CREATING A HIGH-IMPACT PERFORMANCE POLICY: A DECISION FRAMEWORK FOR LOCAL GOVERNMENTS

As of December 2018, 26 cities, 3 states and 1 county have enacted building performance polices that affect existing public and privately owned properties. These policies cover 11 billion square feet of building space, and offer immense potential for city government to play an active role in driving reductions in building energy consumption, lowering carbon emissions, creating economic opportunities, and improving public health in their communities.

In order to develop a successful and impactful local building performance policy, cities must actively engage with stakeholders to collect input that can help inform key aspects of the policy. City staff are responsible for soliciting feedback on the technical parameters of the policy, and facilitating the stakeholder buy-in needed to enable passage of the policy. Staff best navigate this process by knowing ahead of time the key issues, best practices, and options to consider and bring forth to stakeholders.

The information in this framework is drawn from experiences working with 20 different cities from across the U.S. from 2013–2018 to design locally appropriate energy efficiency policies and programs. The City Energy Project (CEP), a joint initiative of the Institute for Market Transformation and the Natural Resources Defense Council, supported bold yet practical ways to deploy energy efficiency at the city level to boost local economies, reduce pollution, and create healthier, more prosperous communities nationwide. Building upon the past successes and innovation of cities, the City Energy Project established best-in-class practices for energy efficiency to be customized and replicated nationwide. Models and recommendations have been distilled into the City Energy Project Resource Library.

This decision framework is designed to help city staff understand and work with stakeholders to craft a policy that will drive demand for energy-efficient buildings, and help the city quickly and effectively achieve its climate goals in a way that is responsive to local conditions and priorities.

ABOUT THIS FRAMEWORK

This framework identifies the key decisions that should be resolved during the stakeholder engagement process, serving as a prompt for city staff when preparing resources and agendas for stakeholder meetings. The structure aligns closely with the Model Ordinance Language for a Policy to Improve the Performance of Existing Buildings, which includes placeholders that can be replaced with the outputs from this framework. This facilitates a comprehensive but streamlined process by which the building performance policy can be customized to meet the needs and ambitions of the local community.

The decision points in this framework are organized into two groupings:

BENCHMARKING PROVISIONS — provisions that will apply to all properties subject to the baseline benchmarking and reporting requirements.

BEYOND BENCHMARKING PROVISIONS — additional provisions that may apply to the buildings that benchmark. Many cities are considering adopting "beyond benchmarking" requirements to more rapidly achieve their energy efficiency goals. These require properties to meet energy or water performance targets or, alternatively, complete an audit, building retuning, or other cost-effective, approved actions that have a demonstrated ablity to reduce energy and water use.

Though the framework does include some background and a high-level overview of the current best practices for each decision is described, it is not intended to provide a detailed description of these practices, nor is it designed to provide sufficient detail so that the reader can determine which of the suggested approaches may be most appropriate for their own situation. The primary purpose of this framework is to help city staff understand which questions are most important to resolve during the stakeholder engagement process, and why each of those questions is important to raise. The City Energy Project Resource Library contains resources that provide more in-depth information on how cities have implemented their building performance policies, and on the ramifications of different policy design decisions.

DIRECTIONS FOR USE

The following information is included for each decision point in this framework :

DECISION
A brief description of the issue to be resolved. To guide discussions, these would typically be presented to stakeholders in the form of a question.

BACKGROUND
Additional background on the issue, providing context and describing the importance and potential impact of the issue.

BEST PRACTICES
An explanation of some of the best practices cities have employed to address this issue, along with the rationale for why those practices are recommended. Each jurisdiction should view these best practices as providing guidance to establish a starting point for its policy design, which can then be modified if stakeholder input demonstrates that a different position is warranted to meet local needs and conditions.

STAKEHOLDER INPUT REQUIRED
Defines whether this is an issue that would generally benefit from stakeholder input, or if this is a decision that can be made internally. For topics where staff has determined they do not need to gather external input, there is often still value in sharing the city's proposed position on these parameters with stakeholders.

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18 DECISIONS

DECISION #1

DEPARTMENT RESPONSIBLE FOR OVERSEEING THE PROGRAM

BACKGROUND

The department responsible for implementing the program should have sufficient capacity, regulatory authority to enforce the requirements, and a mission that is aligned with the intent of the policy.

BEST PRACTICES

Though the Office of Sustainability (often within the mayor's office) typically takes the lead in developing the policy, the responsibility for implementation (enforcement, compliance, etc.) is usually handed off to another department such as a building department, planning department, or a municipally owned utility. Alternatively, a policy-oriented group such as the mayor's office may retain leadership of the program and be responsible for trainings, outreach, and overall goals, while partnering with a regulatory department such as Codes and Enforcement for compliance.

STAKEHOLDER INPUT REQUIRED: NO

NOTES:

DECISION #2

MARKET SECTORS INCLUDED

BACKGROUND

Helps to determine the market sectors and number of buildings that will be participating in the program. Policies can include any or all of the following categories: public government, commercial, multifamily, and industrial.

BEST PRACTICES

Policies typically cover, at a minimum, government buildings and large commercial properties. Multifamily properties are often included as well, although in cases where they cannot obtain whole-building energy data from the utility, they may be excluded until the data becomes available. Single family and small multifamily properties are generally not covered by a benchmarking policy.

STAKEHOLDER INPUT REQUIRED: YES

NOTES:

DECISION #3

MINIMUM BUILDING SIZE REQUIRED

BACKGROUND

By selecting an appropriate minimum size threshold, the policy can maximize the potential for energy savings benefits while minimizing the number of buildings that are covered. Consider the number of buildings city staff will be able to work with and do an analysis of local building stock to determine the number of buildings vs. percentage of floor area that would be covered for different size thresholds. For example, New York City's program covers less than two percent of the total number of properties, but these buildings make up nearly half of total citywide gross floor area and account for 48 percent of citywide energy use.

BEST PRACTICES

Benchmarking policies are designed to cover larger buildings, with a minimum size threshold generally defined in the range of 20,000 to 50,000 square feet, depending on the characteristics of the local building stock. The size threshold is often set lower for municipally owned or operated properties, reflecting the city's willingness to "lead by example" and hold itself to a more ambitious standard. The U.S. Department of Energy's State and Local Energy Data Set (SLED) can provide information to help staff gain an intial understanding of the number of buildings that would be covered under different building size thresholds, and therefore the level of staff effort that would be required to ensure compliance and conduct outreach.

STAKEHOLDER INPUT REQUIRED: YES

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DECISION #4

BENCHMARKING AND TRANSPARENCY EXEMPTIONS

BACKGROUND

Buildings must apply for and be granted exemptions on an annual basis to ensure the maximum policy impact. Since the benchmarking process is designed to collect and compare performance metrics for typical types of commercial and residential properties, the data is less meaningful for unusual building uses, or properties where the energy use is dominated by specific industrial processes rather than simply HVAC, lighting, and other typical building loads.

BEST PRACTICES

There should not be any blanket reporting exemptions. Properties must submit a request for a reporting exemption, which may include some or all of the following:

1.   New buildings, where the certificate of occupancy was not yet issued for some or all the calendar year being reported

2.   Buildings with low occupancy rates, typically of 50 percent or less

3.   Buildings whose owners are in financial hardship

4.   Buildings where reporting of benchmarking results would not be in the public interest

Local exemptions may also be appropriate for a) buildings that have atypical uses (e.g. theme parks or movie studios), or b) buildings that are used primarily for manufacturing or industrial purposes.

Some buildings, such as those where the owner can demonstrate that energy use data is proprietary or would compromise a trade secret, may be exempted from the transparency provisions but should still be required to benchmark and report.

STAKEHOLDER INPUT REQUIRED: YES

NOTES:

DECISION #5

PARTY RESPONSIBLE FOR REPORTING

BACKGROUND

Benchmarking is performed on a whole-building basis. Therefore, the party that is in the best position to both complete the benchmarking process and act upon the resulting information (e.g., approving and paying for retrofits, changing operational practices of the building, etc.), should be held responsible.

BEST PRACTICES

The building owner should generally be responsible for benchmarking and reporting of each building, though there are some exceptions. For example, in commercial and residential condominiums, the owners association should be expected take on this responsibility, rather than the individual owners of each unit in the building.

STAKEHOLDER INPUT REQUIRED: YES

NOTES:

DECISION #6

SCHEDULE FOR INITIAL BENCHMARKING AND TRANSPARENCY

BACKGROUND

A phased-in approach allows for a more even ramp up, so that the city and service providers will have sufficient resources to fully support the needs of building owners. Larger buildings generally have greater staff expertise and capacity, and should be able to participate sooner.

BEST PRACTICES

Reporting should begin six to 18 months after the date that any policy is enacted. Government buildings typically report first, to demonstrate good practices and provide an initial opportunity to develop the necessary infrastructure and processes. If the program covers a large number of properties, other buildings are often phased in based on size, over a two- to three-year period, to allow adequate time for support services to accommodate the demand. This also gives the city an opportunity to test out and refine all processes, before rolling requirements out to those buildings that are likely to need more assistance understanding and complying with the program requirements.

Data on the performance of individual buildings is shared with the public one year after each building first completes and reports benchmarking results.

STAKEHOLDER INPUT REQUIRED: YES

NOTES:

DECISION #7

BENCHMARKING REPORTING FEE

BACKGROUND

For the program to be successful there must be an assured, long-term funding source to support the staffing and other resources needed. This may come from the city's general fund, or from a dedicated funding stream based on fees associated with each report submitted.

BEST PRACTICES

The City of Los Angeles assesses a submission fee of $61 per property each year to cover the actual cost of enforcement (i.e. staffing, notifications to building owners, etc.). No other city has chosen to do this, relying on general city budget funding instead.

STAKEHOLDER INPUT REQUIRED: NO

NOTES:

DECISION #8

DATA VERIFICATION FOR BENCHMARKING AND TRANSPARENCY

BACKGROUND

The data generated through benchmarking must be viewed as high quality and dependable by building owners, policy makers, and the real estate market. Widespread issues with poor quality data will undermine the effectiveness of the data as a management tool and could potentially even penalize those building owners who have made the effort to complete the benchmarking process in a thorough and accurate way.

BEST PRACTICES

The benchmarking program should be supported with adequate training and other resources, and the process should be as streamlined and efficient as possible, both to facilitate compliance and to minimize the potential for data errors. Automated uploading of whole-building usage data by utilities will minimize a significant potential source of errors, and automated data-checking routines built into the benchmarking software should always be executed. Some cities also require periodic third-party oversight of results, or require a minimum level of certification to demonstrate competency in the benchmarking process.

STAKEHOLDER INPUT REQUIRED: YES

NOTES:

DECISION #9

TRANSPARENCY APPROACH

BACKGROUND

Making information about the performance of individual buildings available to the public allows the information to influence purchasing and leasing decisions; highlight to the providers of energy-efficient products and services opportunities for improving building performance; and ultimately drive market transformation. In a transformed market, more efficient buildings will have a competitive advantage over those that perform poorly.

BEST PRACTICES

Information should be shared in a visually compelling and accessible manner. Different information will be needed by different audiences; a map with general information may be sufficient for the public, while individual building owners will benefit from more targeted information such as "scorecard" that includes comparisons to peer properties and pathways for improvement. The City should also release a formal program summary report after the first two years of implementation, and a report of key metrics annually thereafter.

STAKEHOLDER INPUT REQUIRED: YES

NOTES:

DECISION #10

BEYOND BENCHMARKING REQUIREMENTS

BACKGROUND

While benchmarking and transparency will raise awareness of the role of energy efficiency in buildings, requiring low-performing buildings to take concrete steps that will accelerate market uptake of best practices and lead to greater energy efficiency savings.

BEST PRACTICES

A range of pathways that buildings can pursue to demonstrate that they are high performers or are making acceptable progress. Building owners can choose the most appropriate approach for their situation.

STAKEHOLDER INPUT REQUIRED: YES

NOTES:

DECISION #11

PROPERTIES COVERED BY BEYOND BENCHMARKING REQUIREMENTS

BACKGROUND

Beyond benchmarking provisions may place greater demands on building owners than benchmarking alone. The requirements should focus on those buildings that: a) have more complex systems and are most likely to benefit from energy efficiency improvements; and b) typically have the resources, including dedicated maintenance staff, to take action and implement improvements.

BEST PRACTICES

The size threshold for beyond benchmarking requirements can be applied to the same market sectors and sizes of buildings as benchmarking alone, which can simplify messaging and management of the program. Alternatively, beyond benchmarking requirements can be limited to larger buildings (e.g. over 50,000 square feet), or different tiers of requirements can be applied to different sizes or types of buildings. Generally, all municipal properties that are subject to annual benchmarking should also be expected to meet the beyond benchmarking requirements, while for privately owned properties a higher size threshold can be considered.

STAKEHOLDER INPUT REQUIRED: YES

NOTES:

DECISION #12

BEYOND BENCHMARKING PERFORMANCE COMPLIANCE PATHWAY

BACKGROUND

Buildings that can demonstrate that they are already performing well do not need to complete any additional actions to meet beyond benchmarking requirements.

BEST PRACTICES

The policy should define both absolute performance targets (e.g. the property is now in the top quartile compared to its peers) and performance improvement targets (e.g. the property has improved by 15 percent compared to its baseline from the previous reporting period). Targets are generally expressed in terms of ENERGY STAR scores or energy use intensity (EUI) values. Target ENERGY STAR scores and source EUI values may shift periodically whenever the U.S. Environmental Protection Agency updates the underlying data sets and methodologies used to calculate these values. Typically, each property must submit documentation demonstrating it has achieved one of the following:

1. High energy and water efficiency. during at least two of the previous five years:

   a. Property has received an ENERGY STAR score of 75 or above; or EUI is at or below the performance of 75 percent of the local properties of its type; and

   b. Property has received an ENERGY STAR water score of 50 or above; or property WUI is at or below the median performance of the local properties of its type.

2. Improvement in energy and water efficiency. During the previous five years:

   a. Property has improved its ENERGY STAR score by 15 points, or EUI has been reduced by 15%; and

   b. Property has improved its ENERGY STAR water score by 15 points or WUI has been reduced by 15%.

STAKEHOLDER INPUT REQUIRED: YES

NOTES:

DECISION #13

BEYOND BENCHMARKING PRESCRIPTIVE COMPLIANCE PATHWAY

BACKGROUND

While benchmarking uses the power of information and market pressures to drive energy efficiency, market uptake (and corresponding energy savings) can be accelerated by requiring or incentivizing those properties that are performing poorly to complete additional actions such as audits and retuning.

BEST PRACTICES

Audits provide building owners with detailed information about system conditions and savings that could be achieved through investment in equipment upgrades and replacement. "Retuning" ensures that all existing equipment has been maintained, repaired, and calibrated to operate at peak efficiency. An effective energy efficiency program will encourage or require all buildings that are performing suboptimally to complete both of these actions on a periodic basis, or to complete related activities that have been proven to improve the performance of similar buildings. These could include receiving LEED EBOM certification, completing items on a city-defined prescriptive checklist, or completing other approved actions that are being promoted by the City and its partners. Beyond benchmarking requirements should be aligned with utility incentives to so that the incentives can help to cover the costs of these actions.

STAKEHOLDER INPUT REQUIRED: YES

NOTES:

DECISION #14

SCHEDULE FOR BEYOND BENCHMARKING REQUIREMENTS

BACKGROUND

Although benchmarking should be completed every year, beyond benchmarking activities are more resource intensive and do not need to be done as frequently. The requirements typically do not begin until benchmarking has been in place for a few years, to allow building owners to first establish a baseline for how their properties are currently performing.

BEST PRACTICES

Requirements kick in three to five years after first benchmarking reporting deadline for initial tranche of buildings, so owners have sufficient time to understand how well their properties are actually performing and can make improvements if desired. To maintain a uniform level of activity, buildings should be grouped so that a consistent number of them are required to comply each year. For example, if on a five-year cycle, define groupings that each contain 20 percent of the covered buildings so that every five years each property must demonstrate that it has achieved the performance targets, or must complete one of the defined prescriptive activities. As they focus on opportunities for major capital investments, completing an audit every 10 years is generally sufficient. An audit should be accepted to meet the beyond benchmarking requirements no more than once every 10 years, with an alternative approach required for compliance during the intervening years.

STAKEHOLDER INPUT REQUIRED: YES

NOTES:

DECISION #15

BEYOND BENCHMARKING DATA COLLECTION AND FEES

BACKGROUND

Collecting audit data electronically is extremely valuable for cities to understand the local building stock, track greenhouse gas and energy reductions, and inform incentives, programs and future policies. Relying on an electronic submission process, such as the U.S. Department of Energy (DOE)'s Asset Score Input Template, can streamline the data collection process and reduce resource needs.

BEST PRACTICES

Since reviewing audit reports and retuning results is more demanding than collecting benchmarking reports some cities have submission fees (Ex: $183 in Los Angeles and $375 in New York). The New York City Mayor's Office of Sustainability uses the audit results (submitted electronically using DOE's Asset Score Audit Template) to identify economically attractive energy-saving opportunities in specific buildings and conduct outreach to building owners, through the NYC Retrofit Accelerator, based on this information.

STAKEHOLDER INPUT REQUIRED: NO

NOTES:

DECISION #16

DATA VERIFICATION FOR BEYOND BENCHMARKING

BACKGROUND

Information from audits and retuning reports will not be shared publicly, except at a summary level. Therefore, the primary goal of verifying audit and retuning results is to confirm that the work was completed by a qualified professional, and that it provided meaningful results to the building owner.

BEST PRACTICES

Audits and retuning will be performed by qualified professionals, rather than by the owners or their staff. Some spot checking of results can help to identify if there are any service providers that are not providing high-quality services. Audits, and retuning documentation must be approved and stamped by a licensed professional engineer (PE). For other actions, a PE stamp is not required, but the city should develop a documentation process for verification and enforcement.

STAKEHOLDER INPUT REQUIRED: YES

NOTES:

ENFORCEMENT

BACKGROUND

The emphasis during the initial roll-out of the policy should be on education and training, to present the business case for owners on why they need to perform the actions required by the policy. Most cities do a soft launch, and do not assess fines for failure to benchmark until the requirements have been in effect for about two years.

However, some form of enforcement, including fines for non-compliance, will inevitably be needed to deal with those buildings that persistently fail to report. Because requirements for beyond benchmarking actions begin several years later, fines for failure to complete these actions should not be delayed.

BEST PRACTICES

Fines should be set at a level that makes them more expensive than compliance. Typical fines for benchmarking are: Los Angeles: $202; Boston: ranges from $35-200 per day, up to $3,000; and Chicago: $100 then $25 per day. Non-monetary approaches have also been used, such as in St. Louis, which withholds occupancy permits from noncompliant buildings.

Fines for non-compliance with beyond benchmarking requirements should be much higher than for benchmarking, and based on building size. Boulder assesses fines of $2.50 per thousand sf per day, not to exceed $1,000 per day; in Seattle fines for a first offense range from $2,000 for buildings of 50k to 100k sf, up to $5,000 for buildings greater than 200k sf.

STAKEHOLDER INPUT REQUIRED: YES

NOTES:

DECISION #18

STAFFING

BACKGROUND

Number of properties covered, and level of support that will be provided, will largely determine staffing needs. Investing in a well-designed software platform for managing the data collection, analysis, and customer interaction processes can dramatically reduce staffing needs.

BEST PRACTICES

Plan for a minimum of 1.0 full-time employee during the years of initial program roll-out. Levels may reduce thereafter, or focus will shift from compliance activities to supporting buildings in identifying and pursuing energy efficiency opportunities.

STAKEHOLDER INPUT REQUIRED: NO

NOTES: