should prioritize efficiency and onsite renewables over off-site renewables.
- Some buildings like churches have unique concerns due to their architecture.
- Interest in seeing energy storage considered in addition to emergency generators.
- Potential role of offshore wind, green hydrogen and geothermal
POLICY COMPONENTS

- Covered buildings
- Reporting and disclosure
  - Building metrics
  - Community-based indicators
- Review board
- Emissions targets
- Flexibility measures
  - Portfolios
  - Individual compliance schedules
  - Hardship compliance plans
- Compliance pathways
  - Building retrofits and fuel switching
  - Clean electricity purchases
  - Alternative compliance payment
- Investment fund
- Compliance
  + Supportive measures
**Existing:** 35,000+ square feet or 35+ units

**Proposed:** 20,000+ square feet or 15+ units

- First annual report due in 2022
- Subject to emissions targets starting in 2030, and reported in 2031
Existing data points:

- Energy use (required)
- Water use (required)
- Waste
- Occupancy
- Building uses by square feet

Additional proposed:

- Clean energy purchases
- Custom emissions factors (e.g., for district heating systems)
- EV charging energy use
- Emergency backup generators
- Energy storage
- Voluntary tenant surveys
• Energy, water and emissions information reporting on website in multiple languages by October 1 of every year
  • Buildings have at least 30 days to review for accuracy

• Regular public reports to the review board on air quality, energy cost burdens, fair housing, and other metrics related to environmental justice populations and equitable implementation
  • Metrics to support periodic evaluation of the policy’s success and inform any necessary regulations updates

• Regular public reports on expenditure of funds generated by the policy, included projects supported and their anticipated impact
Two-thirds of board members to be nominated by the community and community-based organizations, with missions prioritizing environmental justice populations.

Members to be appointed by the Mayor, with nominations to be solicited from the community and local organizations for expertise:

- Environmental justice
- Affordable housing
- Labor and workforce development
- Building engineering and energy
- Public health
- Environmental protection and climate change
- Real estate development and management
- Historic preservation

Stipends would be available (amount and rules to be further detailed in regulations).
Responsibilities:
- Oversight and enforcement
- Program review & regulation update recommendations
- Review of alternative pathways*
- Allocation of grants from the investment fund*

* The review board set additional criteria as appropriate related to prevention of displacement, air quality, energy cost-sharing, economic inclusion and transparency.

Note: The Air Pollution Control Commission would continue to oversee the ordinance and approve regulations changes, with the addition of the Commissioner of the Environment (ex officio) and a member with expertise in building design and energy systems.
EMISSIONS TARGETS

- Developed through the technical analysis process
- Aligned with citywide goals
- May be updated periodically to ensure the City is achieving its emissions reduction goals
- Limited exemptions (e.g. EV charging)
- Buildings with multiple use-types can adopt a blended target

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<th>2035-2039</th>
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Developed by Synapse Energy Economics for the City of Boston.
The graphic below represents a sample calculation of the blended 2025-2029 emissions target for a mixed-use building with 100,000 square feet of multifamily housing, 20,000 square feet of foods sales & services, and 10,000 square feet of retail.

**Example of Blended Targets**

**Multifamily Housing**
- 100,000 Square Feet
- Emissions Target: 3.7 kg CO2e/SF/yr

**Food Sales & Services**
- 20,000 Square Feet
- Emissions Target: 16.2 kg CO2e/SF/yr

**Retail**
- 10,000 Square Feet
- Emissions Target: 5.3 kg CO2e/SF/yr

**Total Building Emissions Target**
- 747 metric tons CO2e per year in 2025-2029
FLEXIBILITY MEASURES

- **Portfolios**: owners with more than one covered building may apply to comply across their portfolio.
- **Individual compliance schedules**: buildings or portfolios may submit their own individual compliance plan for approval, which must be aligned with citywide emissions goals.
- **Hardship compliance plans**: buildings or portfolios with unique building characteristics or circumstances that present a hardship in complying with the standard (e.g., affordable housing refinancing timelines, historic designation, financial hardship, existing long-term energy contracts) would be eligible to apply for a hardship compliance plan.
"Greening of the Grid"

Options

- Energy Efficiency
- Fuel Switching*
- Purchase Renewable Electricity
- Alternative Compliance Payment

EMISSIONS TARGET

2018

* Fuel switching often best when combined with efficiency
**For illustrative purposes only
OPTIONS TO RETROFIT AND FUEL SWITCH

- Building owners may undertake measures to improve energy performance and reduce fossil fuel consumption within the building
  - Envelope improvements
  - Appliance upgrades and switches (heat pumps, solar, geothermal)
  - Building operations and controls
- The City is developing a resource hub to connect building owners with appropriate technical assistance and financial resources.
OPTIONS TO PURCHASE RENEWABLE ELECTRICITY

To abate carbon from electricity, building owners can:

1. Deploy renewable energy onsite;
2. Purchase renewable electricity that is generated offsite.
   - Community choice electricity: provide safe access to affordable and clean energy for residents → launched in February 2021
   - Renewable Energy Certificates: MA Class I RECs from non-emitting sources, generated and retired for the same period as the emissions they’re mitigating
   - Power purchase agreements: RECs from non-emitting sources, generated and retired for the same period as the emissions they’re mitigating
• Additional option to meet carbon targets
• Tied to average retrofit cost per metric ton of CO$_2$e, estimated at $234/mtCO2e
  • Estimate to be reviewed at least every 5 years and updated as needed
• Paid into a new fund
New fund dedicated to emissions reduction projects that prioritize environmental justice populations and benefits including:

- Affordable housing preservation and rent stabilization
- Air quality improvements
- Training and access to green jobs for residents, women and people of color
- Clean energy deployment

Funds to be allocated by the newly created Review Board.
Data quality:
- Self-certification with annual data submission
- Third-party verification every 5 years
- Spot audits with penalty for false reports

Non-compliance:
- Penalty for failure to comply with reporting requirements ($150-$300 per day depending on building size)
- Penalty for failure to comply with emissions standards ($300-$1,000 per day depending on building size)
- Note: the Review Board may reduce or waive penalties through a process to be further detailed in the regulations.
COMPLEMENTARY STRATEGIES

Building retrofit resource hub:

The City is developing a one-stop support program for building owners and residents:

- Connect building owners with appropriate financing mechanisms and provide one-on-one support
- Educate and support residents seeking to improve building health
- Deeper integration across City programs like Boston Public Health Commision, Boston Home Center, Office of Fair Housing
- Guidance & case studies (e.g., historic)

State advocacy:

- Just cause eviction
- Right to counsel
- Stronger Mass Save incentives

Anti-displacement strategies:

- Right of first refusal, right to stay for condo conversions, mandatory notice of rights
- Continued investment in housing
- Office of Housing Stability

Note: federal COVID-19 eviction moratorium extended through March.
POLICY COMPONENTS

- Covered buildings
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- Compliance
+ Supportive measures
**Emissions reduction equitable investment fund:**
- Support for local emission reduction projects that prioritize environmental justice populations and community benefits, including clean air, lower energy burdens, housing stabilization, increased economic inclusion and access to green jobs

**Create new emissions review board:**
- At least ⅔ community representation
- Work in partnership with City of Boston and experts
- Oversight and approval of investment funds, community-based indicators, alternative compliance plans (hardship, individual, portfolios), and enforcement

**Develop workforce opportunities:**
- Support for expanding training programs and development of retrofit and clean energy jobs pipeline

**Transparency and accountability:**
- Reporting on community-based metrics, including indicators of energy cost burden, displacement, indoor and outdoor air quality, worker standards and economic inclusion

**Building Retrofit Resource Hub:**
- Single entry point for tenants, workers and owners for financial and technical resources, training opportunities, fair housing resources, and ongoing education and engagement
NEXT STEPS
You may continue to weigh in on the policy:

A. By sharing your feedback with us during and after this meeting;

B. During the legislative process in City Council, once it is introduced, and

C. During the regulations development process, if passed.
1. An ordinance is introduced to City Council.

2. The City Council chair sends the ordinance to a committee for review.

3. The committee chair can hold one or more hearings on the issue.

4. The committee sends its recommendation to Council (Ought to Pass, Ought Not to Pass, File, Reject).

5. If the committee recommends “Ought to Pass”, the Council votes on the docket. Note: The public can provide additional testimony.

6. If a majority of Council votes “yes”, the Mayor approves the item and it becomes law.
If an ordinance is passed, regulations are then developed. This process includes public engagement and consultation. The regulations would lay out in greater detail the rules and processes for the ordinance’s implementation, for example:

- Review Board composition and selection, threshold for quorum, meeting frequency, public notice and meeting processes
- Standard emissions factors to be applied to emissions calculations
- Procedures, criteria and conditions for elements like Hardship Compliance Plans, fund allocation (e.g., rent stabilization, Living Wage Ordinance...)
- Step-by-step enforcement procedures

Any final proposed regulations would be discussed publicly within regular proceedings of the Air Pollution Control Commission.
To share feedback please:

Type and enter in the chat box.

OR

“Raise” your hand to ask a question by clicking on “Participants” at the bottom of your screen then on “Raise Hand” at the bottom of the pop-up window.
Thank you for your participation in this series of open houses during this policy’s development.

Comments, feedback and up-to-date public materials will continue to be posted on our project page.

Sign up for the Greenovate mailing list and follow us on Twitter @BostonEnviro to receive updates on our work.
UPCOMING OPPORTUNITIES

Wednesday, February 25
6:00pm-8:00pm
WINTER CYCLING CHAT
Chat with others about how to feel comfortable, confident, and motivated to get on your bike.

Transportation Event
Online registration at boston.gov/events

Wednesday, March 10
4:30pm-8:30pm
ZONING 101 WORKSHOP
Overview of the Boston Zoning Code, permitting, and the community process.

Inspectional Services Event
Register online: boston.gov/events
Mayor Martin J. Walsh

Thank you!

For up-to-date information and resources related to COVID-19, please visit

boston.gov/coronavirus

To access the Office of Housing Stability’s resources, please email housingstability@boston.gov or call 617-635-4200

boston.gov/housing-stability

Thank you!