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**California Benchmarking Collaborative Comments on Rulemaking Scoping Questions for Building Energy Use Benchmarking and Public Disclosure (AB 802)**

*Additional submitted attachment is included below.*

December 22, 2015

California Energy Commission  
1516 Ninth Street  
Sacramento, CA 95814-5512

Re: Docket Number: 15-OIR-05

## **California Benchmarking Collaborative Comments on Rulemaking Scoping Questions for Building Energy Use Benchmarking and Public Disclosure (AB 802)**

On behalf of the California Benchmarking Collaborative [henceforth “Collaborative”] the Center for Sustainable Energy<sup>®</sup> (CSE) respectfully submits these public comments in response to the Rulemaking Scoping Questions presented at the California Energy Commission (Energy Commission) staff workshop on Building Energy Use Benchmarking and Public Disclosure. The Center for Sustainable Energy (CSE; [www.energycenter.org](http://www.energycenter.org)) is a mission-driven nonprofit organization accelerating the adoption of clean and renewable energy technologies, policies, and practices. The Collaborative is comprised of CSE, the Natural Resources Defense Council (NRDC), the California Housing Partnership Corporation (CHPC), the Institute for Market Transformation (IMT), Green Cities California (GCC), San Francisco Department of the Environment, the City Energy Project, Berkeley Office of Energy and Sustainable Development, Los Angeles Mayor’s Office of Sustainability, California Energy Efficiency Industry Council (CEEIC), and US Green Building Council California (USGBC CA). The Collaborative has received technical advice from the U.S. Environmental Protection Agency (EPA), the National Renewable Energy Laboratory (NREL), and the U.S. Department of Energy (DOE).

In addition to these comments, parties may also submit individual comments.

### **Building Energy Benchmarking and Public Transparency**

The Collaborative strongly supports AB 802 and the Energy Commission’s development of implementing rules for a statewide, time-certain benchmarking and transparency program. In these comments we:

1. Provide recommendations on utility delivery of usage information —both whole-building and by tenant-unit – to building owners (or agents);
2. Emphasize the importance of energy benchmarking and transparency in promoting market transformation;

3. Emphasize the value of California standards that are in alignment with national best practices;
4. Highlight best practices for building owner, manager, and tenant engagement by the Energy Commission and utilities so that benchmarking information is available to market participants; and
5. Recommend making certain building energy data and benchmarking scores publicly available.

## Section 1: Introduction

### 1.1 Whole-building data access and statewide benchmarking should be addressed in parallel, but not intertwined within the same regulation.

The stated intent of Assembly Bill 802 (Stats. 2015, ch. 590), is, to increase energy efficiency in existing buildings across the state. It has three separate operative sections related to energy usage information and benchmarking. The sections are related, but independently operative and distinct and accomplish the following:

- Directing the Energy Commission to adopt regulations to require large commercial and multifamily buildings to benchmark energy use, report certain information to the Commission, and make certain information available to the public;<sup>1</sup>
- Requiring utilities to provide whole-building energy usage information (WBUI), also referred to as aggregate data, to building owners (or agents) upon request, so long as their buildings have a minimum number of accounts. This is a sum of all the usage in the building, even if it occurs on multiple customers' meters;<sup>2</sup>
- Authorizing the Energy Commission to streamline how utilities verify that a building owner has obtained the permission of a tenant to obtain WBUI for buildings that fall below the aggregation threshold or to obtain tenants' monthly energy usage information.<sup>3</sup>

We strongly recommend the Energy Commission treat these three matters separately in its implementing regulations. Whole-building energy usage data is necessary for owners

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<sup>1</sup> Cal. Pub. Resources Code Section 25402.10(d).

<sup>2</sup> Cal. Pub. Resources Code Section 25402.10(c).

<sup>3</sup> Cal. Pub. Resources Code Section 25402.10(f).

to comply with a statewide benchmarking program, but the Energy Commission's collection of this data from owners is separate from and should operate independently from the provision that requires utilities to provide whole-building data to owners who request it. This permissive data request process covers more buildings than the benchmarking transparency program, has no restrictions according to building size, and, importantly, owners may use the information for different purposes in addition to benchmarking. Accordingly, we provide separate recommendations for Whole-Building Data Access (**Section 2**) and Statewide Benchmarking and Transparency (**Section 3**). We recommend the streamlining of tenant permission also be within scope of this proceeding, but addressed at a later phase (**Subsection 2.7**).

In addition, we note that AB 802 (in Section 3 – Pub. Resources Code Section 25303) includes provisions to increase the granularity of the Energy Commission's demand forecast. We recognize the importance of meter data for grid planning but encourage the Energy Commission to limit the scope of this first 2016 AB 802 rulemaking to whole-building data access and energy benchmarking and transparency as described above.

## **1.2 California would benefit from adopting national best practices for building energy benchmarking and transparency, such as using EPA's ENERGY STAR® Portfolio Manager.**

Portfolio Manager is the industry standard tool for measuring energy performance and comparing building performance with similar facilities nationwide. All cities and counties with mandatory benchmarking policies require the use of Portfolio Manager. As of 2014, nearly 50,000 California buildings were benchmarked using EPA's ENERGY STAR Portfolio Manager online tool, a 27 percent increase in the number of buildings benchmarked using Portfolio Manager as compared to 2013.<sup>4</sup> Compared to other states, California has the largest number of buildings benchmarking in Portfolio Manager with one the highest growth rates in additional buildings added to the tool from 2013-2014. California's metropolitan areas also show strong growth in benchmarking activity. As of 2014, the total number of buildings benchmarked in Portfolio Manager within the Los Angeles, San Diego, San Francisco, Sacramento, San Jose, Fresno, and the Riverside metro areas grew by 18-35 percent as compared to 2013.

It is clear that Portfolio Manager has market uptake in California for measuring and managing energy use in buildings.

In addition, benchmarking in Portfolio Manager is required for LEED® for Existing Buildings Operations & Maintenance certification to demonstrate Minimum Energy

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<sup>4</sup> ENERGY STAR 2014 Snapshot. United States Environmental Protection Agency. [http://www.energystar.gov/buildings/tools-and-resources/energy\\_star\\_2014\\_snapshot](http://www.energystar.gov/buildings/tools-and-resources/energy_star_2014_snapshot).

Performance, a required credit, and Optimize Energy Performance. Benchmarking results from Portfolio Manager are also a core component of GRESB ([www.GRESB.com](http://www.GRESB.com)) reporting and have been integrated into ongoing energy and carbon reporting for building management, owner, and investor companies as a best practice.

California's benchmarking program will have better results for compliance and data quality if Portfolio Manager and standard benchmarking practices are used. Building owners and operators have emphasized that statewide, regional, and national consistency in policies is critical for the success of benchmarking as a tool to improve energy management and drive investments in energy upgrades. Using Portfolio Manager for benchmarking and reporting is a shared characteristic of all benchmarking policies, and the Collaborative strongly urges the Energy Commission to maintain this consistency by: 1) using Portfolio Manager as the tool for building benchmarking and reporting; and 2) utilizing best practices for benchmarking and reporting (discussed in **Section 3**). Consistency is the key to market transformation within national (and international) markets and, in adopting national best practices discussed in these comments, the Energy Commission will build on the solid foundation for building energy benchmarking and transparency programs that has been laid by local governments.

Although the Collaborative strongly supports the use of Portfolio Manager for the Energy Commission's statewide benchmarking and transparency program, we recognize that there are many energy management tools used in the marketplace that exchange customer data with Portfolio Manager or use spreadsheet data provided by utilities. These service providers will help turn energy data into efficiency upgrades, and we discuss the importance of making data available in multiple formats to enable the use of these tools in **Section 3**.

### **1.3 The Energy Commission should prioritize critical items in the scope of the 2016 AB 802 rulemaking and build in flexibility to refine the program over time.**

The Collaborative encourages the Energy Commission to include the following items in the scope for the 2016 AB 802 rulemaking, and recommends whole-building data be prioritized to ensure establishment of timely data access, followed immediately by benchmarking regulations:

1. Whole-Building Data Delivery
  - a. Define eligible buildings
  - b. Provide statewide guidance on how utilities deliver usage information to owners so that the processes are as simple and standardized as possible

- i. Specify required delivery formats (e.g., Excel CSV and Portfolio Manager)
- ii. Specify data fields utilities must provide upon request
- iii. Specify how the authorization process will work for owners, operators, and designated agents
- iv. Provide guidance on the frequency of requests, time period of provided data, and options for continuous downloads
- c. Provide guidance and establish mechanisms to support timely and accurate utility meter mapping and ongoing data quality validation
- d. Provide guidance on terms for owner use of data
- e. For owners seeking access to both tenant-specific and whole building usage information, coordinate and streamline verification and data delivery processes
- f. Suggested for Phase II: Streamlining procurement of tenant consent

## 2. Statewide Benchmarking and Transparency

- a. Define basic terms, including a definition for eligible buildings
- b. Establish type of benchmark scoring and reporting tool(s)
- c. Phase-in of buildings
- d. Reporting responsibility
- e. Reporting deadlines
- f. Data transparency timeline and format
- g. Enforcement
- h. Data quality procedures
- i. Technical assistance and outreach

In addition, the Collaborative encourages the Energy Commission to begin outreach and Portfolio Manager training for stakeholders across the State in 2016.

## **Section 2: Delivery of whole-building usage information (WBUI) to building owners**

**2.1 In general, the Commission should focus on streamlining the process for the owner to obtain the information so that benchmarking buildings does not include unnecessary transaction costs.**

Access to WBUI provides significant standalone benefits, in addition to enabling building owners/operators to benchmark their properties. WBUI enables: 1) Assessment and

financing of efficiency and solar investments; 2) participation in grant and incentive programs, especially for affordable building owners; 3) tracking and verifying energy savings; 4) calibrating utility allowance models; and 5) promoting behavior change, among other benefits.

The Collaborative recommends that the Energy Commission streamline the process for building owners/operators to obtain WBUI from their utility to the greatest extent feasible, while ensuring the quality of collected data. We provide these Whole-Building Data Access recommendations for the Energy Commission's consideration:

## **2.2 Define eligible buildings.**

We recommend the Commission provide a clear statement of which buildings qualify to receive WBUI without the utility verifying that the owner has obtained permission from individual customers.

AB 802 stipulates that utilities must deliver WBUI to the owner of: (a) any commercial building with three or more accounts; and (b) any mixed-use or residential building with five or more accounts.

For ambiguous cases (such as where multiple buildings share a meter or two buildings are connected with one covered roof) we recommend the Energy Commission issue general guidance in line with the legislative intent that utilities provide whole-building data to the greatest extent possible.

## **2.3 Provide statewide guidance on how utilities deliver usage information to owners so that the processes are as simple and standard as possible across utility service territories.**

### **2.3.1 Specify required delivery formats (e.g., Excel CSV file and Portfolio Manager).**

AB 802 states that utilities shall "deliver or otherwise provide aggregated energy usage data for a covered building to the owner (or owner's agents) or to the owner's account in ENERGY STAR Portfolio Manager."<sup>5</sup> We strongly recommend the Energy Commission require utilities to implement the necessary systems to provide owners the option to receive an Excel-compatible CSV file and, where practical, directly transmit energy usage data to Portfolio Manager using web services.<sup>6</sup>

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<sup>5</sup> Cal. Pub. Resources Code Section 25402.10(c)(1).

<sup>6</sup> The Collaborative recognizes that it may not be practical or necessary for the smallest municipal or public utilities to implement Portfolio Manager web services.



### **2.3.2 Specify data fields utilities must provide upon request.**

AB 802 requires utilities to deliver whole-building utility data to owners or their agents and also states that “the Commission may specify additional information to be delivered by utilities to enable building owners to complete benchmarking of the energy use in their buildings and in other systems or formats for information delivery and automation.”<sup>7</sup>

We recommend the Energy Commission specify the minimum amount of information utilities must share with owners when they receive an aggregated energy usage data request. We further recommend the Energy Commission consider the following metrics for utility reporting:

- Fuel type, usage type (kwh/therms), total cost (encouraged), start-end dates (corresponding to billing period), and all relevant addresses.
- Where aggregation rules are met, report commercial and residential usage by fuel type in separate fields. Where such a breakdown causes the minimum number of accounts to not be met, aggregate and report the building total rather than failing to provide WBUI

### **2.3.3 Specify how the authorization process will work for owner/owner’s third-party agent/operator WBUI data requests.**

AB 802 requires utilities to provide aggregated energy usage data “upon the request and written authorization or secure electronic authorization of the owner, owner’s agent, or operator of a covered building.”<sup>8</sup> We recommend the Energy Commission provide guidance on the authorization process to ensure the process of requesting and receiving data is both streamlined and standardized to the greatest extent possible across utility service territories. We specifically recommend that the Energy Commission:

- Ensure the utilities’ mechanism of verifying the eligibility of a requestor to receive WBUI is streamlined and consistent statewide and accommodates the full range of requestors cited in the law -- i.e., owner, owner’s agent, and operator. We specifically recommend the Energy Commission require an owner registration processes that can be completed online, with reasonable fields for utilities to verify the requesting party is the property owner, operator, or an authorized agent<sup>9</sup>;

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<sup>7</sup> Cal. Pub. Resources Code Section 25402.10(c)(1).

<sup>8</sup> Cal. Pub. Resources Code Section 25402.10(c)(1).

<sup>9</sup> See AB 802 Section 1: “It is the intent of the Legislature to support strategies that enhance energy efficiency. Building owners should have access to their buildings’ energy usage information, which enables understanding of a building’s energy usage for improved building management and investment decisions.”

- Direct utilities to use a standard online form for owners to request WBUI, such as a single, statewide user-interface (UI) so that owners of multiple properties can use a single login and designate multiple buildings on a single form, a service currently offered by ComEdison. We recommend the Energy Commission facilitate a collaborative process towards this end;
- If a single online UI is not used, the Energy Commission should explore requiring standard authorization fields across utility service territories, at a minimum; and
- Utilities should implement processes that result in greater than 90% of owner requests being processed in no more than two weeks.<sup>10</sup>

#### **2.3.4 Provide guidance on the frequency of requests, time period of provided data, and options for continuous downloads.**

AB 802 requires utilities to deliver information showing the aggregated energy usage data for each of the 12 prior months, upon the request of an owner or owner's agent.<sup>11</sup> We recommend the Energy Commission set standards for: 1) the frequency with which owners have to request data (ideally, once); and 2) the amount of past data utilities provide.

Many owners need continuous monthly data to assess their buildings' energy performance over time. We therefore highly recommend utilities provide an option to provide whole building data continuously when initially authorizing an owner or agent, similar to PG&E's current policy for providing ongoing monthly data where tenant consent has been established. We further urge the Energy Commission to require or encourage utilities to provide a monthly update to owners who request continuous data.

We also recommend the Energy Commission specify that while utilities must (at a minimum) provide a full year's worth of data, they are encouraged to provide building owners with information for a longer period if owners request it, e.g., up to three years of historical data .

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<sup>10</sup> Cal. Public Resources Code Section 25402.10(c)(2)(C) establishes a minimum of four weeks. We recommend the Commission require a two-week turn around for the majority of owner WBUI requests, e.g., 90% of requests.

<sup>11</sup> Cal. Public Resources Code Section 25402.10(c)(2)(A)

## **2.4 Provide guidance and establish mechanisms to support timely and accurate utility meter mapping—and ongoing data quality validation.**

AB 802 sets a January 1, 2017 deadline for utilities to provide WBUI to owners.<sup>12</sup>

Recognizing that doing so will require systems work by utilities (e.g., mapping meters to buildings), we recommend project milestones be established. We also suggest the Commission:

- Continue collaboration between the Energy Commission, U.S. EPA, U.S. DOE, academics, and others to provide support to utilities, including building upon lessons learned in the DOE Better Buildings Energy Data Accelerator;
- Enlist a sampling of cities and property owners in different sectors at the earliest possible, e.g., Q2 2016, to test and iteratively improve WBUI requests and delivery systems. Continue this system testing at regular intervals;
- Testing to assure utilities can identify property addresses for all customer accounts and meters. The goal is to enable independent verification that all meters serving the building are included in a given report;
- Verify a process exists to capture new accounts and buildings over time; and
- Ensure that energy data is maintained when an account is closed and the data continues to be associated with a building and available as WBUI to subsequent owners.

## **2.5 Include terms for owner use of data.**

The Energy Commission should make express in its regulations that utilities may not impose additional restrictions or conditions on the building owner's use of WBUI when the information is delivered to building owners, as authorized by AB 802.<sup>13</sup>

## **2.6 For owners seeking access to both tenant-specific and WBUI data, coordinate and streamline verification and data delivery processes.**

Some building owners will want access to both WBUI and tenant-specific data, which is currently available to owners if they procure tenant consent. We recommend the

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<sup>12</sup> Cal. Public Resources Code Section 25402.10(c)(1)

<sup>13</sup> Cal. Public Resources Code Section 25402.10(c) (2) (A) provides that an owner "shall have no liability for any use or disclosure of aggregated energy usage data."

Energy Commission require utilities to offer one form or authorization process for both aggregated and tenant-specific data requests so that these two pathways do not become duplicative for owners.

**2.7 For buildings that fall below the aggregation thresholds and for owners seeking tenant-specific data with consent, include streamlining collection of tenant consent in the scope of the AB 802 rulemaking for a later phase.**

Utilities currently have generally applicable terms and conditions to provide a requesting party with energy usage information for specific customers so long as the recipient of the information (e.g., the building owner, or an energy auditor) is authorized by the customer to obtain the information. AB 802 provides the Energy Commission authority to provide regulations prescribing how utilities implement their current policies to share information with authorized parties who have customers' permission.<sup>14</sup> Such streamlining will be critical for buildings that fall below the aggregation threshold specified by AB 802 and for owners seeking tenant-specific data.<sup>15</sup>

However, providing building owners with WBUI is the primary task for utilities with the January 1, 2017 deadline and should remain the focus of the 2016 Phase 1 rulemaking for AB 802. Therefore, the Collaborative recommends that the Energy Commission include streamlining the authorized tenant-consent path for utility data within the scope of its AB 802 regulations and set a timeline to address these issues after the January 1, 2017 deadline for WBUI. We recommend the Commission issue another scoping request following completion of regulations addressing benchmarking and WBUI.

### **Section 3: Statewide Benchmarking and Transparency**

**3.1 Building energy benchmarking and transparency is a market-based pathway to increase the value of high-performance buildings and drive energy efficiency in commercial and multifamily buildings at scale.**

Energy benchmarking and transparency is a critical policy tool for transforming the real estate market into one that properly values energy efficiency. As benchmarking and transparency policies have become more common, building owners, tenants,

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<sup>14</sup> Cal. Public Resources Code Section 25402.10(f).

<sup>15</sup> Owners seek tenant data for a number of reasons, including: 1) tracking and verifying energy savings; 2) targeting energy efficiency upgrades; 3) calculating utility allowances at deed-restricted, low-income housing properties (now required as part of HUD guidance); and 4) participating in grant and incentive programs, especially for low-income housing owners.

governments, and the public have gained an improved understanding of building energy use. This understanding has already resulted in significant energy reductions and increased demand for energy-efficient properties.

Benchmarking and transparency policies carry a number of benefits. They draw building owners' attention to energy efficiency, resulting in behavioral and operational changes that bring immediate and low-cost reductions in energy consumption. They also empower consumers to more easily value building efficiency by improving their access to information about a building's energy use. This makes building performance more visible in the marketplace, which rewards owners of efficient buildings and encourages more owners to invest in their buildings' resource efficiency.

Evidence continues to accumulate showing that consistent energy benchmarking leads to reduced energy use and thus consumer savings. A 2012 U.S. EPA analysis of 35,000 benchmarked buildings found average annual energy savings of 2.4 percent. The analysis also found that buildings which had benchmarked for three straight years saved an average of 7 percent over the course of that time.<sup>16</sup> The EPA's findings are backed by the analyses of cities that have enacted benchmarking and transparency policies.

At the local level, New York City found that from 2010 through 2013, benchmarked buildings realized 5.7 percent energy savings, equating to total dollar savings of \$267 million.<sup>17</sup>

San Francisco saw similar results from benchmarking its municipal buildings. Between 2009, when benchmarking began, and 2013, San Francisco municipal buildings reduced their overall Energy Use Intensity (kBtu/sq. ft.) by 7.4 percent.<sup>18</sup> San Francisco commercial buildings that consistently complied with the city's benchmarking ordinance between 2010 and 2014 reduced their energy use by 7.9 percent and their source greenhouse gas emissions by 17 percent.<sup>19</sup>

Most recently, a 2015 study by Resources for the Future found that office buildings in New York, San Francisco, and Seattle that were covered by benchmarking laws spent about 3 percent less on utility bills than control buildings. The authors attributed these changes to increased attentiveness to energy performance among building owners.<sup>20</sup>

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<sup>16</sup> United States Environmental Protection Agency. October 2012.

[http://www.energystar.gov/ia/business/downloads/datatrends/DataTrends\\_Savings\\_20121002.pdf?3d9b-91a5](http://www.energystar.gov/ia/business/downloads/datatrends/DataTrends_Savings_20121002.pdf?3d9b-91a5). Accessed November 11, 2015.

<sup>17</sup> U.S. Department of Energy. "New York City Benchmarking and Transparency Policy Impact Evaluation Report." May 2015.

<http://energy.gov/sites/prod/files/2015/05/f22/DOE%20New%20York%20City%20Benchmarking%20and%20Transparency%20Policy%20Impact%20Evaluation....pdf>. Accessed October 25, 2015.

<sup>18</sup> 2013 Energy Benchmarking Report San Francisco Municipal Buildings. 2014.

<http://sfwater.org/modules/showdocument.aspx?documentid=6271> Accessed November 12, 2015.

<sup>19</sup> ULI Greenprint Center for Building Performance. San Francisco Existing Commercial Buildings Performance Report 2010-2014.

<http://uli.org/wp-content/uploads/ULI-Documents/SFenergybenchmarkingreport.pdf>. Accessed October 29, 2105

<sup>20</sup> Palmer, Karen and Margaret Walls. "Does Information Provision Shrink the Energy Efficiency Gap?" Resources for the Future. 2015.

<http://www.rff.org/files/sharepoint/WorkImages/Download/RFF-DP-15-12.pdf>. Accessed November 4, 2015.

A benchmarking and transparency policy can serve as the backbone of a strong energy services market. Once a policy is in place and building performance information is available, owners and energy services vendors will have a better understanding of which buildings present the best opportunities for energy upgrades and operational changes to improve efficiency.

To the extent that a benchmarking and transparency policy catalyzes the development of a strong market for building energy services, jurisdictions can expect to see significant positive impacts on their economies through deeper energy savings, reduced emissions, improved health, and job growth. Effective benchmarking policies that cover a substantial portion of a region's building stock, such as those of the state of California, should lead to a widespread increase in building performance investments, creation of many jobs for trained workers, performance of energy audits, retro-commissioning of base building systems, and installation of upgraded systems and equipment.

Therefore, the Collaborative provides these Statewide Benchmarking and Transparency recommendations for the Energy Commission's consideration:

### **3.2 Maintain the role of building owners/operators in building benchmarking.**

Building owners and/or managers are the key actor(s) for energy benchmarking and reporting. It is building owners or managers (or an energy service provider hired by the owners or managers) who enter building characteristic data and energy use data into Portfolio Manager and, through this process, have access to building energy performance data. Engaging building owners and service providers also allows them to review utility-provided energy use data and validate its accuracy.

If owners/operators are circumvented, the contextual data describing occupant density, operating hours, and similar characteristics unknown to the utility will not be reliable and the resulting information will lose relevance for the individual owner/operator. This would severely undermine and potentially nullify the linkage between benchmarking and transparency with improvements in energy management as well as use of the data by owners/operators to prioritize energy upgrades. This data is likely to be considered to be so inaccurate and unreliable that we believe it will be ignored by the tenants, researchers, building owners, property managers and operators, public agencies, and investors who are the targeted consumers of this information.

### 3.3 Define “covered buildings” to include garden-style apartments and other multi-unit properties.

We look forward to working with the Energy Commission on a consistent definition of covered buildings, which should be flexible enough to accommodate multiple non-contiguous structures on a single tax lot with common ownership or management, as well as contiguous structures with common energy-using systems or metering that span multiple tax lots.

### 3.4 Phase-in reporting requirements by building size.

The Collaborative suggests that reporting requirements be phased in over a two-year period based on best practices established by local governments.

A phased roll-out provides a longer runway for training and outreach which has been shown to improve compliance rates and yield higher quality data. Experience in other locations has shown that the nature of the building owners, and therefore the types of trainings and resources needed, varies based on the size of the buildings. Segmenting the total market will allow the State to develop more targeted outreach and support programs, which will ultimately lead to higher compliance rates.

Phasing in the program also provides an opportunity to test and fine-tune the data management infrastructure that will be needed for full program deployment with a smaller subset of buildings.

The Collaborative proposes that government-owned buildings be benchmarked in 2016, before the reporting requirements apply to private buildings. This allows public agencies to demonstrate leadership by example and defuse some of the potential resistance that could come from private building owners who are not fully convinced of the rationale for this program. **Table 1** summarizes our suggested schedule:

Reporting Timeline	Government Buildings	Commercial/Multifamily Buildings
Year 0, 2016	≥50,000 square feet	
Year 1, 2017	≥20,000 square feet	≥200,000 square feet
Year 2, 2018		≥50,000 square feet

**Table 1. Proposed schedule for phasing in reporting requirements.**

The threshold levels used by many previous programs are 200,000 square feet, 100,000 square feet, and 50,000 square feet.<sup>21</sup> The members of the Collaborative recognize that the Energy Commission and stakeholders are eager to expedite statewide benchmarking and reporting and have therefore proposed a condensed schedule for a two-year rather than a three-year, phase-in.

Some other jurisdictions have chosen to have separate reporting deadlines for residential properties. This was due largely to the historic challenges with acquiring WBUI for large multifamily properties. Since AB 802 addresses this challenge, we do not recommend treating residential properties differently than commercial properties.

### **3.5 Accept reports from building owners or authorized agents.**

We recommend that the Energy Commission adopt a flexible definition of “building owner” for the purpose of compliance with statewide benchmarking and reporting requirements. An “owner” means any of the following:

- a. An individual or entity possessing title to a covered property;
- b. The net lessee in the case of a property subject to a triple net lease with a single tenant;
- c. The net lessee in the case of a building subject to a net lease with a term of at least 49 years;
- d. The board of managers in the case of a condominium;
- e. The board of directors in the case of a cooperative apartment corporation;
- f. An agent authorized to act on behalf of any of the above.

### **3.6 Use Portfolio Manager and other standard tools for annual reporting.**

The Collaborative suggests that the Energy Commission require annual reporting from covered buildings by a set date as early in the year as feasible, but no later than April or May. Timely reporting is necessary so that the previous calendar year’s data is made available and can influence investment decisions as soon as possible. Delaying the process increases the likelihood that the data will be viewed as stale and irrelevant for decision making. This deadline should ideally be aligned with the reporting dates of any cities that have enacted their own local polices. Furthermore, EPA schedules regular

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<sup>21</sup> AB 802 references the intent of the legislature to cover buildings over 50,000 square feet as part of its benchmarking program; however this is not a requirement in the legislation itself. The Energy Commission should maintain the flexibility to include buildings below this threshold in the future.



software updates to occur outside of the spring season so as not to interfere with state and local benchmarking deadlines. Acquiring energy use data from utilities has historically been the most challenging aspect of benchmarking a building, particularly where there are many meters serving a single building. Since AB 802 includes provisions for access to WBUI, submission of reports by April or May is a reasonable expectation.

Benchmarking data should be submitted electronically by the building owner or authorized agent using ENERGY STAR Portfolio Manager, and the reporting process should be designed to be as efficient and convenient as possible. Portfolio Manager provides the ability to design custom reporting templates, wherein the Commission can determine which data fields will be included with a submission, and the values of those fields are automatically filled in with the data in the tool. The Energy Commission should coordinate with cities that have their own benchmarking reporting requirements so that a building owner can select one reporting template and submit a single report to fulfill their requirements through an entirely electronic process. This will not only reduce demands on the building owners but will also minimize the potential for errors caused by differences in the data reported. To this end, the Energy Commission should ensure that the choice of data fields collected at the state level does not place limitations on the data fields that cities are able to collect through their own requirements.

Once the statewide benchmarking program is fully established, the Energy Commission may also consider giving building owners the ability to submit results from the DOE's Building Energy Asset Score tool.<sup>22</sup> An asset score provides comparative data on the efficiency of a building's design while an ENERGY STAR score rates the energy intensity of a given building.<sup>23</sup> The Asset Score would provide helpful information to identify where equipment improvements might be needed as opposed to operational and behavioral improvements.

The DOE is developing a "light" version of the Asset Score, which would require little time for each building owner to complete, but would still provide additional insights on the energy efficiency of a building's physical characteristics and major energy-related systems. Use of the Asset Score tool should be considered in addition to, rather than in lieu of, using Portfolio Manager. The Asset Score could also be phased in over a longer time-frame, e.g., five to ten years or apply to a subset of buildings, e.g., new construction.

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<sup>22</sup> Consideration of an asset score is arguably within scope of AB 802, and clearly within the Commission's authority under AB 758. AB 802 (section 5 (A)(1)) defines benchmark as obtaining "information on the energy use in an entire building for a specific period to enable that usage to be tracked or compared against other buildings." An asset rating provides comparative information on the equipment through which energy is consumed. AB 802 Section 5 (d)(2)(B) further gives the Commission authority to collect covered building characteristic information for the purposes of benchmarking. The Energy Commission has additional authority under AB 758 (California Public Resources Code Section 25493) to require energy ratings, benchmarking or building assessments, among other tools to improve the energy efficiency of existing buildings.

The Collaborative encourages the Energy Commission to develop a data management infrastructure that can be used for storing the State's data, as well as data submitted by building owners to comply with the requirements of cities within the State. The DOE's Standard Energy Efficiency Data (SEED) platform, which has been developed as an open source solution to allow jurisdictions to collect and store large sets of building performance data, should be strongly considered for adoption as the State's tool. SEED is able to maintain protected subsets of data, password protected at the field or record level, which would allow individual cities to use the State's SEED platform for their benchmarking-related data management, but with access only to their own records. Energy Commission staff would be able to access all building records across the State without requiring duplicate reporting from building owners in cities with benchmarking policies. In addition, the Collaborative encourages the Energy Commission to allow individual jurisdictions to maintain city-specific data sets on their own local platforms if they wish, as long as that data is synchronized with the state platform.

**3.7 Refer to benchmarking metrics that are collected and made public by local governments when determining which metrics the Energy Commission will publicly report.**

**Appendix 1** catalogs all data fields collected to date by city governments across the country through benchmarking ordinance reporting in Portfolio Manager.<sup>24</sup> The subset of fields collected by each individual government differs. Cities collect a greater number data fields than are publicly released (**Appendix 2**) to enable review of data completeness and quality against public records and to enable robust analysis.

**Appendix 2** lays out all energy performance metrics that have been publicly released to date by jurisdictions with benchmarking and transparency laws. California should strive for consistency with other jurisdictions. At a minimum, publicly reported information should include:

**a) Descriptive information**

1. Property address
2. Primary use type
3. Gross floor area as defined by ENERGY STAR Portfolio Manager's glossary;
4. kWh and therm total for the building

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<sup>24</sup> **Appendix 1** reflects metrics that were collected by cities in 2015. Cities may collect a different set of fields in 2016 and beyond due to changes in Portfolio Manager, such as the addition of new fields. **Appendix 2** reflects fields that were publicly reported in 2015, which are also subject to change over time.

**b) Benchmarking information**

1. Site energy use intensity (Site EUI)
2. Source energy use intensity (Source EUI)
3. Weather normalized site energy use intensity
4. Weather normalized source energy use intensity
5. Total annual greenhouse gas emissions
6. The ENERGY STAR score, where available

**c) Compliance or noncompliance with the ordinance.****3.8 Release building-level benchmarking information in the second year of reporting.**

Cities such as Chicago, New York, and Boston have demonstrated the benefits of making building benchmarking data public the second year of reporting, as shown in **Table 2**. This schedule sends a strong signal to buildings owners to improve performance between the first and second years of reporting and provides a “hook” for tenant engagement and catalyzing investments in efficiency.

Public Reporting	First Submitted to the Energy Commission		Data Posted to Public Web Site	
	Government Buildings	Commercial/MF Buildings	Government Buildings	Commercial/MF Buildings
Year 0, 2016	≥50,000 square feet			
Year 1, 2017	≥20,000 square feet	≥200,000 square feet	≥50,000 square feet	
Year 2, 2018		≥50,000 square feet	≥20,000 square feet	≥200,000 square feet
Year 3, 2019				≥50,000 square feet

**Table 2. Proposed schedule for phasing in the collection and public release of data.**

Per this proposal, each year of data should still be analyzed and a report should be published with findings from the first year in aggregate, but building-level data would only be published for public consumption in the second year of reporting.

### 3.9 Release actionable information in a number of formats.

To increase awareness of energy efficiency opportunities and help drive the desired improvements, the Energy Commission should release the annual benchmarking results in a number of different formats targeting different needs and audiences. Some of the approaches that other jurisdictions have successfully deployed include the following:

#### a) Annual summary reports

Each year, the Energy Commission should publish a report on the benchmarking of all covered properties, including an assessment of compliance rates, an assessment of accuracy and issues affecting accuracy, summary energy and water consumption statistics, and trends observed, including an assessment of changes across the portfolio over time. Annual summary reports of this type have been prepared by a number of cities, including Boston, Chicago, Minneapolis, New York City, Philadelphia, San Francisco, and Seattle.

#### b) Data visualization

For the market to respond to information about how buildings are performing, the information must be presented in a very visual and compelling format. In addition to making the publicly shared performance data for all reporting buildings available in a downloadable tabular or spreadsheet format, the Energy Commission should also display the information on a data visualization portal -- an interactive map that displays building performance attributes and other relevant metrics in an easily accessible and engaging manner. Numerous cities and their partners have developed data visualization websites, including the examples below:

Boston:

<http://boston.maps.arcgis.com/apps/webappviewer/index.html?id=049576c7287f4ee09bcb0a062e43b55c>

Chicago: <http://cityenergyproject->

[chicago.herokuapp.com/#chicago/2015?layer=energy\\_star\\_score&metrics\[\]=energy\\_star\\_score&sort=energy\\_star\\_score&order=desc&lat=41.8843&lng=-87.6325&zoom=11](http://cityenergyproject-herokuapp.com/#chicago/2015?layer=energy_star_score&metrics[]=energy_star_score&sort=energy_star_score&order=desc&lat=41.8843&lng=-87.6325&zoom=11)

New York City: <http://metered.urbangreencouncil.org/>

Philadelphia: <http://visualization.phillybuildingbenchmarking.com/#/>

### c) **Building performance scorecards**

Finally, several cities, including Chicago, Philadelphia, and Seattle, send individualized scorecards to each building owner, describing how the performance of their buildings compares to peers within the same geographic area and market sector. These scorecards typically include targeted messages, such as a congratulatory message for buildings performing in the top quartile, or a list of resources and service providers that should be considered for buildings performing in the lowest quartile.

### **3.10 Work with local governments to harness on-the-ground experience and adopt enforcement procedures.**

California has the benefit of two jurisdictions with existing benchmarking laws – San Francisco and Berkeley – and should harness existing on-the-ground experience implementing benchmarking ordinances. Furthermore, we recommend that the State continue enlisting aid and coordinating with the numerous cities that are currently engaging stakeholders to develop local policies.

The Energy Commission can engage with these local jurisdictions to partner on enforcement of local benchmarking laws that are consistent with AB 802 and to encourage cities to engage the owners and operators of facilities below 50,000 square feet.

Similarly, we recommend taking advantage of the presence and partnership of the national laboratories, which have been actively engaged by the DOE in supporting research and software development.

The Collaborative applauds the Energy Commission's vision for the Local Government Challenge and similar efforts to effectively elicit leadership and action from cities.

### **3.11 Develop protocol to ensure data quality.**

Successful benchmarking programs must minimize inaccuracies in the building and energy data they collect. Manual data entry of energy consumption data is prone to data entry errors, such as missing meters. As utilities meet their obligations for provision of energy use data under AB 802, the relative importance of ensuring that complementary data about building characteristics and operations are accurate and complete increases.

To address this concern, establishment of a data verification process is considered a best practice to improve the confidence of both the public institutions administering the programs and the owners and markets the data is intended to inform.

At a minimum, the Energy Commission should require owners to run the automated data checking function built into Portfolio Manager, which flags typos, possible incorrect meter readings, missing information, and similar common problems. Any errors discovered should be required to be corrected before a report is accepted as compliant with AB 802; where such errors are not corrected prior to submittal, the Energy Commission should allow owners to amend and submit updated benchmarking reports within 30 days of being notified electronically of any inaccuracy.

Additionally, the Energy Commission may consider requiring that benchmarking be periodically performed, or verified, by a qualified individual in order to improve data accuracy. Such an individual or entity would ideally possess relevant training, a professional license or the “Certificate of Proficiency in Benchmarking” online training recently launched by the Department of Energy, Environmental Protection Agency, the New Jersey Institute of Technology, and City Energy Project. The training is regularly updated and includes a recertification protocol.

### **3.12 Provide benchmarking technical assistance and supporting resources to ensure high compliance and data quality.**

The importance of adequate support resources, including technical assistance, trainings, How-To Guides, and other materials, to the success of a benchmarking program cannot be overstated. The Collaborative recommends that the Energy Commission develop a statewide Benchmarking Help Center that provides in-person hands-on benchmarking trainings throughout the State and web-based training for building owners, managers, and interested stakeholders.

The Benchmarking Help Center can produce reference documents to answer FAQs based on common issues and would also be available via email and a hotline number to provide assistance, ideally starting no later than Q3 2016. This strategy has been implemented in other jurisdictions with successful benchmarking and transparency ordinances, such as Washington, DC, Seattle, San Francisco, and New York City, and has been shown to boost compliance rates, increase building owner satisfaction, and improve data quality. This recommendation has been strongly supported by building owner/management groups who prefer a statewide, centralized resource for information and assistance.

Education materials to answer questions regarding access to WBUI will also be important. Whether or not this is a function the Benchmarking Help Center needs to be determined.

### **3.13 Employ best practices to maximize overall program success.**

The Collaborative provides these best practices that have helped other jurisdictions deploy benchmarking programs for the Energy Commission's reference and consideration:

- **Establish an implementation advisory group**

A formal or informal advisory group can guide the Energy Commission's efforts to implement the law. The advisory group can provide input on the design of implementation activities and support the execution of such activities including education, benchmarking training, program outreach, compliance resource development, and data analysis. The group should represent key stakeholder segments such as commercial and multifamily real estate ownership and management, local governments, energy efficiency service providers, labor groups, environmental nonprofits, professional associations, universities, and utilities.

- **Create a benchmarking website**

A benchmarking website is an important tool to provide useful information on the program. Answering common questions on a benchmarking website can reduce the frequency and length of help center responses, and reduce benchmarking training requirements. It is recommended that the website go live to the public at least 6 to 12 months before the initial compliance deadline. The website should be considered a living document that is regularly reviewed and updated.

- **Notify owners of covered buildings**

If possible, the Energy Commission or another party should attempt to notify covered buildings of their initial obligation to comply. This can be done via:

- a) Direct mail – Notify building owners through direct mailings, about 4–6 months before the first reporting deadline. To keep the costs of the mailings down, the Energy Commission could include the notice in regular mailings that are already being sent out, such as tax bills.
- b) Official Energy Commission Benchmarking Website – Covered buildings may be posted on the benchmarking website.

- c) Email Campaigns – Official emails from the Energy Commission are another effective means of notifying building owners about compliance deadlines, and other useful resources like how-to guides, trainings, and education materials. Initially, email can be distributed via affected trade organizations, utilities, and possibly local government communication channels. Once a given facility has complied, Energy Commission can use the email for the party responsible for benchmarking the facility to engage in targeted and bulk personalized communication (such as scorecards and reminders about upcoming deadlines).

- **Develop compliance materials**

As noted above, compliance resources will need to be developed for affected stakeholders on how to benchmark, secure building energy data from utilities, verify the data, and submit information to the Energy Commission. Compliance resources may include:

- a) A compliance "guide" to walk owners/property managers through the compliance process. Screenshots of how to provide data to the Energy Commission and other key steps are encouraged.
- b) A short compliance checklist and high-level overview that visually lays out the entire process in 1–2 pages and/or a short series of steps.
- c) FAQs and/or a fact sheet on the law, who is required to comply, and how to comply.

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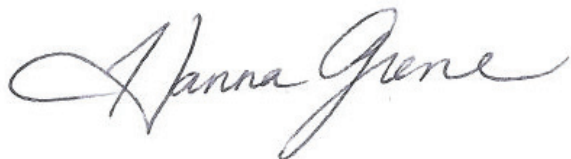
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On behalf of the Collaborative members, CSE thanks the Energy Commission for the opportunity to provide comments in response to the scoping questions provided at the recent staff Building Energy Use Benchmarking and Public Disclosure workshop. We look forward to continuing to engage with the Energy Commission in support of whole-building data access and developing a statewide benchmarking program.

Submitted on behalf of the CA Benchmarking Collaborative.

Regards,

A handwritten signature in cursive script that reads "Hanna Grene". The signature is written in black ink and is positioned below the "Regards," text.

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# **APPENDIX 1**

## **Building Energy Benchmarking Metrics Collected by Local Governments, 2015**

Local Government Energy Benchmarking and Transparency Policy 2015 Data Collection Fields (prepared 12/21/2015)

		Austin	Boston	Chicago	Minneapolis	New York City	Philadelphia	San Francisco	Atlanta	Washington, DC	Cambridge	Seattle
Added to Data Request Templates Automatically	Email	x	x	x	x	x	x	x	x	x	x	x
	Generation Date	x	x	x	x	x	x	x	x	x	x	
	On Behalf Of	x	x	x	x	x	x	x	x	x	x	x
	Organization	x	x	x	x	x	x	x	x	x	x	
	Parent Property Id				x	x	x	x	x	x	x	
	Parent Property Name				x	x	x			x	x	
	Phone	x	x	x	x	x	x	x	x	x	x	
	Property Id	x	x	x	x	x	x	x	x	x	x	x
	Property Name	x	x	x	x	x	x	x	x	x	x	x
	Release Date	x	x	x	x	x	x	x	x	x	x	
	Year Ending	x	x	x	x	x	x	x	x	x	x	
Property Information	Address 1	x	x	x	x	x	x	x	x	x	x	x
	Address 2	x	x	x	x	x	x	x	x	x	x	
	City	x		x	x	x	x	x	x	x	x	x
	Construction Status									x		x
	Country	x										
	County	x			x	x			x			
	Date Property Last Modified	x	x	x	x	x	x		x		x	
	Federal Agency/Department						x					
	Federal Region/Sub-Department						x					
	Metered Areas (Water)				x		x			x	x	
	Metered Areas (Energy)			x	x	x	x	x		x	x	
	National Median Reference Property Type	x	x	x	x	x	x	x	x		x	
	Number of Buildings	x	x	x	x	x	x	x		x	x	x
	Occupancy	x	x	x	x	x	x	x		x	x	
	Postal Code	x	x	x	x	x	x	x	x	x	x	x
	Primary Property Type - EPA Calculated	x	x	x	x	x	x	x	x	x	x	
	Primary Property Type - Self Selected	x	x	x	x	x	x	x	x	x	x	
	Property Data Administrator	x	x	x	x	x	x	x	x	x	x	
	Property Data Administrator - Email	x	x	x	x	x	x	x	x	x	x	
	Property GFA - EPA Calculated (Buildings and Parking) (ft²)	x	x	x	x	x	x	x	x	x	x	
	Property GFA - EPA Calculated (Buildings) (ft²)	x	x	x	x	x	x	x	x	x	x	x
	Property GFA - EPA Calculated (Parking) (ft²)		x	x	x		x	x		x	x	
	Property Notes	x	x	x	x			x	x	x	x	x
	Service and Product Provider		x	x		x	x			x	x	
	State/Province	x			x		x	x			x	x
	Third Party Certification		x							x		
	Third Party Certification Date Achieved		x									
	Year Built	x	x	x	x	x	x	x	x	x	x	x
	Primary Property Type - EPA Calculated											x
Property ID Numbers	Atlanta Building ID								x			
	Austin Building ID	x										
	Austin Property ID	x										
	Boston Energy Reporting ID		x									
	Cambridge Building Energy Reporting ID										x	
	Chicago Energy Benchmarking ID			x								
	CoStar Property ID					x						x
	Custom Property ID 1 - ID	x						x		x		
	Custom Property ID 1 - Name	x						x				
	Custom Property ID 2 - ID	x										
	Custom Property ID 2 - Name	x										
	District of Columbia Building Unique ID										x	
	District of Columbia Real Property Unique ID										x	
	LEED US Project ID				x	x					x	
	Minneapolis Building ID				x							
	Minneapolis Property ID (PID)				x							
	NYC Borough, Block and Lot (BBL)					x						
	NYC Building Identification Number (BIN)					x						
	Philadelphia Building ID						x					
	San Francisco Building ID							x				
ENERGY STAR Certification	ENERGY STAR Certification - Application Status					x					x	
	ENERGY STAR Certification - Eligibility		x	x	x	x			x	x	x	
	ENERGY STAR Certification - Last Approval Date			x		x					x	
	ENERGY STAR Certification - Next Eligible Date					x					x	
	ENERGY STAR Certification - Profile Published					x		x			x	
	ENERGY STAR Certification - Year(s) Certified		x	x	x	x	x	x	x	x	x	x

Local Government Energy Benchmarking and Transparency Policy 2015 Data Collection Fields (prepared 12/21/2015)

	Austin	Boston	Chicago	Minneapolis	New York City	Philadelphia	San Francisco	Atlanta	Washington, DC	Cambridge	Seattle
Energy Performance Metrics	Weather Normalized Source EUI (kBtu/ft <sup>2</sup> )										x
	Difference from National Median Site EUI			x	x	x	x				
	Difference from National Median Source EUI			x	x	x	x				
	Difference from National Median Water/Wastewater Site EUI			x							
	Difference from National Median Water/Wastewater Source EUI			x	x						
	Energy Baseline Date							x			
	Energy Current Date		x				x	x		x	
	ENERGY STAR Score	x	x	x	x	x	x	x	x	x	x
	National Median ENERGY STAR Score			x	x	x					
	National Median Site Energy Use (kBtu)			x	x	x				x	
	National Median Site EUI (kBtu/ft <sup>2</sup> )			x	x	x	x	x	x	x	x
	National Median Source Energy Use (kBtu)			x	x	x	x			x	
	National Median Source EUI (kBtu/ft <sup>2</sup> )			x	x	x	x		x	x	
	National Median Water/Wastewater Site EUI (kBtu/gpd)			x							
	National Median Water/Wastewater Source EUI (kBtu/gpd)			x							
	Site Energy Use (kBtu)		x	x	x	x			x	x	x
	Site EUI - Adjusted to Current Year (kBtu/ft <sup>2</sup> )						x				
	Site EUI (kBtu/ft <sup>2</sup> )	x	x	x	x	x	x	x	x	x	x
	Source Energy Use (kBtu)		x	x	x	x			x	x	x
	Source EUI - Adjusted to Current Year (kBtu/ft <sup>2</sup> )						x				
	Source EUI (kBtu/ft <sup>2</sup> )	x	x	x	x	x	x		x	x	x
	Water/Wastewater Site EUI (kBtu/gpd)									x	
	Water/Wastewater Source EUI (kBtu/gpd)									x	
	Weather Normalized Site Electricity (kWh)			x		x			x	x	x
	Weather Normalized Site Electricity Intensity (kWh/ft <sup>2</sup> )			x		x		x		x	x
	Weather Normalized Site Energy Use (kBtu)			x		x			x	x	x
	Weather Normalized Site EUI (kBtu/ft <sup>2</sup> )			x		x		x		x	x
	Weather Normalized Site Natural Gas Intensity (therms/ft <sup>2</sup> )			x		x		x		x	x
	Weather Normalized Site Natural Gas Use (therms)			x		x			x	x	x
	Weather Normalized Source Energy Use (kBtu)			x		x			x	x	x
	Weather Normalized Source EUI (kBtu/ft <sup>2</sup> )			x		x			x	x	
	Weather Normalized Water/Wastewater Site EUI (kBtu/gpd)									x	
	Weather Normalized Water/Wastewater Source EUI (kBtu/gpd)									x	
Energy Use by Fuel Source	Coal - Anthracite Use (kBtu)		x	x							x
	Coal - Bituminous Use (kBtu)		x	x							x
	Coke Use (kBtu)		x	x							x
	Diesel #2 Use (kBtu)		x	x	x	x			x	x	
	District Chilled Water Use (kBtu)		x	x	x	x			x	x	
	District Hot Water Use (kBtu)		x	x	x	x			x	x	
	District Steam Use (kBtu)		x	x	x	x			x	x	x
	Electricity Use – Generated from Onsite Renewable Systems and Used Onsite (kBtu)			x		x					x
	Electricity Use – Generated from Onsite Renewable Systems and Used Onsite (kWh)		x		x	x			x	x	x
	Electricity Use - Grid Purchase (kBtu)			x		x				x	
	Electricity Use - Grid Purchase (kWh)		x		x	x			x	x	x
	Electricity Use - Grid Purchase and Generated from Onsite Renewable Systems (kBtu)			x		x				x	
	Electricity Use - Grid Purchase and Generated from Onsite Renewable Systems (kWh)		x		x	x			x	x	x
	Fuel Oil #1 Use (kBtu)		x	x	x	x			x	x	
	Fuel Oil #2 Use (kBtu)		x	x	x	x			x	x	
	Fuel Oil #4 Use (kBtu)		x	x		x			x	x	
	Fuel Oil #5 & 6 Use (kBtu)		x	x		x			x	x	
	Kerosene Use (kBtu)		x	x	x				x	x	
	Liquid Propane Use (kBtu)		x	x	x	x			x	x	
	Natural Gas Use (kBtu)			x		x				x	
	Natural Gas Use (therms)		x		x	x			x	x	x
	Other Use (kBtu)		x	x	x	x			x	x	
	Propane Use (kBtu)		x	x	x	x			x	x	
	Wood Use (kBtu)		x	x		x			x	x	
Data Center Metrics	Data Center - IT Equipment Input Meter (kWh)			x		x			x		
	Data Center - IT Site Energy (kWh)		x	x		x			x		x
	Data Center - IT Source Energy (kBtu)		x	x		x			x		x



Local Government Energy Benchmarking and Transparency Policy 2015 Data Collection Fields (prepared 12/21/2015)

	Austin	Boston	Chicago	Minneapolis	New York City	Philadelphia	San Francisco	Atlanta	Washington, DC	Cambridge	Seattle
Default Data Flag - K-12 School				x		x					
Default Data Flag - Medical Office		x		x		x					
Default Data Flag - Multifamily						x			x		x
Default Data Flag - Non-Refrigerated Warehouse		x				x					
Default Data Flag - Office		x		x		x	x				x
Default Data Flag - Refrigerated Warehouse						x					
Default Data Flag - Residence Hall/Dormitory		x				x					
Default Data Flag - Retail Store				x		x	x				
Default Data Flag - Senior Care Community						x					
Default Data Flag - Supermarket/Grocery Store		x		x		x					
Default Data Flag - Wastewater Treatment Plant						x					
Default Data Flag - Wholesale Club/Supercenter				x		x					
Default Data Flag - Worship Facility						x					
Default Values	x	x	x		x	x	x	x	x	x	
Estimated Data Flag - Municipally Supplied Reclaimed Water – Outdoor Use					x						
Estimated Data Flag - Diesel			x								
Estimated Data Flag - District Chilled Water		x	x	x							
Estimated Data Flag - District Hot Water				x							
Estimated Data Flag - District Steam		x	x	x	x	x	x				
Estimated Data Flag - Electricity (Grid Purchase)		x	x	x	x	x			x	x	
Estimated Data Flag - Electricity (Onsite Solar)				x							
Estimated Data Flag - Fuel Oil (No. 2)		x			x	x					
Estimated Data Flag - Fuel Oil (No. 4)					x						
Estimated Data Flag - Fuel Oil (No. 5 and No. 6)					x						
Estimated Data Flag - Municipally Supplied Potable Water: Mixed Indoor/Outdoor Use						x			x	x	
Estimated Data Flag - Natural Gas		x	x		x	x			x	x	
Estimated Data Flag - Other				x							
Estimated Values	x	x	x		x	x	x	x	x	x	
Temporary Data Flag - Bank Branch				x							
Temporary Data Flag - College/University				x							
Temporary Data Flag - Data Center				x							
Temporary Data Flag - Enclosed Mall				x							
Temporary Data Flag - Fast Food Restaurant				x							
Temporary Data Flag - Financial Office				x			x				
Temporary Data Flag - Hospital (General Medical & Surgical)				x							
Temporary Data Flag - Hotel				x			x				
Temporary Data Flag - K-12 School				x							
Temporary Data Flag - Medical Office				x							
Temporary Data Flag - Office				x			x				
Temporary Data Flag - Other - Services				x							
Temporary Data Flag - Other - Utility				x							
Temporary Data Flag - Other/Specialty Hospital				x							
Temporary Data Flag - Outpatient Rehabilitation/Physical Therapy				x							
Temporary Data Flag - Parking				x							
Temporary Data Flag - Retail Store				x			x				
Temporary Values	x	x	x		x	x	x	x	x	x	
District Steam Cost (\$)					x						
Electricity (Grid Purchase) Cost (\$)					x						
Energy Cost (\$)					x						
Energy Cost Intensity (\$/ft²)					x						
Estimated Savings from Energy Projects, Cumulative (\$)					x						
Estimated Savings from Energy Projects, Cumulative (\$/ft²)					x						
Fuel Oil (No. 2) Cost (\$)					x						
Fuel Oil (No. 4) Cost (\$)					x						
Fuel Oil (No. 5 and No. 6) Cost (\$)					x						
Investment in Energy Projects, Cumulative (\$)					x						
Investment in Energy Projects, Cumulative (\$/ft²)					x						
Municipally Supplied Potable Water - Indoor Cost Intensity (\$/ft²)					x						
Municipally Supplied Potable Water: Mixed Indoor/Outdoor Cost (\$)					x						
National Median Energy Cost (\$)					x						
Natural Gas Cost (\$)					x						

Local Government Energy Benchmarking and Transparency Policy 2015 Data Collection Fields (prepared 12/21/2015)

	Austin	Boston	Chicago	Minneapolis	New York City	Philadelphia	San Francisco	Atlanta	Washington, DC	Cambridge	Seattle
Water/Wastewater Estimated Savings from Energy Projects, Cumulative (\$/GPD)					x						
Water/Wastewater Investment in Energy Projects, Cumulative (\$/GPD)					x						
Property Use Details											
Adult Education - Gross Floor Area (ft²)		x	x		x	x	x		x	x	
Ambulatory Surgical Center - Gross Floor Area (ft²)		x	x		x	x	x		x	x	
Aquarium - Gross Floor Area (ft²)		x	x			x	x		x	x	
Automobile Dealership - Gross Floor Area (ft²)		x	x		x	x	x		x	x	
Bank Branch - Gross Floor Area (ft²)		x	x		x	x	x		x	x	
Bank Branch - Number of Computers					x						
Bank Branch - Percent That Can Be Cooled				x			x				
Bank Branch - Percent That Can Be Heated				x			x				
Bar/Nightclub - Gross Floor Area (ft²)		x	x		x	x	x		x	x	
Barracks- Gross Floor Area (ft²)		x	x			x	x		x	x	
Bowling Alley - Gross Floor Area (ft²)		x	x			x	x		x	x	
Casino - Gross Floor Area (ft²)		x	x			x	x		x	x	
College/University - Enrollment			x								
College/University - Gross Floor Area (ft²)		x	x		x	x	x		x	x	
College/University - Number of Computers			x		x						
College/University - Number of Workers on Main Shift		x									
College/University - Weekly Operating Hours			x								
Convenience Store with Gas Station - Gross Floor Area (ft²)		x	x		x	x	x		x	x	
Convenience Store without Gas Station - Gross Floor Area (ft²)		x	x		x	x	x		x	x	
Convention Center - Gross Floor Area (ft²)		x	x		x	x	x		x	x	
Courthouse - Gross Floor Area (ft²)		x	x		x	x	x		x	x	
Courthouse - Percent That Can Be Cooled							x				
Courthouse - Percent That Can Be Heated							x				
Data Center - Cooling Equipment Redundancy		x			x				x		
Data Center - Gross Floor Area (ft²)		x	x		x	x	x		x	x	
Data Center - IT Energy Configuration		x			x				x		
Data Center - UPS System Redundancy		x			x				x		
Distribution Center - Gross Floor Area (ft²)		x	x		x	x	x			x	
Distribution Center - Number of Workers on Main Shift		x									
Distribution Center - Percent That Can Be Cooled							x				
Distribution Center - Percent That Can Be Heated							x				
Drinking Water Treatment & Distribution - Gross Floor Area (ft²)		x	x				x		x	x	
Enclosed Mall - Gross Floor Area (ft²)		x	x		x	x	x		x	x	
Energy/Power Station - Gross Floor Area (ft²)		x	x		x		x		x	x	
Fast Food Restaurant - Gross Floor Area (ft²)		x	x		x	x	x		x	x	
Financial Office - Computer Density (Number per 1,000 ft²)									x		
Financial Office - Gross Floor Area (ft²)		x	x		x	x	x		x	x	
Financial Office - Number of Computers					x				x		
Financial Office - Number of Workers on Main Shift		x			x				x		
Financial Office - Percent That Can Be Cooled				x			x		x		
Financial Office - Percent That Can Be Heated				x			x		x		
Financial Office - Weekly Operating Hours		x			x				x		
Financial Office - Worker Density (Number per 1,000 ft²)									x		
Fire Station - Gross Floor Area (ft²)		x	x			x	x		x	x	
Fitness Center/Health Club/Gym - Gross Floor Area (ft²)		x	x		x	x	x		x	x	
Food Sales - Gross Floor Area (ft²)		x	x		x	x	x		x	x	
Food Service - Gross Floor Area (ft²)		x	x		x	x	x		x	x	
Hospital (General Medical & Surgical) - Full Time Equivalent (FTE) Workers Density (Number per 1,000 ft²)					x						
Hospital (General Medical & Surgical) - Gross Floor Area (ft²)		x	x		x	x	x		x	x	
Hospital (General Medical & Surgical) - Laboratory		x	x		x						
Hospital (General Medical & Surgical) - Licensed Bed Capacity			x		x						
Hospital (General Medical & Surgical) - Licensed Bed Capacity Density (Number per 1,000 ft²)					x						
Hospital (General Medical & Surgical) - Maximum Number of Floors			x		x						
Hospital (General Medical & Surgical) - MRI Density (Number per 1,000 ft²)					x						

Local Government Energy Benchmarking and Transparency Policy 2015 Data Collection Fields (prepared 12/21/2015)

	Austin	Boston	Chicago	Minneapolis	New York City	Philadelphia	San Francisco	Atlanta	Washington, DC	Cambridge	Seattle
Hospital (General Medical & Surgical) - Number of MRI Machines		x			x						
Hospital (General Medical & Surgical) - Number of Staffed Beds		x	x		x						
Hospital (General Medical & Surgical) - Onsite Laundry Facility			x		x						
Hospital (General Medical & Surgical) - Owned By			x		x						
Hospital (General Medical & Surgical) - Percent That Can Be Cooled			x	x	x						
Hospital (General Medical & Surgical) - Percent That Can Be Heated			x	x	x						
Hospital (General Medical & Surgical) - Staffed Bed Density (Number per 1,000 ft²)					x						
Hospital (General Medical & Surgical) - Tertiary Care			x		x						
Hospital (General Medical & Surgical)- Full Time Equivalent (FTE) Workers		x			x						
Hotel - Amount of Laundry Processed On-site Annually (short tons/year)			x						x		
Hotel - Commercial Refrigeration Density (Number per 1,000 ft²)									x		
Hotel - Cooking Facilities		x	x						x		
Hotel - Full Service Spa Floor Area (ft²)			x						x		
Hotel - Gross Floor Area (ft²)		x	x		x	x	x		x	x	
Hotel - Gym/fitness Center Floor Area (ft²)			x	x					x		
Hotel - Hours per day guests onsite			x						x		
Hotel - Number of Commercial Refrigeration/Freezer Units		x	x						x		
Hotel - Number of guest meals served per year			x						x		
Hotel - Number of Rooms		x	x						x		
Hotel - Number of Workers on Main Shift		x							x		
Hotel - Percent That Can Be Cooled		x	x		x		x		x		
Hotel - Percent That Can Be Heated			x				x		x		
Hotel - Room Density (Number per 1,000 ft²)					x				x		
Hotel - Type of Laundry Facility			x						x		
Hotel - Worker Density (Number per 1,000 ft²)					x				x		
Ice/Curling Rink - Gross Floor Area (ft²)		x	x			x	x		x	x	
Indoor Arena - Gross Floor Area (ft²)		x	x			x	x		x	x	
K-12 School - Cooking Facilities		x	x								
K-12 School - Gross Floor Area (ft²)		x	x		x	x	x		x	x	
K-12 School - Gymnasium Floor Area (ft²)			x	x							
K-12 School - High School			x								
K-12 School - Months in Use			x	x							
K-12 School - Number of Computers			x								
K-12 School - Number of Walk-in Refrigeration/Freezer Units		x	x								
K-12 School - Number of Workers on Main Shift			x								
K-12 School - Percent That Can Be Cooled			x	x			x				
K-12 School - Percent That Can Be Heated			x	x			x				
K-12 School - Student Seating Capacity		x	x								
K-12 School - Weekend Operation		x	x								
Laboratory - Gross Floor Area (ft²)		x	x		x	x	x		x	x	
Laboratory - Number of Workers on Main Shift		x									
Library - Gross Floor Area (ft²)		x	x		x	x	x		x	x	
Lifestyle Center - Gross Floor Area (ft²)		x	x			x	x		x	x	
Mailing Center/Post Office - Gross Floor Area (ft²)		x	x		x	x	x		x	x	
Manufacturing/Industrial Plant - Gross Floor Area (ft²)		x	x		x	x	x		x	x	
Manufacturing/Industrial Plant - Number of Workers on Main Shift		x									
Medical Office - Gross Floor Area (ft²)		x	x		x	x	x		x	x	
Medical Office - MRI Machine Density (Number per 1,000 ft²)					x						
Medical Office - Number of MRI Machines		x			x						
Medical Office - Number of Surgical Operating Beds		x	x								
Medical Office - Number of Workers on Main Shift		x			x						
Medical Office - Percent That Can Be Cooled			x		x		x				
Medical Office - Percent That Can Be Heated			x		x		x				
Medical Office - Surgery Center Size (ft²)			x								
Medical Office - Weekly Operating Hours			x		x						



Local Government Energy Benchmarking and Transparency Policy 2015 Data Collection Fields (prepared 12/21/2015)

	Austin	Boston	Chicago	Minneapolis	New York City	Philadelphia	San Francisco	Atlanta	Washington, DC	Cambridge	Seattle
Movie Theater - Gross Floor Area (ft <sup>2</sup> )	x	x		x	x	x			x	x	
Multifamily Housing - Government Subsidized Housing	x	x		x					x	x	
Multifamily Housing - Gross Floor Area (ft <sup>2</sup> )	x	x		x	x	x			x	x	
Multifamily Housing - Number of Bedrooms	x	x		x					x		
Multifamily Housing - Number of Bedrooms Density (Number per 1,000 ft <sup>2</sup> )				x					x		
Multifamily Housing - Number of Laundry Hookups in All Units	x	x		x					x		
Multifamily Housing - Number of Laundry Hookups in Common Area(s)	x	x		x					x		
Multifamily Housing - Number of Residential Living Units in a High-Rise Setting (10 or more Stories)			x	x					x		
Multifamily Housing - Number of Residential Living Units in a High-Rise Setting Density (Number per 1,000 ft <sup>2</sup> )				x					x		
Multifamily Housing - Number of Residential Living Units in a Low-Rise Setting (1-4 Stories)			x						x		
Multifamily Housing - Number of Residential Living Units in a Low-Rise Setting Density (Number per 1,000 ft <sup>2</sup> )									x		
Multifamily Housing - Number of Residential Living Units in a Mid-Rise Setting (5-9 Stories)			x	x					x		
Multifamily Housing - Number of Residential Living Units in a Mid-Rise Setting Density (Number per 1,000 ft <sup>2</sup> )				x					x		
Multifamily Housing - Percent That Can Be Cooled	x	x		x		x			x		
Multifamily Housing - Percent That Can Be Heated			x	x		x			x		
Multifamily Housing - Resident Population Type			x	x					x		
Multifamily Housing - Total Number of Residential Living Units	x			x					x	x	
Multifamily Housing - Total Number of Residential Living Units Density (Number per 1,000 ft <sup>2</sup> )				x					x		
Museum - Gross Floor Area (ft <sup>2</sup> )	x	x		x	x	x			x	x	
Non-Refrigerated Warehouse - Gross Floor Area (ft <sup>2</sup> )	x	x		x	x	x			x	x	
Non-Refrigerated Warehouse - Number of Worker on Main Shift	x										
Non-Refrigerated Warehouse - Percent That Can Be Cooled							x				
Non-Refrigerated Warehouse - Percent That Can Be Heated							x				
Office - Computer Density (Number per 1,000 ft <sup>2</sup> )				x					x		
Office - Gross Floor Area (ft <sup>2</sup> )	x	x		x	x	x			x	x	
Office - Number of Computers	x	x		x					x		
Office - Number of Workers on Main Shift	x			x					x		
Office - Percent That Can Be Cooled	x	x	x	x		x			x		
Office - Percent That Can Be Heated			x	x	x		x		x		
Office - Weekly Operating Hours	x	x		x					x		
Office - Worker Density (Number per 1,000 ft <sup>2</sup> )				x					x		
Other - Education - Gross Floor Area (ft <sup>2</sup> )	x	x				x	x		x	x	
Other - Entertainment/Public Assembly - Gross Floor Area (ft <sup>2</sup> )	x	x				x	x		x	x	
Other - Gross Floor Area (ft <sup>2</sup> )	x	x		x					x	x	
Other - Lodging/Residential - Gross Floor Area (ft <sup>2</sup> )	x	x				x	x		x	x	
Other - Mall - Gross Floor Area (ft <sup>2</sup> )	x	x				x	x		x	x	
Other - Number of Computers				x							
Other - Number of Workers on Main Shift				x							
Other - Public Services - Gross Floor Area (ft <sup>2</sup> )	x	x				x	x		x	x	
Other - Recreation - Gross Floor Area (ft <sup>2</sup> )	x	x				x	x		x	x	
Other - Restaurant/Bar - Gross Floor Area (ft <sup>2</sup> )	x	x				x	x		x	x	
Other - Services - Gross Floor Area (ft <sup>2</sup> )	x	x				x	x		x	x	
Other - Specialty Hospital - Gross Floor Area (ft <sup>2</sup> )	x	x				x	x		x	x	
Other - Stadium - Enclosed Floor Area (ft <sup>2</sup> )							x				
Other - Stadium - Gross Floor Area (ft <sup>2</sup> )	x	x				x	x		x	x	
Other - Stadium - Percent That Can Be Cooled							x				
Other - Stadium - Percent That Can Be Heated							x				
Other - Technology/Science - Gross Floor Area (ft <sup>2</sup> )	x	x				x	x		x	x	
Other - Utility - Gross Floor Area (ft <sup>2</sup> )	x	x				x			x	x	
Other - Weekly Operating Hours				x							
Outpatient Rehabilitation/Physical Therapy - Gross Floor Area (ft <sup>2</sup> )	x	x		x	x	x			x	x	
Outpatient Rehabilitation/Physical Therapy - Number of Workers on Main Shift	x										

Local Government Energy Benchmarking and Transparency Policy 2015 Data Collection Fields (prepared 12/21/2015)

	Austin	Boston	Chicago	Minneapolis	New York City	Philadelphia	San Francisco	Atlanta	Washington, DC	Cambridge	Seattle
Parking - Completely Enclosed Parking Garage Size (ft <sup>2</sup> )	x	x							x	x	
Parking - Gross Floor Area (ft <sup>2</sup> )	x	x	x		x	x	x		x	x	
Parking - Open Parking Lot Size (ft <sup>2</sup> )	x				x		x		x	x	
Parking - Partially Enclosed Parking Garage Size (ft <sup>2</sup> )	x						x		x	x	
Parking - Supplemental Heating		x					x		x		
Performing Arts - Gross Floor Area (ft <sup>2</sup> )		x	x		x	x	x		x	x	
Personal Services (Health/Beauty, Dry Cleaning, etc.) - Gross Floor Area (ft <sup>2</sup> )		x	x		x	x	x		x	x	
Police Station - Gross Floor Area (ft <sup>2</sup> )		x	x			x	x		x	x	
Pre-school/Daycare - Gross Floor Area (ft <sup>2</sup> )		x	x		x	x	x		x	x	
Prison/Incarceration - Gross Floor Area (ft <sup>2</sup> )		x	x			x	x		x	x	
Race Track - Gross Floor Area (ft <sup>2</sup> )		x	x		x		x		x	x	
Refrigerated Warehouse - Gross Floor Area (ft <sup>2</sup> )		x	x		x	x	x		x	x	
Repair Services (Vehicle, Shoe, Locksmith, etc.) - Gross Floor Area (ft <sup>2</sup> )		x	x		x	x	x		x	x	
Residence Hall/ Dormitory - Dining Hall		x									
Residence Hall/Dormitory - Gross Floor Area (ft <sup>2</sup> )		x	x		x	x	x		x	x	
Residence Hall/Dormitory - Number of Rooms		x									
Residence Hall/Dormitory - Percent That Can Be Cooled		x					x				
Residence Hall/Dormitory - Percent That Can Be Heated							x				
Restaurant - Gross Floor Area (ft <sup>2</sup> )		x	x		x	x	x		x	x	
Restaurant - Number of Workers on Main Shift		x									
Restaurant - Weekly Operating Hours					x						
Restaurant - Worker Density (Number per 1,000 ft <sup>2</sup> )					x						
Retail Store - Cash Register Density (Number per 1,000 ft <sup>2</sup> )					x						
Retail Store - Computer Density (Number per 1,000 ft <sup>2</sup> )					x						
Retail Store - Gross Floor Area (ft <sup>2</sup> )		x	x		x	x	x		x	x	
Retail Store - Number of Open or Closed Refrigeration/Freezer Units					x						
Retail Store - Number of Walk-in Refrigeration/Freezer Units		x			x						
Retail Store - Number of Workers on Main Shift		x									
Retail Store - Open or Closed Refrigeration Density (Number per 1,000 ft <sup>2</sup> )					x						
Retail Store - Percent That Can Be Cooled					x	x	x				
Retail Store - Percent That Can Be Heated					x		x				
Retail Store - Walk-in Refrigeration Density (Number per 1,000 ft <sup>2</sup> )					x						
Roller Rink - Gross Floor Area (ft <sup>2</sup> )		x	x			x	x		x	x	
Self-Storage Facility - Gross Floor Area (ft <sup>2</sup> )		x	x		x	x	x		x	x	
Senior Care Community - Average Number of Residents		x									
Senior Care Community - Gross Floor Area (ft <sup>2</sup> )		x	x		x	x	x		x	x	
Senior Care Community - Percent That Can Be Cooled							x				
Senior Care Community - Percent That Can Be Heated							x				
Single Family Home - Gross Floor Area (ft <sup>2</sup> )		x	x				x		x	x	
Social/Meeting Hall - Gross Floor Area (ft <sup>2</sup> )		x	x		x	x	x		x	x	
Stadium (Closed) - Gross Floor Area (ft <sup>2</sup> )		x	x			x	x		x	x	
Stadium (Closed) - Percent That Can Be Cooled							x				
Stadium (Closed) - Percent That Can Be Heated							x				
Stadium (Open) - Gross Floor Area (ft <sup>2</sup> )		x	x			x	x		x	x	
Stadium (Open) - Percent That Can Be Cooled							x				
Stadium (Open) - Percent That Can Be Heated							x				
Strip Mall - Gross Floor Area (ft <sup>2</sup> )		x	x		x	x	x		x	x	
Supermarket/Grocery - Cooking Facilities		x									
Supermarket/Grocery - Gross Floor Area (ft <sup>2</sup> )		x	x		x	x	x		x	x	
Supermarket/Grocery - Number of Open or Closed Refrigeration/Freezer Units		x									
Supermarket/Grocery - Number of Walk-in Refrigeration/Freezer Units		x									
Supermarket/Grocery - Number of Workers on Main Shift		x									
Supermarket/Grocery - Percent That Can Be Cooled					x		x				
Supermarket/Grocery - Percent That Can Be Heated					x		x				
Swimming Pool - Approximate Pool Size			x			x	x		x	x	
Swimming Pool - Location of Pool		x							x		
Swimming Pool - Months in Use									x	x	
Transportation Terminal/Station - Gross Floor Area (ft <sup>2</sup> )		x	x		x	x	x		x	x	
Urgent Care/Clinic/Other Outpatient - Gross Floor Area (ft <sup>2</sup> )		x	x		x	x	x		x	x	

Local Government Energy Benchmarking and Transparency Policy 2015 Data Collection Fields (prepared 12/21/2015)

	Austin	Boston	Chicago	Minneapolis	New York City	Philadelphia	San Francisco	Atlanta	Washington, DC	Cambridge	Seattle
Veterinary Office - Gross Floor Area (ft <sup>2</sup> )		x	x		x	x	x		x	x	
Vocational School - Gross Floor Area (ft <sup>2</sup> )		x	x		x	x	x		x	x	
Wastewater Treatment Plant - Gross Floor Area (ft <sup>2</sup> )		x	x				x		x	x	
Wholesale Club/Supercenter- Gross Floor Area (ft <sup>2</sup> )		x	x		x	x	x		x	x	
Wholesale Club/Supercenter- Percent That Can Be Cooled							x				
Wholesale Club/Supercenter- Percent That Can Be Heated							x				
Worship Facility - Gross Floor Area (ft <sup>2</sup> )		x	x		x	x	x		x	x	
Zoo - Gross Floor Area (ft <sup>2</sup> )		x	x			x	x		x	x	
Sharing Information	Shared By Contact										

## APPENDIX 2

# Building Energy Benchmarking Metrics Publicly Released by Local Governments, 2015



	<i>Boston</i>	<i>Chicago</i>	<i>Minneapolis</i>	<i>New York</i>	<i>Philadelphia</i>	<i>San Francisco</i>	<i>Washington, DC</i>
<b>Building Identification</b>							
Local Building ID/Portfolio Manager ID							
Parcel Number/Tax Parcel/Tax ID/BBL ID							
Property or Building Name							
Parent Property Name							
Owner							
Address							
Postal Code							
Community/Neighborhood/Ward/Borough							
Location (Latitude, Longitude)							
Compliance Status							
<b>Property Characteristics</b>							
Property Floor Area (buildings) (ft <sup>2</sup> )							
Property Floor Area (buildings and parking) (ft <sup>2</sup> )							
Number of Buildings							
Primary Property Type							
Property Uses							
Year Built							
<b>Energy Metrics</b>							
Energy Star Score							
Energy Star Certified							
Source EUI (kBtu/ft <sup>2</sup> )							
Weather Normalized Source EUI (kBtu/ft <sup>2</sup> )							
Site EUI (kBtu/ft <sup>2</sup> )							
Weather Normalized Site EUI (kBtu/ft <sup>2</sup> )							
Electricity Use - Grid Purchase and Generated Onsite							
Electricity Use - Grid Purchase and Generated Onsite							
Natural Gas Use (therms)							
Natural Gas Use (kBtu)							
District Steam Use (kBtu)							
Fuel Oil #2 Use (kBtu)							
Other Fuel Use							
Onsite Solar (kWh)							
Total Site Energy (kBtu)							
Total Site Energy - % Electricity							
Total Site Energy - % Gas							
Total Site Energy - % Steam							
Percent Better than National Median Site EUI							
Percent Better than National Median Source EUI							
<b>GHG Metrics</b>							
Total GHG Emissions (Metric Tons CO <sub>2</sub> )							
Total GHG Emissions Intensity (kgCO <sub>2</sub> e/ft <sup>2</sup> )							
Direct GHG Emissions (MtCO <sub>2</sub> e)							
Indirect GHG Emissions (MtCO <sub>2</sub> e)							
<b>Water Metrics</b>							
Water Use (kgal)							
Municipally Supplied Potable Water, Indoor Intensity (gal/ft <sup>2</sup> )							
Water Intensity (gal/ft <sup>2</sup> )							
District Chilled Water Use (kBtu)							