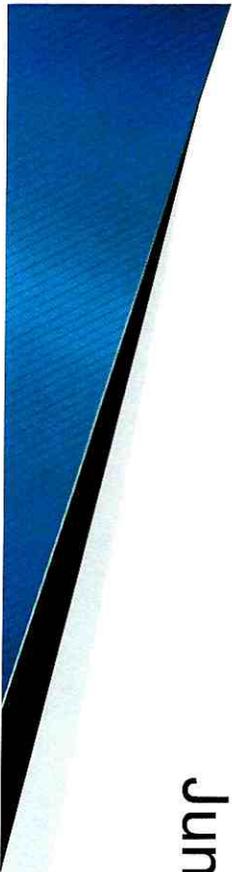


# BUILDING ENERGY USE DISCLOSURE ORDINANCE FOR CAMBRIDGE

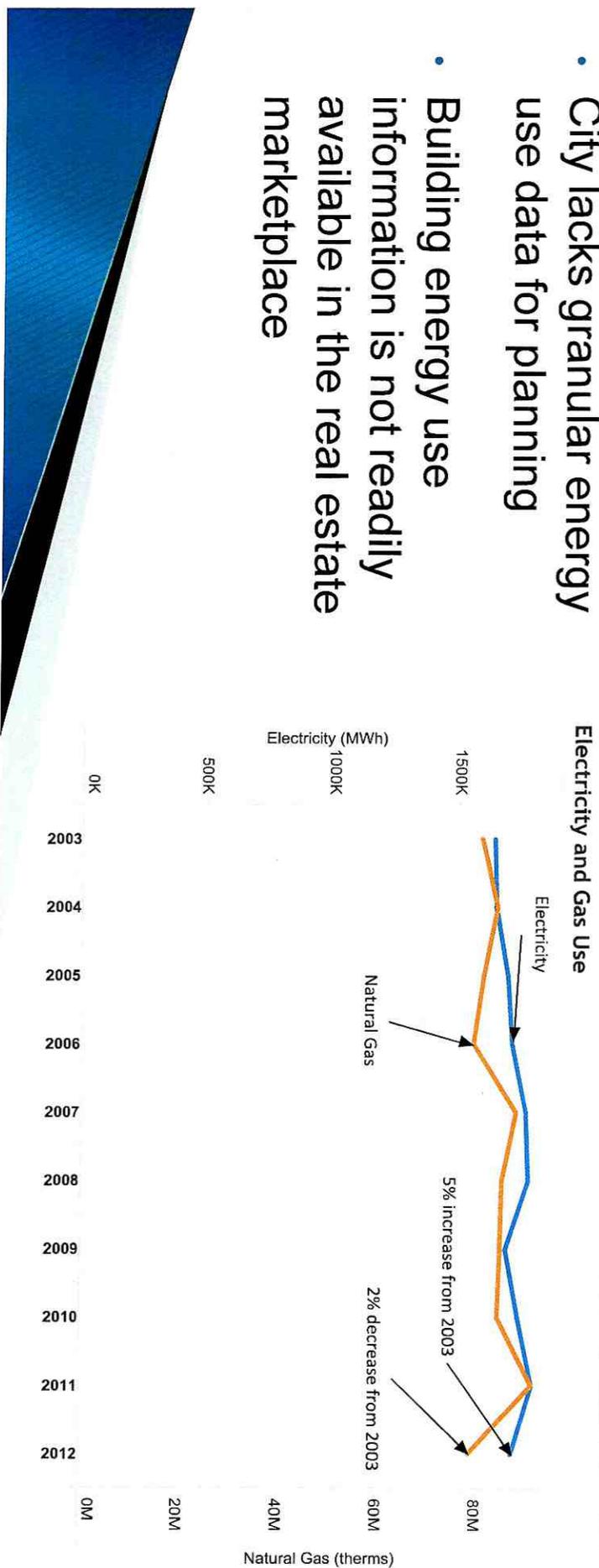
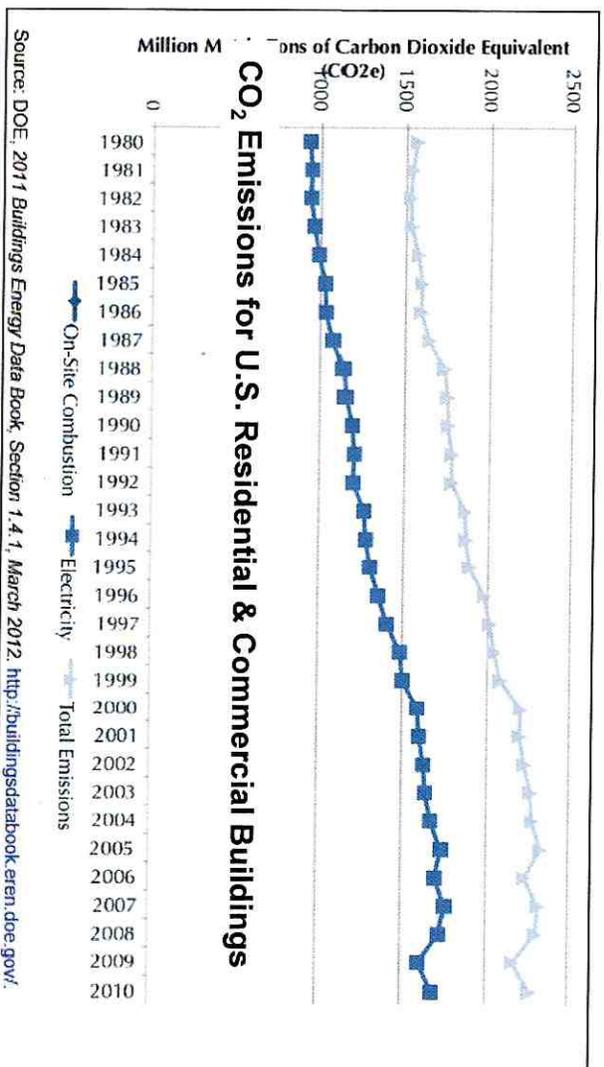


City Council Ordinance Committee  
June 24, 2014



# Need for Ordinance

- Cambridge's goal is to reduce greenhouse gas emissions by 80% by 2050
- Energy use and greenhouse gas emissions remain high and is largely the result of energy use in buildings
- City lacks granular energy use data for planning
- Building energy use information is not readily available in the real estate marketplace



# Benefits of Ordinance

- Energy use data will help drive the real estate market toward higher energy performing buildings and generate clean energy business and jobs
- Building owners and tenants will be able to understand their building's energy performance by seeing trends over time and making comparisons to similar buildings to inform decisions about improvements; buildings with higher energy performance sell at a premium
- Spending on energy largely leaves the community; improving energy efficiency will retain more dollars in the local economy
- Energy use data will facilitate more effective community energy and climate change planning, and support efforts such as the Compact for a Sustainable Future, Net Zero Task Force, Kendall Square Ecodistrict, and others
- Facilitate GHG and energy use reductions and promote sustainability



# Cambridge is Following National Precedent

Local Governments & States with Energy Use Disclosure Laws

## *Local Governments*

Austin, TX  
Boston, MA  
Chicago, IL  
Minneapolis, MN  
Montgomery County, MD  
New York City  
Philadelphia, PA  
San Francisco, CA  
Seattle, WA  
Washington, DC

## *States*

California  
Washington

# **Boston has Already Adopted an Ordinance**

- ▶ City of Boston - Building Energy Reporting and Disclosure Ordinance approved May 2013
- ▶ Many large property owners have buildings in both Boston and Cambridge and therefore are familiar with energy use disclosure
- ▶ Unlike the proposed Cambridge ordinance, the Boston ordinance includes some follow up requirements for improving energy performance if certain standards are not met
- ▶ In terms of the reporting and disclosure requirements, the primary difference with the Boston ordinance is their minimum compliance threshold is 35,000 sf
- ▶ Cambridge and Boston have the opportunity to work together on implementation in terms of education, training, and analysis of data



# **Ordinance is Aligned with the Commonwealth of Massachusetts**

- ▶ 2008 Green Communities Act
  - Massachusetts Department of Energy Resources (DOER) and state electric and gas utilities have a mandate to pursue energy efficiency
  - Dramatic expansion of efficiency programs across all building sectors
- ▶ 2008 Global Warming Solutions Act
  - Requires an 80% reduction in statewide greenhouse gas emissions by 2050 from a 1990 baseline
  - Initial target of 10-25 percent reduction by 2020
- ▶ Building sector in Massachusetts consumes over 50% of total state energy
  - Commercial and industrial buildings account for more than 60% of state electricity consumption



# Development of Cambridge Ordinance

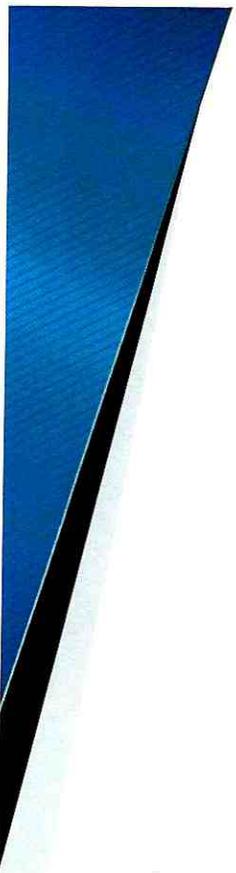
- Climate Protection Action Committee (CPAC) recommended to the City Manager that the City work toward building energy benchmarking and disclosure
- CDD staff consulted with the Institute for Market Transformation, Natural Resources Defense Council, and other cities
- Held stakeholder meetings starting in July 2013
- Contracted CDM Smith to develop implementation plan
- Discussed with Net Zero Task Force which voted to support energy use disclosure as an early action



# City of Cambridge

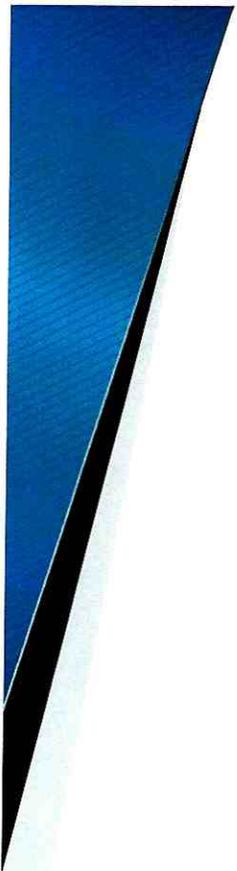
## Energy Use Disclosure Ordinance Basics

- ▶ Only benchmarking and disclosure; follow up actions not included
- ▶ Energy and water efficiency in Energy Star® PortfolioManager™
- ▶ Municipal buildings (10,000 SF and larger) would go first
- ▶ Commercial buildings over 25,000 SF
- ▶ Multi-family buildings over 50 units starting in 2015
- ▶ Staged implementation: In 2015, 50,000 sf+ commercial & 50+ units residential; 25,000 sf+ commercial in 2016
- ▶ Public disclosure of data/benchmarking results via website; first year grace period
- ▶ Reporting period
  - Look-back (12 consecutive months of previous year)
  - Annual



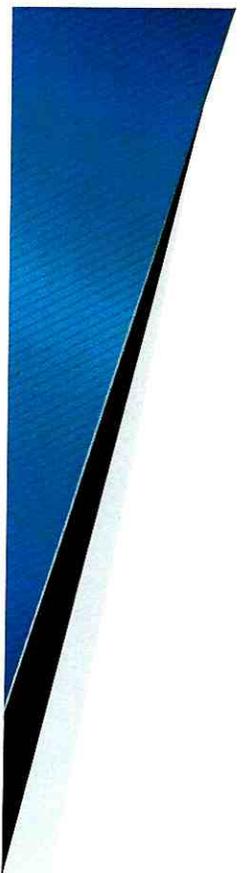
# Administering the Ordinance

- ▶ City annually compiles a list of properties subject to the ordinance, largely based on the Assessor's records
- ▶ Notices sent by December 1 of year preceding compliance
- ▶ Resolve inaccuracies related to building size, type and ownership
- ▶ City posts data on municipal buildings 10,000 sf or larger by December 31, 2014 and then by May 1 each year thereafter
- ▶ Private owners submit energy use data via Energy Star Portfolio Manager by May 1 of each year for the prior year
- ▶ Except the first year, the City annually posts energy use data on the Internet and makes an annual report available that summarizes the data by September 1
- ▶ CDD will regularly review data quality
- ▶ CDD will review effectiveness of the Ordinance by December 31, 2018



# Energy Star<sup>®</sup> Portfolio Manager<sup>™</sup>

- ▶ A free web-based platform to manage energy data
- ▶ Normalizes data for year-to-year changes in weather
- ▶ Provides operational energy ratings
- ▶ Allows building owners or operators to compare their actual building energy use over time and with energy use in similar buildings
- ▶ Stores data
- ▶ Accounts are transferrable
- ▶ EPA maintains the platform and assists with training
- ▶ Many properties owners already use it
- ▶ All the other cities use Portfolio Manager as the compliance tool





# **What will be disclosed on the Internet**

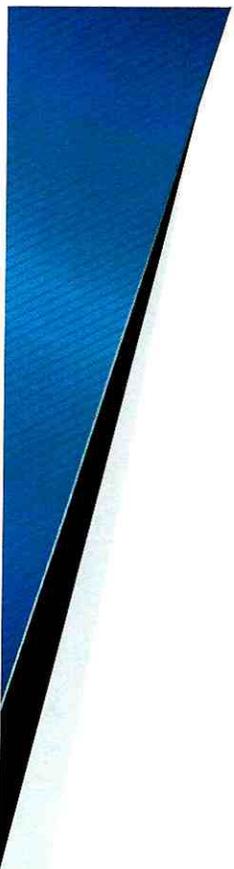
- ▶ Basic energy and water use data and building attributes for individual buildings displayed on City website such as location, size, use type, total energy use, energy use intensity, and greenhouse gas emissions
- ▶ Compliance status of property
- ▶ Contextual information
- ▶ Annual summary report by City
- ▶ The City will work with stakeholders to design website and provide appropriate contextual information to accompany basic data



# Example of NYC Energy Use Disclosure

- Report published 2011 Benchmarking results on Department of Finance website (9/24/12)

Entry Number	Site EUI	Weather Normalized Source EUI	Water per Square Foot	ENERGY STAR Score	GHG	Reported Building Square Footage	Reported Facility Type	Number of Buildings	Reported BINs
1327	65.8	179.1	3.25	73	2021.72	343345	Office	1	1000813
1328	74.7	196.5	21.86	74	2551.83	384831	Office	1	1000814
695	327.9	858.6	57.18	N/A	10754.06	370000	Bank/Financial Institution	1	1078982
66	119.3	295.4	43.91	79	4963.26	473042	Office	1	1000816
579	89	230.2	5.41	83	8398.22	1067151	Office	1	1000817
603	63.7	180.5	21.98	81	2420.21	419795	Office	1	1000819
961	67.3	202.4	N/A	N/A	1271.16	205940	Office	1	1000820
47	111.5	293.3	22.17	55	4064.18	410295	Office	1	1000821
1113	88.9	195.2		77	1548.72	237000	Office	1	1000825
1495	129.8	253		51	3560	325000	Office	1	1000832
1035				N/A		Office		1	1000833
493				N/A		1125693	Bank/Financial Institution	1	1-00029-0001
717	82.9	229.9	17.38	N/A	833.25	112500	Bank/Financial Institution	1	1078995
2331	220.8	674.9		1	13629.48	671172	Office	1	1000849
1581	277.3	559.6		N/A	115.84	5900	Other	1	BIN# 1000851
1558	80.4	221.3		74	5399.12	802690	Office	1	1000855
470	76	147.4		88	4273.76	669211	Office	1	1-00033-0001
1481	83.2	192.4		69	657.93	91353	Office	1	BIN# 1000865



## **What will the City do with the data and information?**

- ▶ Make the individual data and attribute information available to the marketplace for consideration by owners, tenants, prospective buyers, prospective tenants
- ▶ Annual analysis of data to understand energy use patterns and trends in Cambridge and identify opportunities to make the city more energy efficient
- ▶ Plan education and policy initiatives
- ▶ Track the City's progress toward reducing our contribution to climate change



# What did New York City Learn?

- ▶ Energy Star scores tend to be higher in New York, and Northeast cities generally, compared to national average.
- ▶ Multifamily properties consume energy fairly consistently across the city.
- ▶ Retail users showed the widest variability in energy use intensities.
- ▶ Energy use intensity (EUI) in office buildings has increased over time. Based on building age, EUI steadily increased since 1900 until the 1990s when it started to decline.
- ▶ Multifamily EUIs were fairly consistent irrespective of age.
- ▶ Electricity dominates office building energy use; natural gas dominates multifamily building energy use.
- ▶ If all large buildings could improve to the 75<sup>th</sup> percentile, then NYC could reduce citywide GHG emissions by 9 to 15%.



# Planning for Implementation

- ▶ CDM Smith is working with staff to develop an implementation roadmap
- ▶ A working group of stakeholders will be convened to assist the City in addressing details of administration and implementation
- ▶ CDD will work with the IT, Assessors, and Law Departments
- ▶ Outreach and technical assistance will begin in advance to prepare owners
- ▶ CDD will issue regulations and guidance as necessary



# Implementation Details for the Working Group

- ▶ Contextual information needed to aid interpretation of data – energy use intensity does not necessarily reflect efficiency
- ▶ Classifying building types
- ▶ Unique property situations
- ▶ Encouraging tenant involvement
- ▶ Continuity of data when property is transferred
- ▶ Data quality assurance
- ▶ Outreach & Education
- ▶ Working with data providers to facilitate compliance
- ▶ Website design



# Outreach & Education

- ▶ Outreach to property owners through direct contact and through partner organizations
- ▶ Training
  - Online webinars are available through Energy Star
  - In person workshops for Portfolio Manager and other compliance issues
- ▶ Helpline/Helpdesk to answer questions and direct people to resources
- ▶ Written materials posted on the website



**Informational Testimony of the United States Environmental Protection Agency  
Before the Cambridge City Council Ordinance Committee  
Building Energy Use Disclosure Ordinance**

*Submitted by*  
Leslie Cook, Program Manager  
ENERGY STAR Commercial and Industrial Branch  
United States Environmental Protection Agency  
June 24, 2014

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Members of the Committee,

Good afternoon. Thank you for the opportunity to join you today to discuss the important issues before the committee, particularly the proposed Building Energy Use Disclosure Ordinance. Please note that my appearance and testimony today on behalf of EPA does not serve as an endorsement of the proposed legislation, but rather is intended to provide information about the value of benchmarking energy use in commercial buildings, as well as the capabilities of the ENERGY STAR Portfolio Manager Tool. We are pleased to be here as the City of Cambridge demonstrates leadership in proposing energy benchmarking for commercial buildings. Benchmarking the energy use of commercial buildings is a critical first step in the path to superior energy efficiency and will help deliver important environmental benefits for residents of the City of Cambridge and the global community.

Energy efficiency offers one of the lowest-cost solutions for improving energy reliability and security, reducing our energy bills, and addressing the important issue of global climate change—all while helping to grow the economy. As of the end of 2013, with help from ENERGY STAR, American families and businesses saved more than \$260 billion on utility bills and prevented more than 2 billion metric tons of greenhouse gas emissions. For more than a decade, EPA, through ENERGY STAR, has worked with tens of thousands of building owners and managers to reduce energy use in buildings. Using the lessons learned from working with these individuals who are on the front lines addressing our nation's energy challenges, EPA tailors easy-to-use tools and cost-effective solutions through ENERGY STAR to help businesses and other organizations reduce energy waste in buildings.

The cornerstone of the ENERGY STAR program for buildings is energy benchmarking; this is because, simply put, you can't manage what you don't measure. Our experience has shown that many building owners and operators simply don't have a true understanding of just how much money they are spending on energy bills, and don't know if their energy use is high or low for their type of building and operation. But our experience also has shown that, once people are armed with the information uncovered by benchmarking their building's energy use, many will act on that information. In a recent study, EPA found that buildings that were benchmarked consistently reduced energy use by an average of 2.4 percent per year, for a total savings of 7 percent. This study also revealed that more than one-third of the 20,000 buildings that have earned the ENERGY STAR for top performance were built in or prior to 1980, showing that buildings of all ages can become top energy performers. In the City of Cambridge, this desire to act leads people back not only to EPA's numerous ENERGY STAR resources on improving building energy performance but to local offerings like the Cambridge Energy Alliance, regional utility programs, and local energy service providers, for assistance in identifying and implementing energy efficiency projects.

EPA has developed Portfolio Manager to assist building owners and managers to measure and assess energy use in a standardized way. Portfolio Manager is an interactive energy management software tool that is referenced in the Building Energy Use Disclosure Ordinance as the mechanism by which building

In closing, benchmarking the energy use of commercial buildings is a critical first step on the path to superior energy efficiency, and this committee is to be commended for identifying existing buildings as a major opportunity to reduce energy consumption and greenhouse gas emissions. We appreciate the opportunity to provide our informational perspective, and we thank you for your leadership on energy issues to the benefit of the people of Cambridge and for the region.

Sincerely,

Leslie Cook

Program Manager  
ENERGY STAR Commercial and Industrial Branch  
United States Environmental Protection Agency  
1200 Pennsylvania Avenue, NW, Mail Stop 6202J Washington, DC 20460  
Cook.leslie@epa.gov  
202-343-9174

June 24, 2014

Cambridge Chamber of Commerce

Commentary to Ordinance Committee re: Building Energy Use Disclosure Ordinance

Good afternoon, I'm Sarah Kennedy, Director of Government Affairs for the Cambridge Chamber of Commerce at 859 Massachusetts Avenue.

I would like to share a few comments and concerns on behalf of businesses in this community regarding the proposed Building Energy Use Disclosure Ordinance. We represent a breadth of organizations who fall along a wide spectrum of energy use; many commercial users, lab spaces and educational institutions that have been a part of this ongoing discussion.

The businesses of this community share similar concerns

- How will reported data be used and presented to the public?
- How will buildings that are not alike, eg: labs, mixed use, single use & residential be separated into the appropriate categories so we are not comparing apples to oranges? Not all buildings can be viewed through the same lens.

We also know that for some industries such as life sciences and biotech, the very nature of their work makes reducing energy usage challenging. Their ability to do so can vary, this needs to be taken into account. In this same vein, many large users occupy older buildings, which means they will have a steeper climb to meet goals that their peers in new buildings can easily achieve.

Many of the businesses in this community are part of the Community Compact for a Sustainable Future, as well as heavily engaged in their own sustainability goals and measures. They have remarked that the Compact has been a way to support the greater goal of sustainability, to learn best practices and to work alongside the City to reduce energy usage. We know that goals <sup>in both</sup> and opportunities to create coalitions will continue to come out of the compact, they are a useful model for moving forward. We encourage the City to consider that incentives to reduce usage and arrive at common goals are more effective than penalties.



**Comments of Carolyn Sarno, Senior Program Manager, High Performance Buildings  
Northeast Energy Efficiency Partnerships (NEEP)  
To the Cambridge City Council Ordinance Committee  
Regarding Building Energy Usage and Disclosure Ordinance  
June 24, 2014**

Vice Mayor and Co-Chair Benzan, Co-Chair Carlone and Members of the Committee:

On behalf of Northeast Energy Efficiency Partnerships (NEEP)<sup>1</sup>, thank you for the opportunity to provide comment on the pending Building Energy Usage and Disclosure Ordinance (BEUDO).

**Organizational Background and Context**

NEEP was founded in 1996 as a non-profit whose mission is to serve the Northeast and Mid-Atlantic by accelerating energy efficiency in the building sector through public policy, program strategies and education. Our vision is that the region will fully embrace energy efficiency as a cornerstone of sustainable energy policy to help achieve a cleaner environment and a more reliable and affordable energy system.

NEEP's Building Energy Codes Project, one of our oldest endeavors, aims to achieve significant energy savings and greenhouse gas reductions in new construction, remodeling, and renovations by advocating for advanced building energy codes and code-related public policies, such as building energy rating and disclosure. For the last eight years, NEEP has worked to help states in the Northeast and Mid-Atlantic realize the high impact savings potential of building energy rating and disclosure policies. In 2009 NEEP commissioned a report on *Valuing Building Energy Efficiency through Disclosure and Upgrade Policies*, which provides a roadmap for states and local jurisdictions to advance building energy efficiency through paths such as benchmarking and disclosure. Since its release, several jurisdictions have enacted building energy rating and disclosure policies. In 2013, we released a companion report, *Building Energy Rating and Disclosure: Update and Lessons from the Field*, which documents recent experiences throughout the United States in order to better understand the opportunities of building energy rating and disclosure. (Both reports are available for download at: <http://neep.org/public-policy/building-energy-rating>.)

Personally, I am a former facilities manager who has managed a wide variety of building stock, including for the City of Newton and Forrester Research located in Cambridge. I know firsthand the opportunities that building energy reporting and disclosure can hold for both building owners and tenants.

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<sup>1</sup> NEEP is a regional non-profit organization founded in 1996 whose mission is to promote the efficient use of energy in homes, buildings, and industry throughout the Northeast and Mid-Atlantic through regionally coordinated programs and policies that increase the use of energy efficient products, services and practices, and help achieve a cleaner environment and a more reliable and affordable energy system. The comments are presented by NEEP staff and don't necessarily reflect the views of NEEP's Board, sponsors or partners.

I stand before you today in **support of Cambridge's proposed BEUDO**. Such an ordinance results in direct benefits for your residents, building owners, electric ratepayers, industries, and small businesses. These parties stand to benefit from such an ordinance because it will provide for energy savings, market transparency, consumer protection, green jobs/local economic growth, enhanced real estate values, and help meet city and state environmental goals.

### **Energy Savings**

Building owners and operators that benchmark their properties are more likely to make energy efficiency improvements than those that don't benchmark – and the opportunity for energy savings in existing commercial buildings is enormous.

- NYC's analysis of their first year of private sector benchmarking found that if all large NYC properties were brought up to the median performance, the overall energy consumption from large properties would be reduced by 18%; if they reached the top quartile, consumption would decline by 31% --indicating tremendous potential for reductions by reducing waste in among the poor performers.<sup>2</sup>
- Recent research of the medium- and large-scale U.S. commercial building market revealed that half of all energy-efficiency savings in commercial buildings are achievable through operational improvements -- at little or no cost to building owners and operators.<sup>3</sup>

### **Consumer Protection**

A reporting and disclosure ordinance provides consumer protection by increasing the market transparency of building energy performance, allowing consumers to make more informed real estate decisions and helping building owners, managers and occupants reduce energy consumption and costs.

- This policy would give businesses the ability to compare energy performance information about a building before they buy or lease commercial space. This would: help them predict and control their energy costs; help them identify energy efficient buildings where their energy bills will be lower; and help create market-based competition among building owners to improve their building's energy performance.

### **Green Jobs and Local Economic Growth**

- A building energy reporting and disclosure ordinance has the potential to motivate energy efficiency investment in existing buildings and create jobs and new business opportunities for companies in the construction, design, energy assessment, engineering, and facilities and property management fields. These are jobs that cannot be outsourced, and are created without the government having to spend money on incentives, rebates, or tax abatements. In New York City, similar legislation has already spurred job creation in the building services industry.<sup>4</sup>
- While most of the dollars spent on energy leave the community (to pay for energy resources from imported natural gas or electricity generated from coal, oil, nuclear or

<sup>2</sup> [http://www.nyc.gov/html/gbee/downloads/pdf/nyc\\_ll84\\_benchmarking\\_report\\_2012.pdf](http://www.nyc.gov/html/gbee/downloads/pdf/nyc_ll84_benchmarking_report_2012.pdf)

<sup>3</sup> <http://www.fierceenergy.com/story/energy-efficiency-findings-defy-conventional-wisdom/2013-02-07#ixzz2LStHf2zv>

<sup>4</sup>Institute for Market Transformation. "Energy Disclosure and the New Frontier for American Jobs". March 2012. Available at: [http://www.buildingrating.org/Building\\_Energy\\_Transparency\\_Implementation\\_Report](http://www.buildingrating.org/Building_Energy_Transparency_Implementation_Report)

gas), savings realized for energy efficiency mean dollars can be redirected to other purposes, like reinvesting in businesses or hiring more workers.

### **Achieving City and State Environmental Goals**

- Buildings in Massachusetts consume over 50 percent of total state energy, and commercial and industrial buildings account for more than 60 percent of state electricity consumption; reducing energy use in buildings will play a critical part in achieving emission reduction targets (DOER 2010) – of reducing greenhouse gas emissions 25 percent by 2020.
- While building energy codes and most ‘green building’ programs focus on new construction, most of the energy savings available in the building stock are found in buildings that have already been built. Existing buildings represent the vast majority of the building stock in Cambridge and related savings opportunities. Building energy reporting and disclosure is a tool that can promote energy efficiency in the existing building sector.
- Additionally, the ordinance **aligns with the goals of the Cambridge Community Compact for a Sustainable Future, the Kendall Square Ecodistrict, and the Net Zero Task Force.**

We commend the City on this important public policy that will help create a healthy and sustainable future for the citizens of Cambridge.

Contact information:

Carolyn Sarno  
Senior Program Manager, High Performance Buildings  
NEEP - Northeast Energy Efficiency Partnerships  
91 Hartwell Avenue, Lexington, MA 02421-3137  
781-860-9177 Ext.119  
[CSarno@neep.org](mailto:CSarno@neep.org)



*Attachment E*

Massachusetts Institute of Technology

To: Vice Mayor Dennis Benzan and City Councilor Dennis Carlone, Co-Chairs  
Cambridge City Council Ordinance Committee  
From: Steven Lanou, Deputy Director, Office of Sustainability, MIT  
Date: June 24, 2014,  
Re: Testimony on Proposed Building Energy Use Disclosure Ordinance

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To the Honorable Members of the City Council Ordinance Committee,

MIT and the City have a long and productive history of collaboration and joint problem-solving on important issues related to the quality of life in Cambridge. We're particularly grateful for the opportunities to work together around the complex sustainability matters that face our region, the nation, and indeed the world. From Hubway and clean diesel DPW truck retrofits, to the Cambridge Compact for a Sustainable Future and explorations of Ecodistricts; MIT, the City, and other neighbors have learned from and leveraged the diverse talents and expertise available across the City.

We applaud the City for its leadership in seeking to improve energy management practices and energy use benchmarking City-wide through the proposed Building Energy Use Disclosure Ordinance. We feel the goals of the proposed ordinance could be helpful to facilitate a more comprehensive understanding of energy use in the City. With a shared data-set, the possibility of identifying and sharing best practices among organizations could be enhanced.

Thank you for the opportunity to provide input on this matter. We would like to offer a few thoughts for the Ordinance Committee to consider to ensure the implementation of an effective and productive tool:

1. We ask that the ordinance recognize that energy use information alone is not adequate to indicate if energy performance of a building is "good" or "bad". High-tech research and production is, by nature, energy intensive and may already be demonstrating best-in-class leadership in energy efficiency. Implementation of the ordinance must provide ample context of the relationship among research benefits, innovation, and energy use. Approaches for sharing data should promote collaboration and increased understanding and knowledge.
2. Using data collected through the Ordinance for benchmarking performance among stakeholders could be very useful – but only if it is compared through an "apples-to-apples" methodology, rather than an "apples-to-oranges" approach. For example, general office buildings are very different in function and energy use than laboratory and research facilities. We ask that the ordinance consider the best approaches to ensure meaningful comparisons among "like" building types and functions.

3. To build a strong collaborative spirit between the City and the reporting organizations, we encourage the City to develop reporting requirements that are not perceived as onerous, but are recognized as value-added. This will entail working with utilities and multiple City departments to identify an accurate and streamlined strategy for collecting and reporting the required data.
4. We ask that the implementation plan be mindful that the ordinance not create unintended disincentives for certain positive energy practices, such as installing renewable or district energy systems.

We thank the City for its leadership on this issue and for reinforcing the collaborative role that municipalities, universities, and local businesses can play as we work together to address the energy challenges that face us.

Best,

A handwritten signature in black ink, appearing to read 'S. Lanou', with a long horizontal flourish extending to the right.

Steven Lanou

Homeowner's Rehab Inc.  
280 Franklin ST  
Cambridge, MA. 02139

May 19, 2014

Dear City Council,

We are writing in support of the proposed Energy Disclosure Ordinance for Cambridge. Homeowners Rehab Inc. (HRI) is a Cambridge non-profit that provides sustainable, high-quality housing to the city's low to moderate-income families. Several of our multi-family buildings have over 50 units and would be required under the proposed ordinance to report annually their energy use.

HRI believes energy disclosure for Cambridge is a good way to make property owners aware of their energy consumption. It also will make it possible for them to compare their energy intensity to other similar buildings. For the past five years, HRI has used an energy tracking software called WEGOWise to track our energy consumption and to benchmark our buildings against other similar multifamily buildings. This has allowed us to identify which of our buildings were energy hogs, to prioritize them for energy retrofits, and to measure progress after retrofits. Through this energy tracking and subsequent work, HRI has been able to reduce its carbon footprint by 21% over a six year period. We believe that reporting to EPA's Portfolio Manager as proposed under the ordinance will give property owners the kind of data that will help them target problem properties and measure success when they take on energy efficiency improvements.

As a property owner that will need to report under the proposed ordinance, we will need to spend staff time complying with the ordinance, however, we believe our energy tracking from WEGOWise imports easily into EPA's Portfolio Manager. We will need to add the electric consumption from tenant's electric accounts, but the NSTAR portal we have been told will make that information possible to report. This proposed reporting with the assistance of the City, should not be a burdensome requirement and its benefits outweigh the cost in encouraging property owners to monitor their energy consumption ..

Climate change is a problem that affect's Cambridge residents in many adverse ways. An energy disclosure ordinance is one small step that can help us become a more energy efficient city. Implementation in numerous other cities has shown this type of ordinance can work well. HRI supports the proposed energy disclosure ordinance.

Sincerely,



Jane Carbone  
Director of Housing  
Homeowner's Rehab. Inc.

Cc Richard C. Rossi  
City Manager

Attachment 6



Dear City Councilors,

May 15, 2014

Thank you for considering the proposed Building Energy Disclosure Ordinance. Green Cambridge strongly supports adoption and implementation of this ordinance. Without building energy disclosure we cannot effectively track, and ultimately reduce, building energy consumption.

As we continue to strive towards the goal of becoming a Net Zero Emissions Community, the ability to measure and track our energy consumption from buildings is critical. As you know, 80% of the electricity consumed in the city comes from buildings. To reduce our emissions, we will need to reduce the energy consumption, and to do that, we will need to know what buildings are consuming the most energy, for what purpose, to assess the best opportunities for reduction.

Of course we are sensitive to and cognizant of the concerns of the building owners and property managers who will actually have to administer the disclosure process. We commend the city staff for their active dialog with this constituent group to anticipate and resolve as many concerns as possible prior to adoption and implementation of the ordinance. We are comfortable that the ordinance as proposed has appropriate protections in place, and will not cause an undue reporting burden.

We look forward to continued active participation in the ongoing dialog around this ordinance, and to its ultimate adoption and implementation. It's one more important step towards a Net Zero emissions future. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read "Q. Zondervan".

Quinton Y. Zondervan  
President  
Green Cambridge

Attachment H

HARVARD  
UNIVERSITY



June 24, 2014

Vice-Mayor Dennis A. Benzan  
City Councilor Dennis J. Carlone  
Cambridge City Council  
Cambridge City Hall  
Cambridge, MA 02139

Re: Building Energy Use Disclosure Ordinance

Dear Vice-Chairs Benzan and Carlone:

For more than a decade, Harvard has been working to address the challenge of climate change and environmental sustainability and has focused on modeling an institutional pathway to a more sustainable future. A core part of this responsibility is building, renovating and operating healthier, more efficient and sustainable buildings in which to work, live and learn. The University-wide goal to reduce greenhouse gas emissions 30% by 2016 from a 2006 baseline has led to significant energy and emissions reductions across all Harvard's Schools and operations departments. As a result, the Harvard community has achieved 31% net reduction in emissions through changes to our energy supply and efficiency efforts in buildings. The net reduction achieved if growth and renovations post 2006 are included is still 21%.

A key component of Harvard's energy reduction strategy is to operate our buildings more efficiently through energy audits, energy conservation measures and continuous commissioning. For example, Harvard has completed over 1,400 energy efficiency measures to date and implemented continuous commissioning in buildings across campus. We have also integrated energy reduction and efficiency into our five-year capital planning process, ensuring that the University maximizes all opportunities to reduce energy. The Green Building Standards, Life Cycle Cost Policy and Green Revolving Fund provide clear tools to our community on how to prioritize projects that will deliver energy and emissions reductions over the long term. And the Harvard Graduate School of Design's new Center for Green Building and Cities will identify the next evolution of high performance buildings, focused on pushing the envelope on energy reduction and efficiency.

As part of this overarching commitment to sustainability and energy efficiency, Harvard University supports the proposed Building Energy Use Disclosure Ordinance as a means to help the City of Cambridge and the broader community better understand energy use in buildings. Building energy use is the most significant source of greenhouse gas emissions in Cambridge and the proposed ordinance will address this challenge by requiring annual energy use data to be collected and reported to the City. The proposed requirement will facilitate improvements in building energy performance by encouraging building owners to actively manage energy use,

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provide performance data during real estate transactions, support City energy and climate planning efforts, and enable more effective provisioning of energy services.

However, we encourage the Council to consider the following points as they review the proposed ordinance as these would impact the effectiveness of the ordinance's implementation:

1. Property owners should not be required to provide any building identifiers (addresses or building locations) for commercial properties to ensure the safety of buildings and the community at large;
2. We have concerns about how the data will be presented and interpreted—i.e., comparing different types of lab buildings and mixed use buildings versus single use buildings presents compatibility and data analysis challenges, and limits the ability to effectively share best practices .
3. The implementation of similar ordinances has found that incentives work better than penalties at encouraging building owners to explore innovative energy reductions across their building portfolio.

With the enactment of this proposed ordinance, Cambridge would join other local governments such as Boston, New York, San Francisco, who have passed similar ordinances as part of their climate change commitment. The successful implementation of these ordinances has occurred in part by incorporating the feedback of building owners who are committed to the same goals as the cities. We are confident Cambridge can deliver an ordinance that leads to a broader understanding of energy use in buildings, and ultimately greater reductions in energy and greenhouse gas emissions across the City.

Through our work on the Cambridge Compact for a Sustainable Future and similar efforts, Harvard is proud of our continued partnership with the City of Cambridge to confront the challenge of climate change. We appreciate this opportunity to comment.

Sincerely,

Heather Henriksen  
Director, Office for Sustainability  
on behalf of Harvard University



June 23, 2014

**Vice Mayor Dennis Benzan, Co-Chair  
Councilor Dennis Carlone, Co-Chair  
Cambridge City Council Ordinance Committee**

c/o Donna Lopez  
Cambridge City Council  
City Hall, 2nd Floor  
795 Massachusetts Avenue  
Cambridge, MA 02139  
[council@cambridgema.gov](mailto:council@cambridgema.gov)

**Re: Building Energy Usage and Disclosure Ordinance**

**Joint Comments of the Institute for Market Transformation and the  
Natural Resources Defense Council**

Vice Mayor and Co-Chair Benzan, Co-Chair Carlone, and Members of the Ordinance Committee:

We are writing to voice the support of the Institute for Market Transformation (IMT) and the Natural Resources Defense Council (NRDC) for adoption of the **Building Energy Usage and Disclosure Ordinance (BEUDO)**, which would require energy benchmarking and the disclosure of building energy performance information for large buildings in the City of Cambridge.

IMT is a Washington, DC-based nonprofit organization promoting energy efficiency in the built environment by addressing market failures that inhibit investment in energy efficiency and sustainability. IMT works collaboratively with state and local governments on the design and implementation of energy efficiency policies for buildings.

The Natural Resources Defense Council is the nation's most effective environmental action organization. NRDC uses law, science and the support of 1.3 million members and online activists to protect the planet's wild places and to ensure safe and healthy environments. Since 1970, NRDC has played a central role in crafting, implementing, enforcing, and defending virtually all of the nation's environmental laws. NRDC's staff includes highly regarded experts in real estate and energy efficiency policy working to reduce energy consumption and greenhouse gas emissions in the built environment.

The proposed ordinance provides a simple yet powerful framework for the City of Cambridge to catalyze market-driven demand and competition for energy-efficient buildings that will:

- Provide critical energy performance information for building owners and tenants;

- Reduce energy costs for businesses and multifamily residents;
- Reduce energy consumption and greenhouse gas emissions from existing buildings; and
- Create local jobs in the construction, building operations, and design fields.

By adopting the ordinance, Cambridge can join other leading U.S. cities that have established similar policies to reduce energy costs and boost local economies, including Austin, Boston, Chicago, Minneapolis, Philadelphia, New York City, Seattle, San Francisco, and Washington, DC.

## KEY BENEFITS OF BEUDO

Buildings are the largest user of energy in America. A surprising amount of that energy is wasted because of poor operations or outmoded systems, driving up the cost of doing business. New York City's 2012 citywide benchmarking report showed that the worst performing properties in each building sector used three to seven times more energy than the best performers to conduct the same type of business, which indicates that there is dramatic potential for cost effective savings in poor performing buildings.

However, these potential savings are not being realized currently due to a pervasive lack of information about energy consumption. BEUDO would correct this deficiency by providing the necessary information to decision-makers.

### **Benchmarking is highly correlated with energy savings and energy efficiency improvements.**

Building owners who benchmark their buildings are more likely to make energy efficiency improvements than those who don't. A 2012 analysis by the U.S. Environmental Protection Agency (EPA) of 35,000 benchmarked buildings found that those buildings reduced consumption by an average of 7 percent over three years, while a 2012 report commissioned by the California Public Utilities Commission found that benchmarking was highly correlated with building energy improvements and management actions, and was a strong catalyst for customer participation in utility rebate and incentive programs.<sup>1,2</sup> Additionally, a recent survey of hundreds of facility managers found that two thirds of the respondents used benchmarking information to "guide energy efficiency upgrade plans," and to "help justify an energy efficiency project."<sup>3</sup>

### **The cost of benchmarking is small and the potential savings are great.**

BEUDO specifies that energy tracking and reporting be conducted through the U.S. EPA's Energy Star Portfolio Manager. This online tool is free to access and intended to streamline the energy tracking process. As a result, mandating benchmarking is a low to now cost way to unlock critical performance information that can spur efficiency improvements that lead to cost.

### **The ordinance will create jobs in Greater Boston that cannot be outsourced.**

Energy efficiency improvements driven by BEUDO will result in new jobs for construction firms, engineers, auditors, facilities managers and sustainability consultants, and this is mostly work that must be performed on-site in Cambridge. A recent survey by IMT of markets with existing benchmarking laws found that local businesses were experiencing significant new demand for energy efficiency services.<sup>4</sup> Many of those

<sup>1</sup> NMR Group and Optimal Energy. "Statewide Benchmarking Process Evaluation". April 2012. Available at: [http://www.calmac.org/publications/Statewide\\_Benchmarking\\_Process\\_Evaluation\\_Report\\_CPU0055.pdf](http://www.calmac.org/publications/Statewide_Benchmarking_Process_Evaluation_Report_CPU0055.pdf)

<sup>2</sup> U.S. EPA. "DataTrends: Benchmarking and Energy Savings." Available at: [http://www.energystar.gov/ia/business/downloads/datatrends/DataTrends\\_Savings\\_20121002.pdf?bb67-a147](http://www.energystar.gov/ia/business/downloads/datatrends/DataTrends_Savings_20121002.pdf?bb67-a147)

<sup>3</sup> Audin, Lindsay. "Careful Assessment of Energy Options Can Show What Steps to Take". Dec. 2011. Available at: <http://www.facilitiesnet.com/powercommunication/article/Careful-Assessment-of-Energy-Options-Can-Show-What-Steps-to-Take--12849>

<sup>4</sup> Institute for Market Transformation. "Energy Disclosure and the New Frontier for American Jobs". March 2012. Available at: [http://www.buildingrating.org/Building\\_Energy\\_Transparency\\_Implementation\\_Report](http://www.buildingrating.org/Building_Energy_Transparency_Implementation_Report)

businesses said they are expanding their payrolls and hiring new employees – growth they attribute to energy benchmarking laws.

**The ordinance significantly increases building energy transparency in the marketplace.**

Making benchmarking information broadly and readily available through public disclosure creates much needed transparency in the marketplace. Access to information about building energy use will help owners, tenants and investors make better decisions, and it will help the consultants, utilities, and energy service providers to better market their products to the poorest performing buildings with the most potential for savings. Similar transparency rules in other market sectors, such as fuel-efficiency (MPG) ratings on vehicles, energy cost labels on appliances, and nutritional labels on food, are now recognized as a consumer right and a cornerstone of free enterprise.

Government mandated incentive programs are effective, but only create temporary demand for energy efficiency while the money lasts. Providing actionable information to the market will create longer a lasting demand for energy-efficient buildings that does is not dependent on public investment. It will also create competition among building owners and operators to achieve high scores, resulting in a market-driven cycle of building energy improvement.

**BEUDO establishes Cambridge as a leader in the data-driven revolution of the built environment.**

We are in an information revolution where there is increasing demand for data-driven decision-making, and this data-driven approach is just beginning to benefit the real estate sector with respect to energy use. By adopting this ordinance, Cambridge will harness the power of building performance data to transform its built environment and solidify its position as a national leader in academia, science, and technology.

We urge a favorable report on the proposed **Building Energy Use Disclosure Ordinance**. Thank you for the opportunity to submit comments and for the continued leadership of the Cambridge City Council on this issue.

Respectfully submitted,



**Laurie Kerr**  
Director, City Energy Project  
Natural Resources Defense Council

Date: 6/23/2014



**Caroline Keicher**  
Associate Director, Building Energy Performance Policy  
Institute for Market Transformation

Date: 6/23/2014

**Building Energy Use Disclosure Ordinance**

**Section A. DEFINITIONS**

(1) "Benchmarking information" shall mean information generated by the Benchmarking Tool, as herein defined including descriptive information about the physical property and its operational characteristics. The information shall include, but need not be limited to:

- (a) Property address;
- (b) Primary use type;
- (c) Gross floor area
- (d) Site Energy Use Intensity (EUI) as defined in this section;
- (e) Weather normalized source EUI;
- (f) Annual greenhouse gas emissions;
- (g) Water use;
- (h) The energy performance score that compares the energy use of the building to that of similar buildings, where available; and
- (i) Compliance or noncompliance with this Ordinance.

(2) "Benchmarking Tool" shall mean the Internet-based tool developed and maintained by the U.S. Environmental Protection Agency to track and assess the relative energy performance of buildings nationwide.

(3) "Covered Property" shall mean a parcel, as described in public records or as determined by the Department, containing any of the following:

- (a) One or more non-residential building(s) where such building(s) singly or together contain 25,000 to 49,999.99 square feet ("Small Non-Residential Covered Property");~~(a) One building, where such building contains 25,000 or more Square Feet~~
- (b) One or more non-residential building(s), where such building(s) singly or together contain 50,000 or more square feet ("Large Non-Residential Covered Property");~~and (b) Two or more buildings that together contain 50,000 or more Square Feet; and~~
- (c) One or more residential building(s) that singly or together contain 50 or more residential Dwelling Units whether they are rental Dwelling Units or Dwelling Units owned as condominiums, cooperatives or otherwise ("Residential Covered Property");~~(c) Two or more buildings having units owned as condominiums pursuant to Massachusetts General Laws Chapter 183A that are governed by the same condominium association or board of trustees and that contain 50 or more units.~~

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(4) "Department" means the City of Cambridge Community Development Department.

(5) "Dwelling Unit" shall mean a single residential unit consisting of one or more habitable rooms, occupied or arranged to be occupied as a residential unit separate from all other residential units within a building, and used primarily for residential purposes and not primarily for professional or commercial purposes.

(6) "Energy" shall mean electricity, natural gas, steam, hot or chilled water, heating oil, or other product for use in a building, or renewable on-site electricity generation, for purposes of providing heating, cooling, lighting, water heating, or for powering or fueling other end-uses in the building and related facilities.

(7) "Energy Performance Score" shall mean the numeric rating generated by the ENERGY STAR Portfolio Manager tool or equivalent tool adopted by the department that compares the energy usage of the building to that of similar buildings.

(8) "ENERGY STAR" shall mean the U.S. Environmental Protection Agency program related to improving energy efficiency in buildings and products.

(9) "ENERGY STAR Portfolio Manager" shall mean the tool developed and maintained by the U.S. Environmental Protection Agency to track and assess the relative energy performance of buildings nationwide.

(10) "Energy Use Intensity (EUI)" shall mean the kBtUs (1,000 British Thermal Units) used per square foot of gross floor area.

(11) "Gross Square Feet" shall mean the gross floor area of the property as per the City of Cambridge Assessors' records.

(12) "Municipal Property" shall mean a property with one or more buildings that is 10,000 gross square feet or more that is owned by the City of Cambridge.

(13) "Owner" shall mean:

- (a) An individual or entity having title to a Covered Property;
- (b) An agent authorized to act on behalf of the owner of a Covered Property;
- (c) The net lessee in the case of a property subject to a net lease with a term of at least forty-nine years, inclusive of all renewal options;
- (d) The board of managers or trustees in the case of a condominium; and/or
- (e) The board of directors or trustees in the case of a cooperative apartment corporation.

(14) "Qualified Benchmarker" is an entity that meets the Department's qualifications for inputting Benchmarking Information into the Benchmarking Tool.

(15) "Residential Property" shall mean a property ~~containing one or more Dwelling Units listed as primarily residential in the Cambridge property records.~~

(16) "Site Energy" shall mean the amount of heat and electricity consumed by a Covered Property or Municipal Property as reflected in utility bills or other documentation of actual energy use.

(17) "Source Energy" shall mean all the energy used in delivering energy to a Covered Property, including power generation and transmission and distribution losses, to perform a specific function, such as but not limited to space conditioning, lighting, or water heating.

(18) "Tenant" shall mean a person or entity leasing, occupying or holding possession of a Covered Property or Municipal Property.

(19) "Utility" shall mean an entity that distributes and sells Energy for Covered Properties or Municipal Properties.

#### **Section B. Purpose**

To encourage efficient use of energy and to reduce the emission of greenhouse gases, this Ordinance requires owners of Covered Properties and Municipal Properties to annually measure and disclose energy usage to the Department. Furthermore, this Ordinance will authorize the Department to collect energy usage data to enable more effective energy and climate protection planning by the City and others and to provide information to the real estate marketplace to enable its members to make decisions that foster better energy performance.

#### **Section C. APPLICABILITY**

This Ordinance is applicable to the following:

- (1) All Municipal Properties as defined in Section A(12) of this Ordinance; and
- (2) All Covered Properties as defined in Section A(3) of this Ordinance.

#### **Section D. BENCHMARKING REQUIRED FOR MUNICIPAL PROPERTIES**

(1) No later than December 31, 2014, and no later than May 1 every year thereafter, the total Energy consumed by each Municipal Property, along with all other descriptive information required by the Benchmarking Tool, shall be entered into the Benchmarking Tool for the previous calendar year.

#### **Section E. BENCHMARKING REQUIRED FOR COVERED PROPERTIES**

(1) Owners shall annually input the total Energy consumed by each Covered Property, along with all other descriptive information required by the Benchmarking Tool, into the Benchmarking Tool for the previous calendar year. The Owner shall input this information according to the following schedule:

- ~~(a) A Large Non-residential Covered Property by May 1, 2015 and by every May 1 thereafter;~~~~(a) A non-residential Covered Property that contains a building that is 50,000 gross square feet or more by May 1, 2015 and by every May 1 thereafter;~~
- ~~(b) A Residential Covered Property by May 1, 2015 and by every May 1 thereafter;~~~~(b) A residential Covered Property that contains a building that has 50 or more dwelling units, by May 1, 2015 and by every May 1 thereafter;~~
- ~~(c) A Small Non-residential Covered Property by May 1, 2016 and by every May 1 thereafter;~~~~and~~~~(c) A non-residential Covered Property that contains a building that is 25,000 gross square feet or more by May 1, 2016 and by every May 1 thereafter;~~ and
- (d) A new residential or non-residential Covered Property -that has not accumulated 12 months of energy use data by the first applicable date following occupancy for inputting Energy use into the Benchmarking Tool shall comply with this Ordinance in the following year.

#### **Section F. NOTIFICATION OF COVERED PROPERTIES**

Between September 1 and December 1 of each year, the City shall notify Owners of Covered Properties of their obligation to input Energy use into the Benchmarking Tool. By January 15 of each year, the City shall post the list of the addresses of Covered Properties on a public website.

#### **Section G. QUALIFICATIONS OF BENCHMARKERS**

The Department may establish certification and/or licensing requirements for the users of Benchmarking Tools.

#### **Section H. DISCLOSURE AND PUBLICATION OF BENCHMARKING INFORMATION**

(1) Owners shall annually provide Benchmarking information to the Department, in such form as established by the Department, by the date provided by the schedule in Section (E)(1).

(2) The Department shall make available to the public on the internet Benchmarking Information for the previous calendar year: a) no later than December 31, 2014 and by September 1 of each year thereafter for Municipal Properties; and b) no later than September 1, 2015 and by September 1 of each year thereafter for Covered Properties. Benchmarking Information received by the Department for the first year a Covered Property is required to input the total Energy consumed and other descriptive information as required by the Benchmarking Tool into the Benchmarking Tool pursuant to Section (E) will be not be published except to disclose whether or not the Covered Property is in compliance with this Ordinance.

(3) The Department shall make available to the public and update at least annually, the following information:

- (a) Summary statistics on energy consumption for Municipal Properties and Covered Properties derived from aggregation of Benchmarking information for both;
- (b) Summary statistics on overall compliance with this Ordinance including an assessment of accuracy;
- (c) For each Municipal Property and Covered Property:
  - (1) The status of compliance with the requirements of this Ordinance;
  - (2) Annual summary statistics for the Municipal Property or Covered Property, including EUI, annual greenhouse gas emissions, water use per square foot, and an energy performance score where available; and
  - (3) A comparison of Benchmarking Information across calendar years for any years such Municipal Property or Covered Property has input the total Energy consumed and other descriptive information for such Properties as required by the Benchmarking Tool into the Benchmarking Tool.

#### **Section I. PROVISION OF BENCHMARKING INFORMATION BY TENANTS TO THE OWNER**

(1) Each Tenant located in a Covered Property shall, within 30 days of a request by the Owner and in a form to be determined by the Department, provide all information that cannot otherwise be acquired by the Owner and that is needed to comply with the requirements of this Ordinance. Failure to provide information to an Owner may result in penalties as provided under Section (M).

(2) Where the Owner is unable to input the total energy consumed by the Covered Property as well as all other descriptive information for such Covered Property as required by the Benchmarking Tool into the Benchmarking Tool due to the failure of any or all Tenants to report the information required by Section (I)(1), the Owner shall input alternate values as established by the Department prior to the implementation of this Ordinance, into the Benchmarking Tool.

#### **Section J. ASSESSING RESULTS**

By December 31, 2018, the Department shall review the effect of this Ordinance on improving energy performance for Covered Buildings. If energy performance for Covered Buildings has not improved significantly, the Department shall make recommendations to the City Manager as to whether amendments to this Ordinance or other measures are necessary to improve building energy performance for Covered Buildings.

#### **Section K. MAINTENANCE OF RECORDS**

(1) Owners shall maintain records as the Department determines is necessary for carrying out the purposes of this Ordinance, including but not limited to energy and water bills and other documents received from Tenants and/or Utilities. Such records shall be preserved by Owners for a period of three (3) years. At the request of the Department, such records shall be made available for inspection and audit by the Department.

(2) At the time any occupied Covered Building is transferred, the buyer and seller shall arrange for the seller to provide to the buyer all information necessary for the buyer to report Benchmarking information for the entire year in a timely manner. It shall be a violation of this Ordinance for any seller to fail to so provide any such information.

#### **Section L. VIOLATIONS**

It shall be unlawful for any entity or person to fail to comply with the requirements of this Ordinance or misrepresent any material fact in a document required to be prepared or disclosed by this Ordinance.

#### **Section M. ENFORCEMENT AND ADMINISTRATION**

- (1) The Assistant City Manager for Community Development and his or her designee shall be the Chief Enforcement Officer of this Ordinance.
- (2) The Assistant City Manager for Community Development may promulgate regulations relative to the administration of the requirements of this Ordinance as necessary.
- (3) If any person or entity violates any provision of this Ordinance, the following enforcement measures may be taken:
  - (a) For the first violation, a written warning may be issued; and
  - (b) For any subsequent violation, the Department may issue a fine of up to \$300.00 per day pursuant to the provisions of Chapter 1.24 herein.

#### **Section N. SEVERABILITY**

If any provision of this Ordinance shall be held to be invalid by a court of competent jurisdiction, then such provision shall be considered separately and apart from the remaining provisions, which shall remain in full force and effect.

#### **Section O. EFFECTIVE DATE**

The provisions of this Ordinance shall be effective immediately upon passage.