

Implementing a Building Performance Standard (BPS): A Guide To Mitigating Risks in Your Jurisdiction

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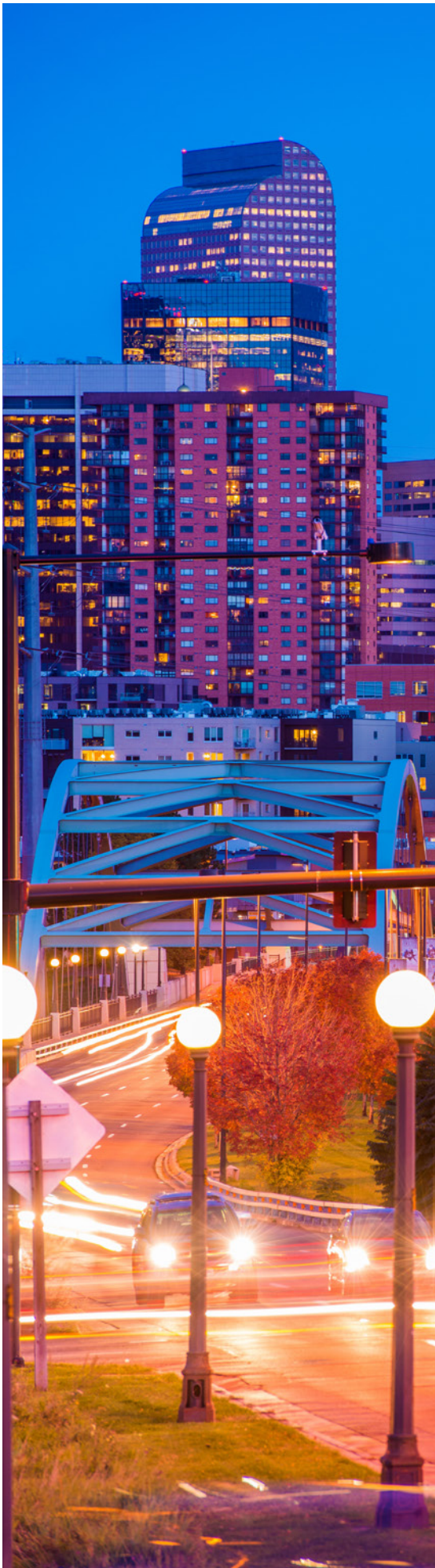


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Executive Summary

Building Performance Standards (BPS) are a rapidly growing tool used by jurisdictions across the United States to decarbonize buildings. In most places, buildings comprise the largest energy users. BPS reduce energy use and carbon emissions, with the added benefits of saving money, improving air quality, and creating jobs. However, because BPS policies can require

significant investment in buildings, there is a risk of unintended consequences, imposing cost burdens on disadvantaged communities and exacerbating housing inequalities. This document introduces the key risks to consider when planning a BPS as well as mitigation strategies and case studies from jurisdictions around the country.

Risks	Mitigation Strategies	Case Studies
Jurisdiction lacks legal authority to implement BPS	A BPS requires enforcement powers such as the ability to regulate energy or emissions and impose fines for noncompliance. Research your local and regional laws and approaches to building codes and work with your legal team and neighboring jurisdictions to understand the legal landscape before crafting a policy.	Pittsburgh, Pennsylvania, Des Moines, Iowa
There are capacity shortages within the jurisdiction and workforce	Managing a BPS requires dedicated staff and software, as well as a mobilized workforce. Think ahead, seek available resources, and design a BPS within your means.	Reno, Nevada, Delaware Valley, Pennsylvania Philadelphia, Pennsylvania
Jurisdiction lacks a complete understanding of stakeholders	Identifying and engaging stakeholders such as utilities and housing organizations in the early stages of planning is key to developing a policy that is effective and equitable.	Denver, Colorado
BPS leads to gentrification and/or exacerbates inequities in housing and small commercial inequities	To ensure the BPS does not displace people from their homes and communities, consult with affordable housing owners and small business associations early in the process and provide financing or other policy tools like rent control to support building upgrades.	Boston, Massachusetts

Overview and History of BPS

A BPS is a policy that regulates the energy performance or carbon emissions of a building—for example, requiring all buildings in a jurisdiction to attain a certain energy target or replace a set amount of fossil fuels with clean energy sources. Because existing buildings are the greatest carbon emitters in most cities, an increasing number of state and local governments are developing BPS to drive energy efficiency improvements, accelerate building electrification, and reduce energy usage and emissions in the building stock. By reducing energy demand, BPS policies can push the whole economy toward decarbonized sources of energy. Other critical benefits include lowering energy cost burdens, improving indoor and outdoor air quality, and spurring job creation in the construction and retrofit sectors.

BPS are often seen as a win-win for governments as well as residential and commercial building owners and occupants, as efficiency upgrades typically save money for building owners over time and may positively impact occupant health. However, these policies require owners to spend money upfront, which poses an economic burden for businesses and residents, espe-

cially those with the fewest resources. This document is designed to introduce the risks of BPS and offer mitigation strategies to help jurisdictions as they embark on their own decarbonization plans.

Creating a Balanced BPS

To achieve a jurisdiction’s climate and energy goals without creating economic hardship or exacerbating inequalities, a BPS should incorporate a detailed understanding of the local built environment, extensive stakeholder engagement, and assistance for certain groups. The policy requires a balanced approach that is strict enough to meet climate and energy goals yet flexible enough to bring everyone along. It is also important to remember that a BPS is a marathon, not a sprint—and can be recalibrated over time to ensure it meets the needs of a diverse community.

This document begins with a basic outline of the BPS process and a case study of Washington, D.C., one of the first jurisdictions in the United States to implement a BPS in 2021. Then, the document provides an overview of key risks of implementing a BPS, mitigation strategies, and case studies from local and state governments.

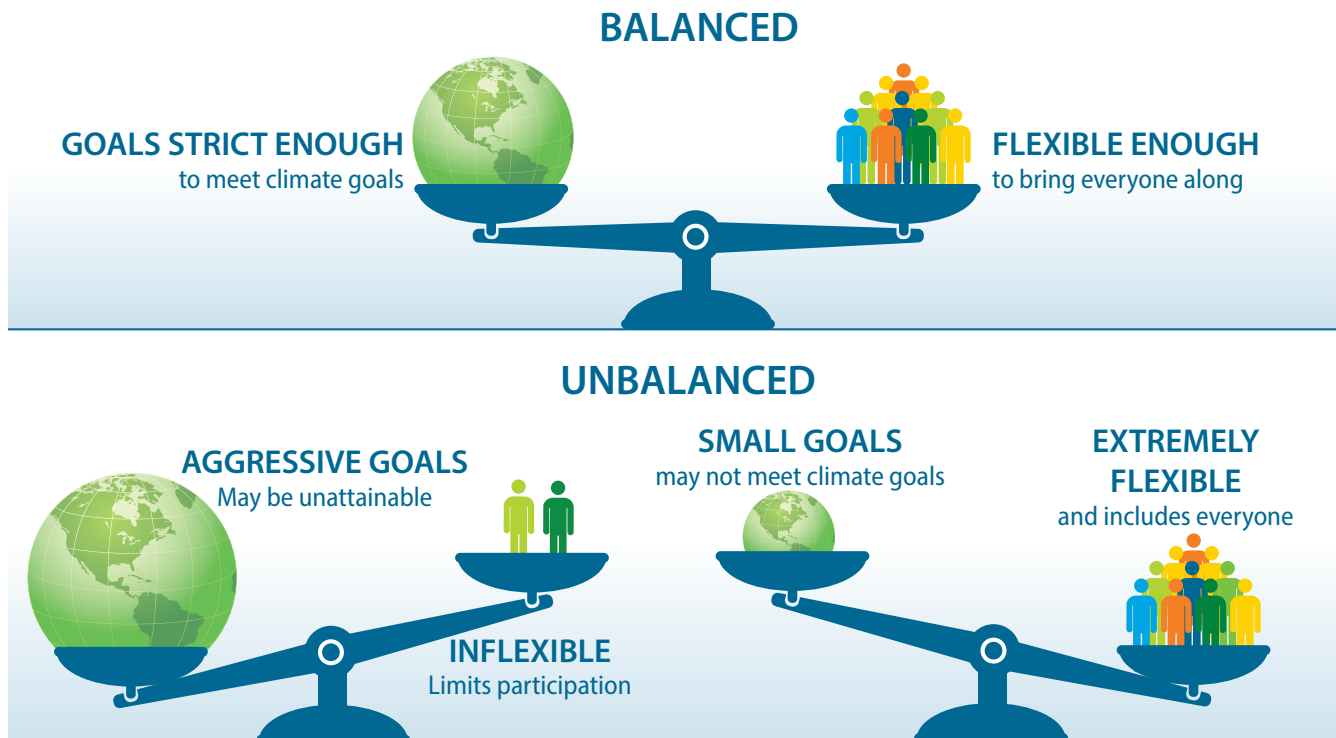


Figure 1. A balanced approach that is strict enough to meet climate and energy goals and flexible enough to bring everyone along

The Process

Clearly define the coverage area of the BPS

While many jurisdictions require newly constructed buildings to meet certain energy standards, BPS are aimed at improving the energy performance of existing buildings, which provide the greatest opportunity for immediate savings. However, keep in mind that all new buildings will eventually become subject to these standards as they become occupied.

BPS typically target large commercial and multifamily buildings first, and can expand to smaller buildings over time. In Washington, D.C., for example, the first phase of the BPS covers privately owned buildings over 50,000 square feet and District-owned buildings over 10,000 square feet (for a total of 900 buildings). The second cycle, beginning 2027, expands to privately owned buildings greater than 25,000 square feet, and by 2033, the BPS will cover all privately owned buildings over 10,000 square feet.

Gather all available information on the local building stock

Just as there are no uniform cities or buildings within a city, there is no one-size-fits-all BPS that will work in any jurisdiction, so it is important to gather as much information as you can to tailor the policy to your locale. If building energy data is available, whether from a benchmarking program or some other source, this can offer a huge head start when standing up a BPS: It is far easier to set energy goals when you have a sense of the current energy usage of the building stock.

Create routes to compliance and timelines that work for your jurisdiction

Multiple pathways are needed to maximize compliance; for example, allowing building owners to choose between:

- Meeting the performance target (either reducing energy use or carbon emissions by a certain amount, or achieving a certain score relative to other buildings)
- Meeting a prescriptive target determined by the jurisdiction
- Completing agreed-upon improvement actions and submitting verification.

Additionally, BPS are designed to meet long-term climate and energy goals, and often include stepped timelines and goals. For example, Washington, D.C., has a 5-year compliance cycle: building owners submitted benchmarking data in 2021 and will submit performance reports in 2026 to verify emission reductions. Subsequent phases cover more buildings and have stricter performance targets.



Figure 2. BPS can help jurisdictions improve buildings and enhance local capacity in energy efficiency and clean energy, making strides toward their climate goals.



Photo from Jon Bilous Pond5.com

Case Study: Washington, D.C., Launches BPS

Washington, D.C., enacted its BPS policy in 2021 as the central component of its climate action plan. Because the District had required commercial buildings to measure and submit energy use since 2012, city leaders knew that buildings produced 75% of greenhouse gas emissions in the District and already had a solid understanding of the building stock before launching the BPS.

In an effort to make the policy as equitable as possible, the District investigated how the affordable housing sector would be affected. First, policymakers identified affordable housing using CoStar's "star" rating system and a unique formula to calculate the housing cost burden of households. This data was used to assess how affordable housing owners would be financially impacted by a BPS. Affordable housing owners were also invited to help shape the policy. The resulting Affordable Housing Retrofit Accelerator program (created with funds from the American Rescue Plan Act of 2021) helps these buildings comply and offers free technical and financial assistance.

Understanding the energy use and cost burden of the local building stock allowed the District to craft nuanced compliance pathways for building owners. Under the current policy, covered building owners are required to meet one of four pathways by 2026:

- **Performance Pathway:** Reduce energy use intensity by 20% compared to 2018–2019 usage
- **Standard Target Pathway:** Achieve an ENERGY STAR score of 66, representing energy performance above the district median
- **Prescriptive Pathway:** Complete an energy audit and develop a proposal to make specific energy improvements that are approved by the District

- **Alternative Compliance Pathway:** If building owners don't meet one of the three primary pathways, they can work with the city to create a custom plan, including paying a fine or another approach.

These pathways provide special accommodation for affordable housing owners. To comply, affordable housing owners only need to complete an energy audit, rather than invest in actual energy upgrades. Washington, D.C., also created an online tool to help building owners navigate the policy. The Building Compliance Pathway Wizard helps different users figure out which parts of the policy apply to them and the best ways to comply. The tool is available at the Building Compliance Pathway website at <https://buildinginnovationhub.org/resource/regulation-basics/understanding-beps/beps-compliance-pathway-wizard>.

The District's attempt to create broad and inclusive compliance pathways, while also prioritizing the worst-performing buildings, sets an example for other jurisdictions to follow. As the District approaches the end of its first compliance cycle in 2026, the lessons learned along the way can be used to inform efforts across the country.

"With policy design, it's always a balance of keeping things simple and understanding that buildings have unique situations. So we want to come up with a way to accommodate them, while still hitting our energy and climate goals."

—Andrew Held, Energy Program Analyst, Department of Energy and Environment, Washington, D.C.

Risks and Mitigation Strategies

From analyzing a variety of policies and gathering real-world testimonials from those on the path to BPS, we have identified four key risks that could thwart a jurisdiction’s climate and energy goals or create hardship for businesses and community members.

Risk 1: Jurisdiction lacks legal authority to enforce a BPS

A building performance standard is a mandatory policy enforced through compliance verification. In the event of noncompliance, a jurisdiction can impose fines or other penalties. Before crafting your policy, ensure your jurisdiction has the legal authority to enforce building energy use and/or emissions. This includes thoroughly researching all relevant state and local building codes and understanding how the BPS may fit into this existing regulatory framework.

Mitigation Strategies

- Research relevant laws and codes that govern buildings and energy in your state/county to understand how they would affect a BPS.
- Work with your legal team to understand how a BPS could fit within your jurisdiction’s regulatory capacity. Sample questions include:
 - Does this jurisdiction have the authority to impose fines and/or penalties?
 - Are there any existing laws preventing this jurisdiction from regulating emissions and/or energy use in buildings?
 - What policies should be investigated for further clarification?
- Connect with other jurisdictions in your region to learn about regulatory frameworks and coordinate approaches as applicable.

Case Studies



Photo from Mindauga Dulinska, Pond5.com

Pittsburgh, Pennsylvania

With a long history of coal and steel production, Pittsburgh has made major strides in improving air quality and reducing carbon emissions in recent decades. Pittsburgh passed a Climate Action Plan in 2018, committing to reducing greenhouse gas emissions to 50% of 2003 levels by 2030 and to 80% of 2003 levels by 2050. However, city leaders were unable to implement a BPS due to Pennsylvania’s unique “Second Class City” law passed in 1901, which limits the ability of certain size cities to collect revenue in ways that may put undue burden on businesses. As an alternative, Pittsburgh created a voluntary program for building owners to reduce emissions. This program relies on public education and stakeholder engagement to incentivize efficiency.



Photo from Wasin Pummarin, Pond5.com

Des Moines, Iowa

In 2019, Des Moines passed a benchmarking ordinance calling for all city-owned buildings and privately owned commercial and multifamily buildings over 25,000 square feet to report their energy and water usage to the city. In response, state lawmakers passed a bill preventing cities from requiring energy benchmarking, directly obstructing the efforts in Des Moines. With constantly changing political circumstances, there is always a risk that a BPS could be obstructed by some other action. In this environment, jurisdictions may need to get creative and find other ways to achieve their energy and climate goals.

Risk 2: There are capacity shortages within the jurisdiction and workforce

The startup costs and ongoing work of managing a BPS can easily overwhelm jurisdictions that don't plan for it. Jurisdictions must consider whether they have the staff, software, and funding (both startup and operational) to manage the policy long-term. Otherwise, the resulting bottlenecks and confusion could inhibit the goals of the jurisdiction, in addition to damaging public perception and political support for these types of policies.

The staffing needed to manage a BPS varies widely depending on the size of the community, the complexity of the policy, and a host of other factors. For example, larger cities with more complex/flexible policies require more staff, such as Denver, which has six full-time employees, and Boston, which has seven full-time employees. Alternatively, Reno is attempting to implement a BPS with fewer than one full-time position, a large undertaking even for a smaller city.

Staffing needs will also depend on how the policy fits into the administrative framework of the government. Boston has two teams that manage its BPS: One helps building owners collect data and report it to the city, and a second focuses on crafting the regulation as the city approaches the rollout of its compliance implementation period. Once the rollout takes place in 2025, the second team will transition to providing support and technical assistance to building owners. Even with a well-staffed program, the amount of work will likely fluctuate throughout the year and/or compliance cycle, and jurisdictions may require supplemental staff at busy times—for example, to complete data verification when energy audit data is due. Data management software, such as the Standard Energy Efficiency Data (SEED) Platform™, can streamline the process of running a BPS and reduce staff time. While SEED is cost-effective relative to other platforms, software administration funding still needs to be built into the budget.

Jurisdictions must also consider whether they have the existing capacity to enforce the BPS. For example, which program or department will be tasked with enforcement? Does that department have the requisite enforcement capabilities as well as the subject matter expertise to help building owners comply?



Photo from Paul Brady, Pond5.com

Launching a BPS with Limited Capacity: Reno, Nevada

Suzanne Groneman, sustainability manager for the city of Reno, is in the process of launching a BPS with only herself as the current staff member. One of the greatest challenges has been figuring out how to enforce the policy. Groneman does not have the tools or capacity to perform enforcement duties, and the city's code enforcement officer lacks the energy expertise for this kind of role. As a result, the city plans to create a new building inspector position that will enforce the BPS, among other duties.

While Groneman cautions against implementing a BPS without sufficient staff and resource capacity, she says it's never too early to implement a benchmarking program to track buildings' performance. "Every year we get more data, more community interest, more opportunities to educate the public. I'm already seeing where the problems are with our low-performing buildings. It gives you the data to build your BPS on and the time to figure out how you're going to enforce it."

Mitigation Strategies

- Investigate BPS in other cities with similar populations:
 - How many full-time staff members are needed to manage the program?
 - What roles and job tasks are needed to implement BPS successfully?
 - What software tool(s) are used to reduce staff and building owner burden?
- Engage with local stakeholders, such as utilities and retrofit companies, to identify workforce training needs and other supportive policies/ programs.
- Explore funding opportunities from federal agencies, and utilities as well as state-level support to help offset software and technical assistance costs.
- Consult the U.S. Department of Energy’s (DOE) BPS Implementation Guide here (https://www.energycodes.gov/sites/default/files/bps/2023-11/BPS_Program_Administration_Guide.pdf) for information on capacity needs and step-by-step guidance.

Risk 3: Jurisdiction lacks a complete understanding of stakeholders

One of the most important—yet challenging—aspects of creating a BPS is engaging with stakeholders to ensure the policy reflects their needs and priorities. Because a BPS is likely to encompass commercial and larger multifamily buildings, the planning and engagement stage requires a broad and inclusive approach. This process includes identifying stakeholders, clearly communicating the purpose and function of the BPS—with specific details on how it will impact stakeholders—and discussing the compliance pathways being considered. Jurisdictions and stakeholders should pay particular attention to under-resourced buildings and disadvantaged communities to ensure they have the tools needed to comply with the BPS and receive the same policy benefits.



Photo from Giovanni Gagliardi, Pond5.com

Case Studies

Some jurisdictions are tackling capacity challenges by joining forces on BPS policies. For example, Portland and South Portland—two neighboring jurisdictions in Maine—are implementing policies at the same time to share resources and support along the way. This may be easier in places that are similar in size and geography.

In other cases, entire regions are working together to share the administrative burden of running a BPS. The Delaware Valley Regional Planning Commission, based in the Greater Philadelphia region, is planning to have a central energy analyst oversee all benchmarking and BPS policies for its members. When building owners need to ask questions or request exemptions, they will be directed to the central energy analyst rather than a local jurisdiction’s office. “You might get the same questions fifty times, and a shared energy analyst will be able to respond to these inquiries much more efficiently than if each jurisdiction had to deal with them individually,” said Veronique Bugnion, CEO of ClearlyEnergy, which manages the BPS data management tool Building Energy Analysis Manager (BEAM).

To formalize this model more broadly, ClearlyEnergy is working on setting up central energy managers in coordination with the regional energy efficiency organizations in different regions of the country. These energy managers would help jurisdictions research legal questions and pass local laws needed to implement BPS policies in addition to managing those policies once they are up and running.

Mitigation Strategies

- Identify all stakeholders who will be affected by a BPS, including but not limited to:
 - Real estate developers, housing development organizations, affordable housing collaboratives
 - Building owners, operators, and tenants
 - Retrofit companies and installers
 - Utilities
 - Public Health Officials
 - Community Stakeholder Organizations
 - Tribal Governments
- Allocate adequate funding to do targeted outreach to key stakeholders to explain goals of BPS, including energy and non-energy benefits
- Find cheerleaders who are as influential and broad-based as possible, such as neighborhood councils and community organizations
- Incorporate flexibility into the BPS to address unique stakeholders rather than creating one-size-fits-all requirements. Policies must reflect regional differences, historical legacies of discriminatory practices such as redlining and restrictive racial covenants, and barriers to compliance for underserved, disadvantaged communities
- Ensure stakeholder engagement incorporate services needed to reach important populations, including translators, childcare, etc.



Photo from EdgeofReason, Pond5.com

Case Study: Energize Denver, Colorado

In 2021, the city of Denver approved an ordinance to create a BPS and formed a task force of local, diverse stakeholders to help shape the policy. Based on feedback from the task force, an Equity Administrator position was created to lead stakeholder engagement and ensure the BPS benefited, rather than burdened, underserved communities. The Equity Administrator educates building owners and tenants about the policy and explains the potential of energy efficiency to reduce costs, especially in old, inefficient buildings. The Equity Administrator also provides technical assistance and connects building owners with funding opportunities such as pilot programs that could alleviate the cost of complying with a BPS. This focus on equity ensures that underserved communities are not surprised by the BPS program and do not incur fines. The position also coordinates exemptions for certain affordable housing building owners so they are not forced to pass the cost of building upgrades onto tenants.

Financing Equity

The city of Denver has six full-time staff to manage its BPS. The city also uses funding from the Climate Protection Fund, which was created through a voter-approved tax, on community outreach related to the BPS. While prioritizing equity requires investment upfront, such as holding community meetings and offering translating services, it pays off down the road in the form of carbon emissions as well as energy justice. In Denver, for example, including a robust stakeholder engagement phase at the beginning ensured communities were able to adequately plan for the BPS so the goals of social equity could be realized.

Risk 4: Investments in BPS and decarbonization can lead to gentrification

Improvements to buildings, whether appearance- or performance-related, can often increase the value of a property and create a ripple effect on the surrounding neighborhood. This can push low-income residents out of the housing market, hurt small and disadvantaged businesses, and change the socioeconomic profile and culture of entire communities. To avoid displacement of community members, safeguards can be incorporated into a BPS that protect affordable housing residents, small businesses, and under-resourced buildings.

Mitigation Strategies

- Create rent-stabilization programs to prevent displacement of tenants. For example, if multi-family housing is included in the BPS, consider adding protections against large rent increases. In Chula Vista, California, for example, the BPS policy includes a provision to limit residential rent increases by stating that the cost of energy audits and upgrades must be amortized over five years and not immediately passed on in higher rents.
- Promote and support community ownership and generational wealth by allowing small building and business owners to partner with organizations, developers, and property and asset management companies to ensure existing community members can pool their resources together to have a neighborhood investment or land trust. This opportunity centers procedural justice and allows the existing residents and business owners to take a financial stake in new building upgrades or energy projects, thus preventing gentrification from the beginning.
- When property is being sold, provide existing tenants with first chance to buy through a community land trust or other feasible ownership model.



Photo from Pond5.com

Case Study: Boston Forms Community-Appointed Review Board to Govern Its BPS

In 2021, the city of Boston adopted a BPS as the central strategy of its climate action plan—which committed to cutting greenhouse gas emissions to half of 2005 levels by 2030 and to achieving carbon neutrality by 2050. The Boston Environment Department created two groups to advise the policy—a technical advisory group made up of building science, construction, and retrofit experts and a community advisory group comprised of local, community-based organizations and individuals. Based on input from the community advisory group and a larger group of multifamily housing residents, the city created the Equitable Emissions Investment Fund, which uses revenue collected from building owners that don't meet emissions targets to help under-resourced buildings improve their energy performance.

While other jurisdictions such as Denver have created policy advisory groups, Boston has taken this model one step further by creating a review board, a nine-member body primarily made up of community-based organizations. The review board will govern the BPS moving forward, making decisions about alternative compliance pathways, exemptions, and how to distribute the Equitable Emissions Fund, among other things. "This ensures the community is represented throughout the lifespan of the policy," said Aidan Callan, project manager with Boston's Environment Department.

What are other governments doing to make BPS more equitable?

From the American Council for an Energy-Efficient Economy. See the full report here: www.aceee.org/sites/default/files/pdfs/B2303.pdf

- Montgomery County established a green bank and requires at least 20% of green bank funds to go to “equity emphasis” areas of the county.
- In St. Louis, the utility offers additional incentives for affordable housing to reduce energy use.
- In New York City, energy standards are significantly weaker for buildings with a high percentage of rent-regulated apartments to ensure the BPS doesn’t lead to increased rents.
- In Boulder, rental units that have participated in the federal low-income Weatherization Assistance Program are exempt from further upgrades.
- In Reno, compliance is delayed for 3–6 years for low-income multifamily housing buildings with an Enterprise Green Communities certification.
- In Denver, the Energize Denver Hub provides additional technical assistance to under-resourced buildings.

Conclusion

With the growing focus on decarbonizing the U.S. building sector, and more than 30 state and local governments who have already committed to reducing carbon emissions through the National Building Performance Standards Coalition, many jurisdictions are in the process of creating BPS policies to advance their climate and energy goals. Because this type of law is so new, we are just beginning to learn how to maximize the societal benefits of a BPS while minimizing the risks. As more jurisdictions implement and refine their policies over the coming years, DOE will continue to share these lessons learned to help others achieve their goals.



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For more information visit: <https://www.energycodes.gov/BPS>

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