Introductory Note

This PDF presentation is part of a suite of resources for a Model Building Performance Standard Ordinance, created by the Institute for Market Transformation (IMT). IMT recommends reviewing this presentation in conjunction with the Summary of IMT’s Model Ordinance for a Building Performance Standard. A full version of the model BPS ordinance is also available at imt.org/bps.

A trusted, non-partisan leader, IMT focuses on innovative and pragmatic solutions that fuel greater investment in high-performance buildings to meet local market priorities. IMT offers hands-on technical assistance and market research, alongside expertise in policy and program development and deployment and promotion of best practices and knowledge exchange.

IMT’s full suite of building performance standard resources is available at www.imt.org/bps. In addition, IMT welcomes feedback via its Senior Advisor, Cliff Majersik at cliff@imt.org.
Fundamental Change to How We Approach Buildings

Building Performance Standards are the most powerful policy tool available to drive improved building performance.
Principles

1. Align with goals/commitments
2. Social and racial equity
3. Regulatory fairness
4. Jobs and economic growth
5. Maximize certainty
6. Transparency
7. Drive early action
8. Accommodate building life cycle events
9. Simplicity
10. Ease of compliance/implementation
What Makes a BPS Different?

- Requires Improvement Across a Wide Range of Buildings
- Drives Private Value, Creating Investment in Private Buildings
- Yields Deep Retrofits at Scale
- Sends Long-Term Signal
- Provides Comprehensive Approach to Performance
- Balances Flexibility and Immediate Action
BPS: A Platform for Building Regulation

- Decarbonization + Electrification
- Inclusiveness + Equity
- Grid Reliability + Flexibility
- Resilience + Public Health
- Utility Bill Affordability
A BPS designed with equity at its foundation improves outcomes for everyone.
How IMT’s BPS Strategy Addresses Building Performance

Standards Based on Performance Metrics
- Site Energy Use Intensity
- Onsite and District Thermal GHGs
- Water Use Intensity
- Coincident Peak Demand
- Indoor Air Quality

Actions to Advance Social Priorities
- Anti-displacement, affordable housing protections packaged with ordinance
- Owners seeking additional flexibility required to advance other community priorities
IMT’s Model BPS Ordinance: Trajectory Model
Final Performance Standards:

For each performance metric, buildings must meet a long-term (15-30+ years in the future), final performance standard by a prescribed date.

Final performance standards are the same for each building type.

Interim Performance Standards:

Each building has its own trajectory for reaching the final standard based on its performance in the baseline year.

Jurisdiction sets interim standards to drive buildings’ progress.
Example: Final and Interim Standards for 3 Office Buildings

<table>
<thead>
<tr>
<th>Baseline Year</th>
<th>Interim Standard: Compliance Year 1</th>
<th>Interim Standard: Compliance Year 2</th>
<th>Final Standard Compliance Deadline</th>
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<tbody>
<tr>
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<td>Building A</td>
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TIME
Compliance Example

- Lighting Upgrade & Building Tune-Up
- Envelope Upgrade
- Mechanical Upgrade

Default straight line trajectory
Actual performance

Baseline Year | Interim Standard 1 | Interim Standard 2 | Final Standard
Alternative Compliance Option:

Building owners seeking additional flexibility may propose a detailed **Building Performance Action Plan** to create customized requirements for a building.
Compliance Flexibility: Building Performance Action Plan (BPAP)

- Method by which building owner can propose an alternative compliance plan to avoid penalties for missing upcoming standard(s)
- The BPAP, if approved, is a binding agreement between building owner and jurisdiction
- Newly created attachment to building’s deed and any for-sale listings shall reference BPAP
Compliance Flexibility: Building Performance Action Plan (BPAP)

Must include:

- A physical description of the building including an inventory of major equipment
- Technical recommendations for meeting or exceeding applicable standards
- A timeline for when planned improvements will be completed
- Certain actions owner will take to advance community priorities such as equity, public health, resilience
BPAP Example: Building Ahead on Compliance
What if a Building Does Not Meet the Standard?

If a building misses an interim or final performance standard, its owner must pay an alternative compliance payment.

Payment amount shall proportionally reflect

• The number of standards with which the owner failed to comply
• The magnitude of non-compliance for each un-met standard
• The assessed value of the property

The payment amount must be high enough to create an incentive to comply by meeting the standards rather than making the payment.
Recommended Performance Metrics
Recommended Metrics for Performance Standards

- Maximum Normalized Site Energy Use Intensity
- Maximum Onsite Greenhouse Gas Emissions
- Maximum Coincident Peak Electric Demand
- Maximum Coincident Peak Local Electric Demand
- Water Use Intensity
Owners have more control over site EUI than source EUI

Site EUI favors electrification because it is not adjusted for energy losses from transmission and distribution

ENERGY STAR Portfolio Manager can normalize site EUI for weather for all properties. IMT is collaborating with building owners, state and local governments, trade organizations, and the EPA to determine the feasibility of normalizing for other property use characteristics such as hours of operation and number of workers.
Maximum Onsite and District Thermal Greenhouse Gas Emissions

- Requires owners to reduce and ultimately phase-out use of fossil fuels such as gas
- Metric works with site EUI to encourage electrification and require the reduction of overall energy consumption
- Ordinance does not set a standard for GHGs attributable to electricity purchased from the grid in part because time of use data is not widely available
Maximum Coincident Peak Electric Demand
Maximum Coincident Peak Local Electric Demand

- Coincident Peak Electric Demand is a property’s electricity demand when total system demand on the utility serving the property was at its highest point for the year.

- Coincident Peak Local Electric Demand is a property’s electricity demand when total system demand on the electric substation serving the property was at its highest point for the year.

- These metrics allow jurisdictions to limit buildings’ electricity demand at peak times.

- Most jurisdictions will have to wait to implement standards until necessary data, metering technology and digital communications infrastructure are widely available.
In areas where reducing water consumption is a priority, IMT recommends a performance standard based on buildings’ water use intensity.
Indoor Air Quality (CO₂ < 1,000 ppm)

• Single standard (CO₂ < 1,000 ppm) doesn’t ratchet down over time, but each cycle there are fewer alternative compliance options (e.g. ASHRAE 62.1)

• Jurisdiction may choose to add additional IAQ metrics in later cycles such as PM2.5, Formaldehyde, or CO

• Timely during the pandemic as good IAQ and ventilation reduce the spread of respiratory viruses
Advisory Boards
Community Accountability Board

- Composed of experts in racial and social equity, representatives of local community organizations
- CAB tasked with reviewing impact of ordinance on disinvested communities and recommend actions to increase equity
  - Allocation of funds earmarked for disinvested communities
  - Produce periodic report evaluating equity impacts
  - Advise on selection of members to Building Performance Improvement Board
  - Advise on rules and complementary programs
Building Performance Improvement Board

- Appointed by the Mayor/Governor
- Equitable representation required
- Board responsibilities:
  - Advise on development of rules and regulations
  - Recommend complementary programs
  - Review appeals
  - Establish Technical Committee

Technical Committee

- Sub-group of Board consisting of technical experts
- Recommends Final Performance Standards for each property type
- Reviews properties’ proposed Building Performance Action Plans and recommends approval/disapproval to the Board
Assistance for Resource Constrained Properties
DEEP Program

City sets BPS, Buildings sign up for DEEP support

DEEP audits buildings, assembles project scope

DEEP oversees financing, contractors, and project execution

DEEP reinvests revenue into new projects

Owners/Tenants pay original bills; Difference collected by utility and passed to DEEP

Building improves to meet BPS targets
DEEP Program

Owners that enroll in the program consent to:

- Participate in an audit for recommended actions to meet final performance standards.
- Submit Building Performance Action Plan.
- Implement the action plan.
- Grant the City or designated program implementer access to all utility bills.
- Agree to pay back the cost of implementation from reduction to utility bills. (Agreement will not increase total utility costs.)
Advancing Social Priorities
Advancing Social Priorities as Part of a BPS Strategy

Goal: Advance Resilience, Health, and Equity

• Performance Standards (where appropriate metrics can be identified)

• Legislation Accompanying BPS Ordinance (e.g., “Tenant Bill of Rights”)

• Owners proposing Building Performance Action Plans must complete additional Actions on Social Priorities