U.S. DEPARTMENT OF ENERGY

Office of ENERGY EFFICIENCY & RENEWABLE ENERGY

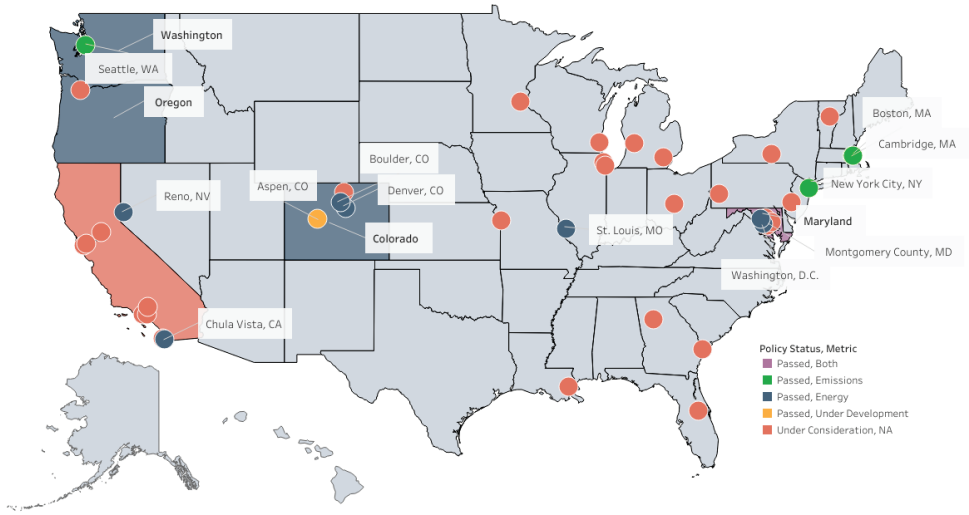
Building Performance Standards

Building Performance Standards (BPS) are an emerging policy mechanism designed to improve the energy efficiency of, and reduce the emissions from, existing buildings by requiring each covered building to meet an energy use or carbon emissions performance target by a specific deadline. BPS present a new opportunity to improve the energy and emissions performance of the building stock while also addressing a variety of community priorities including resilience, public health, and economic opportunities. BPS are an influential policy tool that will help cities, states, and other jurisdictions effectively reach their energy and climate goals. [1]

Background and Purpose

BPS are a key policy tool jurisdictions can leverage for reducing energy consumption and carbon emissions in their existing building stocks. BPS can also be customized, providing flexibility to jurisdictions with unique local needs and priorities. For example, one jurisdiction can customize its BPS to focus on reducing emissions from K-12 schools while another can opt to target site energy use in offices. BPS are designed to work over the long term – they can address performance over the entire building lifecycle and incrementally increase targets to deliver higher performance over time. [2]

A building performance standard (BPS) is a policy that requires buildings to meet energy or emissions performance targets by a specified date.



Current status of BPS Adoption in the U.S. as of September 2023. *Image courtesy of DOE.*

Benefits of BPS

BPS policies can help to substantially reduce energy consumption and greenhouse gas emissions in existing buildings, leading to a variety of benefits for jurisdictions, including non-energy benefits such as public health, safety, productivity, and economic stimulation. Some of the key benefits include:

- Reduces GHG emissions from buildings through energy efficiency upgrades, building electrification, and distributed renewables that **help jurisdictions meet climate goals**
- Establishes energy or emissions performance targets that can help building owners **plan for upgrades** to improve their buildings and **stimulate the local economy**
- Reduces power plant emissions that **improves environmental air quality and public health** in the community
- **Improves the comfort and productivity** of building occupants
- **Improves indoor air quality** in buildings [3]

How to Get Started

The DOE and EPA are providing hands-on support to jurisdictions interested in developing and implementing a BPS or similar building intervention policy. Available support can include: [4]

- Building stock analyses, including analysis of energy and emissions savings potential from BPS adoption
- Metric selection, long-term target-setting, and savings trajectories
- Building upgrade pathways and technology prioritization
- Policy & program cost-effectiveness
- Examining the interface between new construction codes and BPS
- Reporting, implementation and compliance software and support [5]

What is the BPS Coalition?

Launched by President Biden in 2022, the National BPS Coalition is comprised of **38 state and local governments** (as of Jan. 2023) committed to implementing building performance policies by Earth Day 2024. The coalition will focus on "developing policy roadmaps, convening place-based teams to co-create policy, identifying and acting on pre-requisites for building performance standards and complementary policies, and sharing results and experiences to forge a community of practice."

National BPS Coalition
White House BPS Fact Sheet

Overview of BPS Development Process

Here are several key steps to be completed in preparation for BPS development:

1. **Develop Policy Goals**: including both climate and equity aspects.
2. **Stakeholder Engagement**: allow for ongoing engagement throughout all stages of policy development to ensure equitable outcomes under a new policy.

The steps to design the BPS policy include:

3. **Select the Performance Metrics:** choose energy and/or emissions-based metrics, or others to support relevant priorities.
4. **Develop a Covered Buildings List:** determine buildings covered by the policy.
5. **Develop Performance Targets:** set reasonable interim targets to support progress toward the long-term goals.
6. **Establish the Timeline:** determine when compliance begins, the length of the compliance periods, and the end goal.
7. **Compliance Pathways:** Determine the processes for complying with the BPS.

BPS Financing

State and local governments seeking to fund their BPS development and implementation and support building owners and operators with compliance can pursue a variety of funding opportunities available to support this effort. The U.S. Department of Energy's Better Buildings Financial Navigator is a useful resource hub for understanding potential financing and funding pathways.

For additional information on funding resources and financing opportunities for building electrification and BPS activities, visit the BPS Financing webpage.

Key Resources & Tools

These tools can be used for accessing, managing, analyzing, and sharing building energy data in support of BPS.

Federal Government Resources

- **DOE BPS Resource Hub** – Provides a comprehensive and up-to-date list of key resources on BPS topics including: benchmarking, defining scope, metric selection, target setting, implementation guidance, financing, stakeholder engagement, data collection & analysis, and BPS & codes.
- **EPA Benchmarking & BPS Policy Toolkit** – Informs and supports state and local government decision makers who are exploring adopting policies focused on reducing energy use and GHG emissions from existing commercial and multifamily buildings.
- **ASHRAE BPS: A Technical Resource Guide** – Guides jurisdictions through the target-setting process and outlines the available methodology options. The guide also provides additional background in metric selection.
- **Benchmarking and BPS: A Resource Compendium** – List of resources to help navigate tools and procedures for tracking, reporting, and compliance with benchmarking and building performance standards.

Additional Resources

- **IMT BPS Resources** – Series of BPS-related resources that provide information on building performance standards, including a fact sheet on how cities can benefit from these policies, and a matrix comparison of existing U.S. BPS.
- **Putting Policy in Action: BPS Implementation Guide** – Intended for policymakers preparing to implement or are already implementing a BPS policy, this guide presents a broad overview of the many aspects of implementing a BPS.
- **USDN BPS: A New Framework for Equitable Policies to Address Existing Buildings** – Framework for local governments, community and industry stakeholders interested in BPS that provides guidance on how to plan and coordinate the different policy components to achieve equitable outcomes.

Tool	Description
ENERGY STAR Portfolio Manager	Facilitates building performance reporting and benchmarking. Energy Star score can also be used as the BPS metric to set targets.
EPA's State and Local GHG Inventory Tools	Interactive spreadsheet models designed to help state, local, and tribal governments develop GHG emissions inventories, and provide a streamlined way to update an existing inventory or complete a new inventory.
Building Energy Audit Template	Online portal that cities can use to collect standardized information about a building's physical systems and recommend upgrades.
Standard Energy Efficiency Data (SEED) Platform	Database for city BPS data that merges information from Portfolio Manager, Audit Template, and other city datasets in one place.
BETTER (Building Efficiency Targeting Tool for Energy Retrofits)	Identifies cost-saving energy and emissions reductions in buildings and portfolios without site visits or complex modeling.
Unique Building Identifier (UBID)	Converts two-dimensional building footprint data into unique alphanumeric codes using an open-source grid reference system.

Sources

[1] BPS: A Lifecycle Approach to Building Decarbonization

[2] ASHRAE Task Force for Building Decarbonization

[3] EPA BPS: Overview for State and Local Decisions Makers

[4] DOE Building Performance Standards

[5] DOE Building Data Tools

For inquiries about BPS technical assistance, reach out to us at bps@ee.doe.gov

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For more information, visit:
energycodes.gov/BPS

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