1. Agenda 9 21 2016

   Documents:

   AGENDA 9_21_2016.PDF

2. Minutes From August 17, 2016

   Documents:

   DRAFT MINUTES FROM 8_17_2016.PDF

3. Energy Benchmarking Ordinance
   Review and discussion of the proposed energy benchmarking ordinance. Public comment will be taken on this item.

   Documents:

   DRAFT BENCHMARKING ORDINANCE - 9.9.16.PDF
   SEATTLE_2030_DISTRICT_BASELINES.PDF
   PCC_BENEFITS_OF_BENCHMARKING.PDF

4. Draft RFP For LED Street Lighting Conversion Project Management

   Documents:

   RFP XX17 STREET LIGHTING (DRAFT CHECKLISTED 08.29.16).PDF

5. Update On National League Of Cities Leadership In Resilience Grant / Bayside Adapts

6. Review Future Meeting Dates

CITY OF PORTLAND, MAINE

Standing Committee on Energy and Sustainability
Councilor Jon Hinck (A/L), Chair
Councilor Spencer Thibodeau (D2), Vice Chair
Councilor Ed Suslovic (D3)

Agenda
September 21, 2016
6:00 PM
Council Chambers

1. Review and approve minutes from August 17, 2016

2. Discuss Benchmarking Ordinance

   Review and discuss the benchmarking ordinance proposed by Councilor Hinck. Public comment will be taken.

3. Presentation on LED Street Light Conversion Project

   Staff will present the draft RFP to solicit a project manager and consultant to assist with the conversion of all City street lights to LED technology.

4. National League of Cities Grant / Bayside Adapts project update

   Staff will update the committee on activities related to the National League of Cities Leadership in Community Resiliency Grant

5. Review future meeting dates

6. Adjourn

CITY OF PORTLAND, MAINE

Standing Committee on Energy and Sustainability
Councilor Jon Hinck (A/L), Chair
Councilor Spencer Thibodeau (D2), Vice Chair
Councilor Ed Suslovic (D3)

Draft Minutes
August 17, 2016

Members Present: Councilor Hinck, Councilor Thibodeau
Staff Present: Troy Moon

Councilor Thibodeau makes a motion to approve the minutes. Seconded by Councilor Hinck. All in favor.

Presentation by Dr. Richard Silkman

Dr. Silkman introduced himself as CEO of Competitive Energy Services. His company assists businesses and institution with issues related to their use of energy. They also do sustainability consulting.

Dr. Silkman discussed the need to avoid setting abstract goals such as achieving carbon neutrality without a broad understanding of what it would take to achieve them. He provided examples showing how difficult it would be to meet Maine's energy needs if we used only renewable energy sources. He advocated for setting achievable incremental goals that would move the City steadily toward deep reductions in greenhouse gas emissions.

Project Updates

Councilor Hinck asked Mr. Moon about steps the City may have already taken toward emissions reductions. Mr. Moon indicated that increasing the energy efficiency of City buildings as part of the energy services contract in 2011 were the most significant steps. These included energy efficient lighting, energy management systems, fuel switching, building envelope improvements, and others. Councilor Hinck asked about any previous goals the City may have set to reduce emissions. Mr. Moon indicated that in 2001 and again in 2006 the Council adopted a goal of reducing emissions to 10% below 1990 levels by 2020. Unfortunately, we have no data about emission levels in 1990. The City has conducted emissions inventory but it is difficult to compare apples to apples. The latest inventory lacks specific information about City energy use. Mr. Moon added that the City would need to conduct a new inventory using a rigorous established inventory protocol in order to set a reliable baseline. It would have to have clear methodology so it could be repeated in future years. Councilor Hinck agreed with this and would like to discuss it further.

Councilor Hinck asked for a description of how participants in the 2030 District measure their reductions as part of that program. Mr. Moon responded that they benchmark the existing

usage of building energy use, water, and transportation, which is compared to a previous benchmark. He was not sure what the benchmark is.

Councilor Thibodeau requested a memo describing the feasibility of creating separated bike lanes along important transportation corridors in Portland. Based on the memo, he may request a presentation at a future meeting. He feels it is import to make sure we take up transportation related issues more regularly. He would be interested in a demonstration project to see if a protected bike lane would make sense.

Councilor Hinck noted future agenda items. Next month he wants to take up the benchmarking ordinance and have the committee vote.

Councilors Hinck and Thibodeau both requested that Mr. Moon determine whether the Energy and Sustainability Committee or another body would be most appropriate for a discussion of how historic preservations standards impact energy efficiency and renewable energy projects in historic districts or in historic buildings.

Public Comment: Ellen Bailey, Hammond Street – She thanked the committee for taking up sea level rise and resilience. As a Bayside resident she sees it.

Councilor Hinck requests an update on efforts on resilience at the next meeting.

DRAFT

City of Portland
Building Energy Use Disclosure Ordinance

I. GENERAL.

The energy and water use of municipal and covered buildings shall be benchmarked in accordance with this article.

II. 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 and water usage 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 more than 20,000 square feet ("Non-Residential Covered Property"); and (b) 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").

(4) “Department” means the City of Portland Energy and Sustainability Coordinator and his or her department or office.

(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

(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 Portland.

(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.

(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.

III. PURPOSE.

To encourage efficient use of energy and water 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 and water 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.

IV. APPLICABILITY.

This Ordinance shall be applicable to all Municipal and Covered Properties as defined in this Ordinance.

V. BENCHMARKING FOR MUNICIPAL AND COVERED PROPERTIES.

(1) No later than one (1) year after the effective date of this Ordinance, and no later than May 1 every year thereafter, the total Energy and Water 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.

(2) Owners of Covered Property shall annually input the total Energy and Water 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 Residential Covered Property no later than two (2) years after the effective date of this Ordinance and by every May 1 thereafter;

(b) A Non-residential Covered Property by no later than two (2) years after the effective date of this Ordinance and by every May 1 thereafter; and

(c) A new Covered Property that has not accumulated twelve (12) months of energy and water use data by the first applicable date following occupancy for inputting Energy and Water use into the Benchmarking Tool shall comply with this Ordinance in the following year.

VI. 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 and Water 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.

VII. QUALIFICATIONS OF BENCHMARKERS.

The City Manager or his or her designee, including but not limited to the Department, may establish certification and/or licensing requirements for the users of Benchmarking Tools.

VIII. DISCLOSURE AND PUBLICATION OF BENCHMARKING INFORMATION.

(1) (a) 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 V.

(b) An exemption from this reporting requirement for any current reporting period may be granted if:

i. The Owner demonstrates to the Department that he or she has been unable to obtain tenant authorization to obtain tenant utility data, despite a good faith effort to obtain such consent; or

ii. The Owner or Tenant demonstrates to the Department that such disclosure may result in the release of proprietary information which can be characterized as a trade secret.

(2) The Department shall make available to the public on the internet Benchmarking Information for the previous calendar year:

a) no later than a year and a half after the effective date of this Ordinance and by September 1 of each year thereafter for Municipal Properties; and

b) no later than two and a half years after the effective date of this Ordinance 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 and Water consumed and other descriptive information as required by the Benchmarking Tool into the Benchmarking Tool 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 and water 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:

(i) The status of compliance with the requirements of this Ordinance;

(ii) Annual summary statistics for the Municipal Property or Covered Property, including EUI, annual greenhouse gas emissions, and an energy performance score where available; and

(iii) 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.

IX. PROVISION OF BENCHMARKING INFORMATION BY TENANTS.

(1) Each Tenant located in a Covered Property shall, within thirty (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 in the City Code and this Ordinance.

(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 this Ordinance, the Owner shall input alternate values as established by the Department prior to the implementation of this Ordinance, into the Benchmarking Tool.

X. ASSESSING RESULTS AND ANNUAL REPORT TO CITY COUNCIL.

(1) By December 31, 2020, the Department shall review the effect of this Ordinance on improving energy and water performance for Covered Buildings. If energy and water 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 and water performance for Covered Buildings.

(2) In December of each calendar year, the Department shall prepare and submit an annual report to the City Council, which evaluates the administration and enforcement of the Ordinance and contains a summary of the benchmarking data provided to the City as required by this Ordinance, as well as any other necessary data or recommendations on the Ordinance could be improved.

XI. MAINTENANCE OF RECORDS.

(1) Owners shall preserve and 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 any and all 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.

XII. VIOLATIONS.

It shall be unlawful for any entity or person including, but not limited to, Owners or Tenants 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.

XIII. ENFORCEMENT AND ADMINISTRATION.

(1) The City Manager, the Department or their designee shall enforce the provisions of this Ordinance.

(2) The City Manager, the Department or their designee may promulgate regulations relative to the administration of the requirements of this Ordinance, as necessary.

(3) If any person or entity including, but not limited to, Owners or Tenants violate 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) Any subsequent or ongoing violation will be subject to a fine of up to $50.00 per day pursuant to the provisions of Chapter 1, Section 1-15 herein.

XIV. 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.

SEATTLE 2030 DISTRICT

2030 DISTRICT PERFORMANCE METRIC BASELINES

The Seattle 2030 District

is a groundbreaking high-performance building district in downtown Seattle that aims to dramatically reduce the environmental impacts of building construction and operations, while maximizing Seattle's economic viability and profitability for building owners, managers and developers.

SEATTLE 2030 DISTRICT

2030 DISTRICT PERFORMANCE METRIC BASELINES

SUMMARY

The Seattle 2030 District has adopted the Architecture 2030 Challenge for Planners performance targets as the performance metrics for the District as follows:

NEW BUILDINGS, MAJOR RENOVATIONS, AND NEW INFRASTRUCTURE:

- **Energy Use:** an immediate 60% reduction below the National average, with incremental targets, reaching carbon neutral by 2030.
- **Water Use:** An immediate 50% reduction below the current District average.
- **CO_2e of Auto and Freight:** An immediate 50% reduction below the current District average.

EXISTING BUILDINGS AND INFRASTRUCTURE OPERATIONS:

- **Energy Use:** A minimum 10% reduction below the National average by 2015 with incremental targets, reaching a 50% reduction by 2030.
- **Water Use:** A minimum 10% reduction below the District average by 2015, with incremental targets, reaching a 50% reduction by 2030.
- **CO_2e of Auto and Freight:** A minimum 10% reduction below the current District average by 2015 with incremental targets, reaching a 50% reduction by 2030.

DEFINITIONS

- **Major Renovation:** The renovation of a building where (a) the total cost of the renovation related to the building envelope or the technical building systems is higher than 25 % of the value of the building, excluding the value of the land upon which the building is situated, or (b) more than 25 % of the surface of the building envelope undergoes renovation.
- **Infrastructure:** All constructed elements within the District outside of individual building footprint.
- **Carbon Neutral:** No net contribution of carbon dioxide to the atmosphere on an annual basis.

This document describes the baselines for the energy, water and transportation performance metrics of the Seattle 2030 District.

architecture 2030

ENERGY

In accordance with the *Architecture 2030 Challenge* methodology, and jointly agreed upon by major building sector organization, the energy performance baseline will be the national average energy consumption of existing U.S. commercial buildings as reported by the 2003 Commercial Building Energy Consumption Survey (CBECS). CBECS data is a set of whole-building energy use measurements gathered by the DOE's Energy Information Administration, which can be used to determine a national energy use intensity using kBtu/sq. ft.-yr as the metric.

For new construction the Environmental Protection Agency (EPA) has available an online tool, Target Finder, that enables users to determine the national average energy consumption of specific building types in a specific region, as well as to determine energy reduction targets in accordance with the 2030 Challenge. The tool provides the national energy consumption average based on other buildings that share similar parameters that affect energy use, including occupancy and schedule. Target Finder should be the first resource in determining a new project's energy consumption target. It is recommended not to input information into Section 4, Estimated Design Energy when determining the energy consumption target, to ensure a baseline that is an average building with an average fuel mix.

If a project's building type is not available in Target Finder it is recommended to use the national average energy consumption from the Architecture 2030 Target Tables, which refer to the CBECS 2003 data and similar EPA tables. The 2030 Target Tables provide national and/or regional averages, as well as the 2030 Challenge energy reduction targets for building types not available in the EPA's Target Finder.

For existing building the Environmental Protection Agency (EPA) has available an online tool, Portfolio Manager, that enables users to track their energy use via monthly energy bills. Portfolio Manager also provides the national average energy consumption of specific building types in a specific region, based on other buildings that share similar parameters that affect energy use, including occupancy and schedule. 2030 District members that represent properties are also required to track and share their energy and water use information with the 2030 District through Portfolio Manager, which makes this tool multifunctional.

SEATTLE 2030 DISTRICT

WATER

As outlined in the 2030 District goals the baseline for the water performance metric is based on the current District average. There is currently no national or local building water use database so the 2030 District was tasked with developing the water baseline through the help of their members and partners. Through a Memorandum of Agreement with the Seattle Public Utilities (SPU) - and the help of the District member the Partnership for Water Conservation (PWC) - the Seattle 2030 District was able to generate water use intensity baselines for the major building types within the 2030 District. SPU was able to aggregate water consumption data for selected building parcels based on the predominate building type and provide annual total consumption for the years 2002 through 2010. The 2030 District then calculated a floor space-weighted average water use intensity, based on floor space square footage information in the King county Assessors database. Average water use intensities for each building type were then calculated for each year and the final baseline was established as the average over the 2002 to 2010 period. PWC members reviewed parcel data and water consumption patterns and provided a recommended assimilation of building types based on similar patterns of water use (ie, fast food category was combined with restaurants, dormitories combined with multi-family residential). This reduced the number of building types from 25 to the 15 shown in the table below.

It is the intention of the 2030 District to continue exploring other metrics and normalize the baseline for inputs such as occupancy, schedule, number of rooms for hotels, and number of licensed beds for hospitals, similar to the methodology used by EPA for energy. Based on 2010 Census Data, the PWC was able to determine that the average resident in multi-family buildings within the District is using approximately 42 gallons per day. Additional research is ongoing to determine appropriate additional metrics. It is understood that the current baselines are approximations based on the best currently available data and that as more information is collected on actual building-level water consumption, the baselines will be refined and normalized. To our knowledge this is first attempt at identifying water use intensity baselines on a square footage basis for 15 unique building types in this region, and potentially the entire United States.

One interesting finding is that K-12, Retail, Office, and Residential building parcels with smaller buildings (<5,000 square feet) used more water per square foot of building than building parcels with larger building of the same type. It is speculated that this increase in water use intensity for smaller buildings can be attributed to economies of scale. There is a minimum amount of water use associated with basic operations of buildings, so larger buildings that can hold more occupants are perceived as using less water on a per square foot or per occupant basis.

Partnership For Water Conservation

PREDOMINANT BUILDING USE	GAL/SF/YR	ADDITIONAL METRICS OF INTEREST
Restaurant	125.99	119 Gal/Employee/Day
Hotel	50.07	70 Gal/Room/Day
Multi-Family Residential	41.14	42 Gal/Resident/Day
Social/meeting	36.95	
Industrial	32.53	
Nursing/Assisted Living	30.11	
Hospital	26.12	53 Gal/Bed/Day
Retail	24.77	41 Gal/Employee/Day
Medical Office	21	32 Gal/Employee/Day
Office	14.21	
Warehouse	13	
Entertainment/culture	12.88	
Service (vehicle repair/service, postal service)	11.74	
House of Worship	11.31	
K-12 School	11.09	

Table 1. Seattle 2030 District Water Use Intensity Baselines
Source: Seattle 2030 District, Seattle public Utilities, and the Partnership for Water Conservation

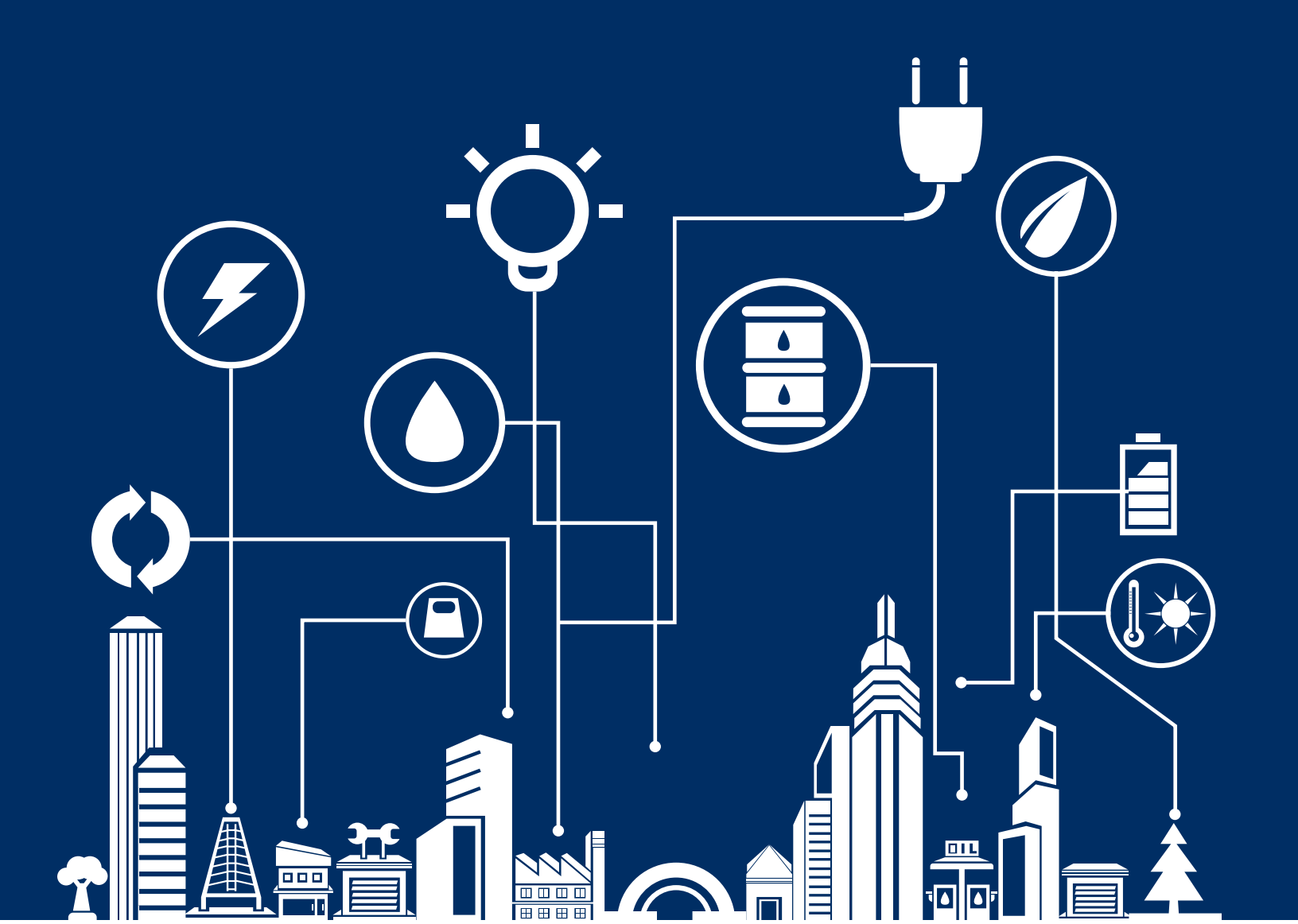
TRANSPORTATION

As outlined in the 2030 District goals the baseline for the transportation performance metric is based on the current District average. Through the help of the District members Commute Seattle and the City of Seattle's Seattle Climate Partnership, the Seattle 2030 District was able to establish an average mode split and associated CO_2 emissions for commuter transportation within the 2030 District boundaries. Commute Seattle had recently completed their 2010 Center City Commuter Mode Split Survey, which established the average commuter mode split for the area in which the Seattle 2030 District resides. Using existing methodology from the Seattle Climate Partnership's Carbon Calculator, CO_2 emissions per passenger mile were associated with the given mode resulting in an average CO_2 emission per commuter of roughly 900 kg CO_2 per commuter per year.

COMMUTE SEATTLE

MODE GROUP	MODE	MODE SPLIT	TRIPS	Kg CO_2 /PM	MILES/TRIP	TOTAL MILES	TOTAL kg CO_2
DRIVE-ALONE	Drove Alone	33.70%	58,861.77	0.4	14.1	829,950.93	331,980.37
	Ferry w/ Vehicle	0.70%	1,222.65	0.4	23.5	28,732.23	11,492.89
	Motorcycle	0.80%	1,397.31	0.167	11.1	15,510.16	2,590.20
TRANSIT	Bus	35.80%	62,529.71	0.17	14	875,415.97	148,820.71
	Rail	4.30%	7,510.55	0.172	27.5	206,540.18	35,524.91
	Ferry Passenger	2.20%	3,842.61	0.37	26.9	103,366.16	38,245.48
	Other	1.10%	1,921.30	0.17	13.6	26,129.73	4,442.05
RIDESHARE	Carpooled	9.00%	15,719.76	0.145	13.4	210,644.78	30,639.24
	Vanpooled	0.60%	1,047.98	0.05	24.1	25,256.41	1,262.82
BIKE/WALK	Walk	5.90%	10,305.18	0	1.8	18,549.32	0
	Bike	2.80%	4,890.59	0	6.3	30,810.73	0
	Compressed Work Day Off	0.40%	698.66	0	14.7	10,270.24	0
	Telework	2.70%	4,715.93	0	17.7	83,471.93	0

Table 2. Seattle 2030 District Commuter Transportation Baselines
Source: The Gilmore Research Group and Commute Seattle. *2010 Center City Commuter Mode Split Survey Results. March 2011*
Note: Mode-Spilt, Trips, and Total Miles are based on total weekday trips per mode.



BUILDING PERFORMANCE POLICY

THE BENEFITS OF BENCHMARKING BUILDING PERFORMANCE

Zachary Hart
Institute for Market Transformation
December 2015

IMT
INSTITUTE FOR MARKET TRANSFORMATION

Pacific Coast COLLABORATIVE

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Executive Summary

Today, buildings account for 40 percent of the total energy used in the United States, with building owners and occupants spending roughly $450 billion on energy bills each year. Despite the size of the opportunity for improvement, building efficiency is not highly valued in the real estate market, largely due to a lack of available information about building performance and energy use. A growing number of jurisdictions in the U.S. are passing energy benchmarking and transparency policies to address this information gap. When buildings are uniformly benchmarked—meaning their energy use is measured on a consistent basis—and that information is shared publicly, the real estate market is empowered to consider and recognize the value of energy efficiency.

The overarching goal of a benchmarking and transparency policy is to encourage the development of a strong market for building efficiency. Benchmarking brings building owners' attention to energy efficiency, resulting in behavioral and operational changes that bring immediate and low-cost reductions in energy consumption. These policies also make building performance more visible in the marketplace, thus empowering consumers to more easily understand how buildings are performing and reward owners of efficient buildings.

Benchmarking information can inform policy and program development by allowing policymakers to craft more effective methods to address their jurisdictions' most inefficient buildings. Similarly, utilities can use benchmarking data to target their customers that would benefit most from their efficiency programs, thereby increasing the cost-effectiveness of the utility's efficiency investments.

The larger economy also stands to benefit: benchmarking policies that cover a substantial portion of a region's building stock should lead to a widespread increase in the investment of building performance, including the creation of many jobs to conduct energy audits, retro-commission base building systems, and install upgraded systems and equipment.

Additionally, benchmarking polices produce environmental and quality of life benefits. Because energy benchmarking reduces energy use, it also reduces the greenhouse gas emissions associated with generating that energy. Furthermore, evidence is emerging that improved building performance can be beneficial to building occupant health, with energy efficiency being linked to reductions in

incidences of respiratory illness and increases in occupant comfort and productivity.

Research is showing that energy benchmarking and transparency policies and programs are important tools to transform the real estate market into one that properly values energy efficiency. As these policies become more common, building owners, tenants, governments, and the public gain an improved understanding of building energy use, resulting in significant energy reductions, rising demand for energy-efficient properties, and a range of economic and environmental benefits.

Introduction

Billions of dollars of value is currently locked inside the buildings of America's cities and towns. This untapped wealth is the gap between the amount of energy buildings use to operate and meet occupants' needs and the amount of energy that would be required if buildings were equipped with the most efficient technologies and design techniques.

Though energy efficiency has become an increasingly important factor in the design and construction industry over the past two decades, many of the nation's current buildings were constructed without much concern for it. Today buildings account for 40 percent of the total energy used in the U.S. This amounts to roughly $450 billion spent on energy bills each year, and the direct and indirect greenhouse gas emissions associated with this energy use comprise approximately 40 percent of the nation's total output. This means that investing in improving the performance of existing buildings would be a boon to the American economy, reducing environmental costs from greenhouse gas emissions, increasing operating capital for building owners and tenants, and supporting the development of a highly skilled energy-services labor market.

One of the most cost-effective ways to decrease overall energy use is to improve the energy efficiency of U.S. buildings. Many jurisdictions have made an effort to catalyze a market for energy efficiency through policy, mandating minimum standards in energy codes. However, while stronger energy efficiency standards in building codes help reduce energy consumption in new and renovated buildings, only about three percent of the U.S. building stock is newly built or renovated annually. To make a meaningful reduction in overall building energy consumption, energy inefficiency in existing buildings must be addressed.

Government and utility-sponsored efficiency incentives, though helpful, are not enough to activate a strong existing buildings efficiency market on their own. Many building owners remain unaware or uninterested in the efficiency of their buildings, leaving many cost-effective efficiency investments unpursued despite the existence of financial incentives.

A more complete policy solution is necessary to transform real estate markets into ones that correctly value resource-efficient performance. Energy benchmarking and transparency is the foundation on which such a policy solution is built.

When buildings are uniformly benchmarked—meaning their energy use is measured on a consistent basis—and when that information is shared publicly, the real estate market is empowered to consider the value of energy efficiency. Increasing the visibility of building performance in the marketplace will reward owners of efficient buildings and encourage more owners to invest in their buildings' resource efficiency. Finally, the publicly available building data will be invaluable to policymakers, utilities, and others as they design strategies and programs to serve their citizens, members, and ratepayers more cost effectively.

What is Benchmarking and Transparency?

Energy benchmarking—the process of measuring a building's energy use over time—allows building owners and occupants to understand their buildings' operational performance relative to similar buildings. Benchmarking requires an owner to enter basic building characteristics as well as their monthly energy use into tracking software. The leading benchmarking tool, ENERGY STAR Portfolio Manager, is a free online program provided by the U.S. Environmental Protection Agency (EPA). Using the data supplied by the building owner, the benchmarking software normalizes a building's energy use for weather, building type, occupancy, and other factors that affect energy consumption. This allows building owners to see how their property compares to like buildings on a level playing field.

BENCHMARKING BENEFITS FOR OWNERS

Owners that benchmark their buildings gain the following benefits:

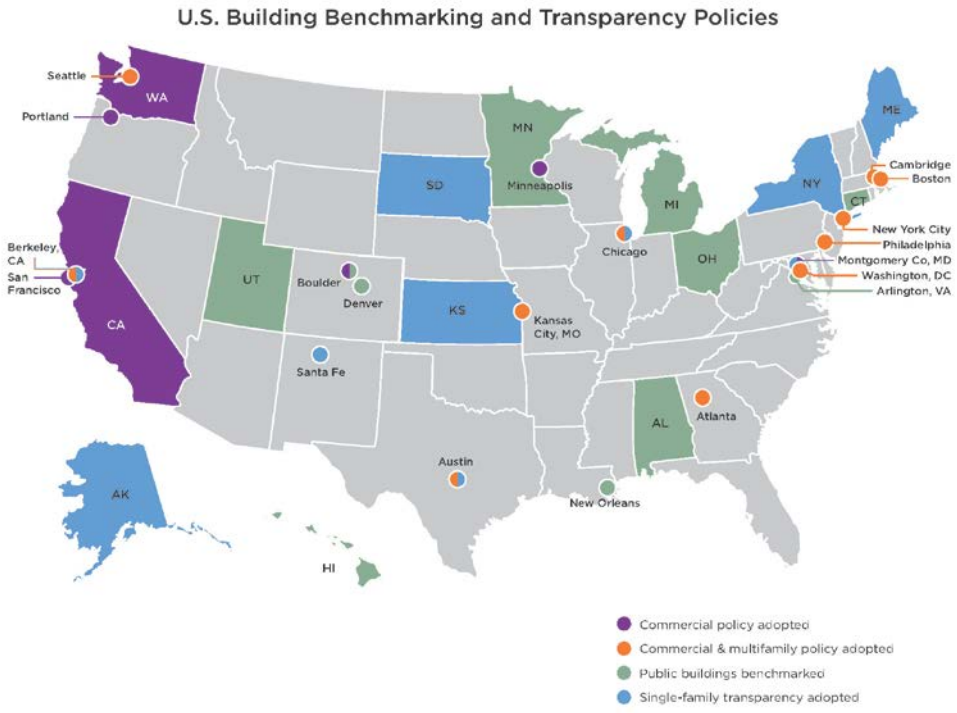
1) Baseline understanding of their building's energy use
2) Metrics to rank their building against others in their portfolio, allowing prioritization of energy efficiency investments
3) Better understanding of how their buildings' energy performance compares to competitors
4) Basis of an energy management plan to drive continuous performance improvement
5) For high performers, evidence of their building's additional value

Benchmarking is the foundation of effective energy management and is quickly becoming an operational best practice of the commercial real estate industry. Benchmarking data can be used to establish a building's baseline energy performance, set performance goals, track and improve ongoing energy use, and identify buildings that are ripe for efficiency investments. However, while acquiring energy consumption data is important, it is only really effective if it inspires owners to take action. This is why benchmarking data becomes an even more powerful tool when it is made publicly available. By making this information transparent, real estate stakeholders such as prospective investors and tenants can include energy performance and expected utility costs in their decision-making processes when evaluating buildings and tenant spaces. This incentivizes building owners to improve the performance of their

buildings, as energy efficiency becomes another value differentiator when competing for buyers and tenants.

In order to stimulate a building efficiency market, 15 U.S. cities, one county, and two states have instituted benchmarking and transparency policies for commercial and multifamily buildings. In addition, a number of cities and states have enacted benchmarking policies that apply to their own publicly owned buildings, or to single family properties, as shown in Figure 1. Benchmarking and transparency policies carry a number of benefits. They bring 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, rewarding owners of efficient buildings and encouraging more owners to invest in their buildings' resource efficiency. In addition to energy cost savings and consumer benefits, this simple policy mechanism produces a number of other environmental, health, and economic benefits.

Figure 1: U.S. Building Benchmarking and Transparency Policies as of December 2015.



Energy-Saving Benefits

The most immediate benefit of a benchmarking policy is that merely measuring and gaining awareness of a building's energy use leads to a modest but still significant reduction in energy use. By simply shedding light on the building's actual energy performance in relation to itself and to similar buildings, benchmarking draws attention to this overlooked aspect of the real estate market. Most building owners have never measured their building's relative efficiency, leaving them uninformed about how their building's performance compares to the competition. Furthermore, research has found that many owners believe their buildings to be more efficient than they actually are.[1]

Benchmarking their building's energy performance allows owners to see how their asset compares to similar buildings and increases the likelihood of taking action to improve their benchmarking results. A survey of participants and non-participants in California utility benchmarking workshops shows evidence of this effect. The survey found that of those building owners that participated, 84 percent planned or implemented efficiency improvements. The simple act of measuring and comparing their building's performance to others also led owners to consider deeper investments in efficiency. Ninety percent of the respondents agreed with the statement: "You implement more comprehensive energy efficiency measures in the buildings you benchmark."[2]

Evidence continues to accumulate showing that energy benchmarking alone 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.[3] The EPA's findings are backed by the analyses of cities that have recently enacted benchmarking and transparency policies.

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[1]Granade, Hannah Choi, et al. "Unlocking Energy Efficiency in the U.S. Economy." McKinsey & Company. 2009.
http://www.mckinsey.com/client_service/electric_power_and_natural_gas/latest_thinking/unlocking_energy_efficiency_in_the_us_economy

[2] NMR Group, Inc. "Statewide Benchmarking Process Evaluation. April 2012.
http://www.calmac.org/publications/Statewide_Benchmarking_Process_Evaluation_Report_CPU0055.pdf

[3] United States Environmental Protection Agency. October 2012.
http://www.energystar.gov/ia/business/downloads/datatrends/DataTrends_Savings_20121002.pdf?3d9b-91a5

On 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 $267,492,147.[4]

San Francisco saw similar results from benchmarking its municipal buildings. Between 2009, when benchmarking began, and 2013, San Francisco municipal buildings reduced their overall site Energy Use Intensity (kBtu/sq. ft.) by 7.4 percent.[5] 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.[6]

In addition, a 2015 study by Resources for the Future found that office buildings in Austin, 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 among building owners to energy performance.[7]

Market Competition Benefits

Benchmarking is proving to be a reliable method of achieving immediate energy reductions in buildings, but its greatest value is in its potential to form the basis of a robust market for building efficiency that will drive deeper energy savings. One of the largest barriers to transformation of the building energy market is the problem of information gaps. Buildings can be very complex, and not all aspects are readily available for inspection by prospective buyers or tenants. A building's energy efficiency can be especially hard to determine, as it depends on the design and operations of many interacting systems whose features are often difficult to observe.

Without information about a building's energy performance, real estate consumers have no reliable way of distinguishing an efficient building from an inefficient one. An analogous situation existed in the automotive industry before the requirement to label cars with fuel economy information. Miles-per-gallon information

[4] 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%20snd%20Transparency%20Policy%20Impact%20Evaluation....pdf

[5] 2013 Energy Benchmarking Report San Francisco Municipal Buildings. 2014. http://sfwater.org/modules/showdocument.aspx?documentid=6271

[6] 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

[7] 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

enabled car buyers to compare vehicles' efficiency alongside other factors, allowing producers of vehicles with superior fuel economy to market these attributes. In the absence of such information in the real estate market, a building's energy efficiency is often not a factor in how investors, tenants, and lenders determine its value. Consequently, there has been muted demand for energy-efficient buildings and therefore little incentive for building owners to invest in improving the efficiency of their properties. This is despite the fact that energy costs comprise about 30 percent of total operating costs in the typical office building.[8] In light of this heavy expense, it would seem that prospective buyers and tenants, given sufficient information about a building's performance, would prefer to purchase or lease an energy-efficient one. This supposition has been borne out by evidence showing that buildings with "green" certifications such as LEED and ENERGY STAR outperform their peers in key financial metrics.

Lower Operating Expenses

The most obvious and most immediate benefit of owning or leasing an energy-efficient building is lower utility bills. Energy savings reduce operating expenses and increase net operating income, which can have positive effects on building value. This improves cash flow for building owners and tenants and reduces the risk of default on outstanding loans. Further operational savings can be realized by reducing maintenance costs through the installation of longer lasting, energy-efficient technologies such as LED lights.

Rental Premiums and Higher Occupancy Rates

Commercial tenants are increasingly willing to pay more for green spaces. The most sophisticated tenants recognize that renting space in green, energy-efficient buildings is an opportunity to demonstrate their commitment to sustainability, thereby attracting and retaining top-performing employees, improving productivity, and reducing utility costs. Multiple studies have found evidence that certified green buildings command higher rents than their peers.

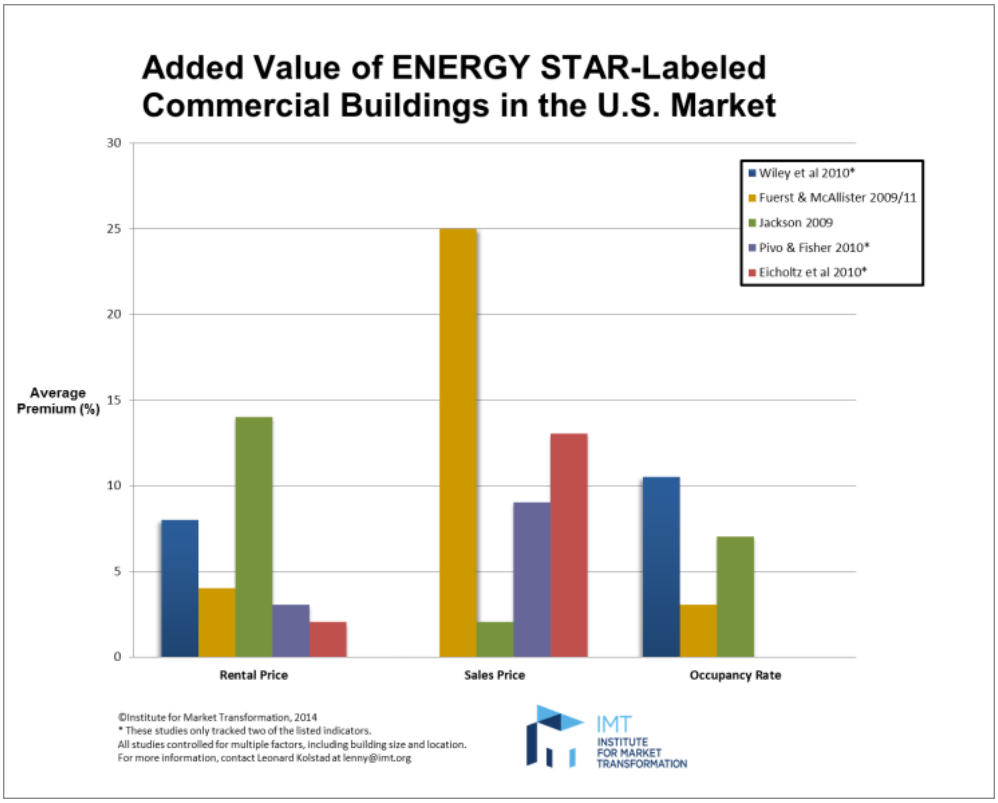
In addition to being more willing to pay for green spaces, evidence shows that tenants are also more likely to rent and remain in green spaces. Certified green buildings enjoy an occupancy advantage over their conventional peers, thus lowering their owners' lost rent due to vacancy and decreasing turnover costs.

A 2008 study by the CoStar Group found that rental rates in ENERGY STAR-labeled buildings rented at a $2.40-per-square-foot premium

[8] U.S. EPA. Energy Efficiency in Non-Governmental Buildings. http://www3.epa.gov/statelocalclimate/local/topics/commercial-industrial.html

over similar unlabeled buildings. The labeled buildings also had 3.6 percent higher occupancy rates.[9]

Figure 2: Added Value of ENERGY STAR-labeled Commercial Buildings in the U.S. Market.



A 2014 CoStar report revealed that Los Angeles tenants paid an average rent of $2.69 per sq. ft. and $2.91 per sq. ft. for ENERGY STAR-certified and LEED-certified buildings respectively. Conventional, unlabeled buildings received average rent of only $2.16 per sq. ft.[10]

Finally, an analysis of data from a single portfolio of more than 100 U.S. office buildings from 2004 to 2013 found that ENERGY STAR-certified buildings experienced 9.5 percent higher occupancy rates and 2.5 percent higher rental rates than conventional buildings. The study also found that buildings certified as energy efficient enjoyed a higher likelihood of lease renewal and average rent concessions to

[9] "CoStar Study Finds Energy Star, LEED Bldgs. Outperform Peers." http://www.costar.com/News/Article/CoStar-Study-Finds-Energy-Star-LEED-Bldgs-Outperform-Peers/99818

[10] "'Green' Buildings Thriving in LA Real Estate Market, According to CoStar Report." http://la-bbc.com/green-buildings-thriving-in-la-real-estate-market-according-to-costar-report/

tenants of just 7 percent compared to 11 percent for conventional buildings.[11]

Lower Risk to Lenders

High-performing buildings are safer investments for lenders. Lenders and underwriters are most focused on the risks associated with high-performance buildings, and how these risks affect value. High-performance buildings can offer protection against changing consumer preferences, increasing energy prices, and local green building ordinances. In addition, better market positioning is more likely to protect the going-out capitalization rate. Recognizing the relative safety of high-performing assets, one major insurer now offers discounts for high-performance buildings.

Higher Building Value and Sales Prices

The competitive advantages of green buildings translate into higher overall value in the market place and higher sales prices. The 2008 CoStar study mentioned above concluded that ENERGY STAR-labeled buildings sold at a $61-per-sq.-ft. premium compared to unlabeled peer buildings. A 2009 study by researchers at the University of California at Berkeley found that ENERGY STAR-labeled buildings sold for 16 percent more than identical unlabeled buildings.[12]

These results provide ample evidence of the financial upside of energy efficiency for real estate stakeholders and the vast amount of potential value that is currently locked up in the nation's inefficient buildings. Energy benchmarking and transparency policies offer a correction to the information asymmetry that has thus far prevented market forces from uncovering this value.

Benchmarking and transparency allows prospective buyers and tenants to see how well a building performs, and take the true value of energy-efficient buildings into account in their decision-making processes. This will make the most efficient buildings more competitive relative to their peers, rewarding owners who invest in the performance of their buildings and creating a virtuous cycle where the efficiency of the building stock continuously improves as owners compete to meet the demand for high-performing, energy-efficient buildings.

[11] Devine, Avis and Nils Kok. "Green Certification and Building Performance: Implications for Tangibles and Intangibles." The Journal of Portfolio Management. Special Real Estate Issue, 2015.
[12] Eichholtz, Piet, Nils Kok, and John Quiqley. "Doing Well by Doing Good? Green Office Buildings." Center for the Study of Energy Markets. WP 192. August 2009. http://escholarship.org/uc/item/4bf4j0gw

Government Efficiency Benefits

Benchmarking and transparency policies allow governments to gain a better understanding of their jurisdictions' building stocks. Benchmarking information can be used to set energy efficiency goals, track progress toward those goals, evaluate the performance of other efficiency policies, and create efficiency incentives and programs that target under-performing building types and geographic areas.

Benchmarking information allows policy makers to understand where the most inefficient buildings are and design more effective methods of addressing them. Before benchmarking policies, it was widely assumed that older buildings would perform more poorly than newer buildings equipped with more recent technologies. In fact, many cities have now found a more nuanced picture of energy performance in their building stocks. In its first report on benchmarking results, New York City observed that office buildings built before 1930 use less energy than newer buildings, with median source energy use intensity (kBtu/sq. ft.) increasing from 188.3 for pre-1930 buildings to 262.1 for offices built after 1990.[13]

Furthermore, in its 2014 report, after analyzing data from over 13,000 buildings, New York found that energy use varied by a factor of three to seven among properties used for similar purposes.[14] Such information can be used by jurisdictions to design efficiency programs targeted to where the need is greatest, increasing the chance for market uptake and improving program cost effectiveness.

Utilities can also use benchmarking data to make their efficiency programs more effective. Marketing efficiency incentives is currently a challenge, as there is limited data available to determine which buildings are performing poorly and which are performing well. Public benchmarking data supplies information about building characteristics that is crucial for utilities to better understand their customers. This information allows utilities to approach those customers that would benefit most from their efficiency programs, thereby increasing the cost-effectiveness of the utility's efficiency investments.

In San Francisco, account representatives of Pacific Gas and Electric Company use benchmarking data to streamline outreach to building

[13] The City of New York. "New York City Local Law 84 Benchmarking Report, August 2012." http://www.nyc.gov/html/gbee/downloads/pdf/nyc_ll84_benchmarking_report_2012.pdf
[14] The City of New York. "New York City Local Law 84 Benchmarking Report, September 2014." http://www.nyc.gov/html/planyc/downloads/pdf/publications/2014_nyc_ll84_benchmarking_report.pdf

owners about specific efficiency programs. In Massachusetts, the Low-Income Energy Affordability Network, Massachusetts utilities, and WegoWise used multifamily benchmarking data as a screening tool to target low-performing buildings for improvements. The information showed that raising the performance of all of the state's affordable housing buildings to the top quartile would save 1,800 GBtu of gas and electricity per year.

Benchmarking and transparency picks up where energy codes stop. Building energy codes apply to new buildings being constructed and, with the exception of major alterations and renovations, generally have little application after the certificate of occupancy has been issued by the local government. Benchmarking and transparency policies pick up nicely where energy codes leave off. After a building is constructed and enters into operation, a typical benchmarking and transparency policy requires that the energy consumption of that building be reported on an annual basis, or at the time of a real estate transaction. By doing so, this policy encourages future energy efficiency improvements at the point in a building's life cycle where the energy code no longer plays a role. Energy benchmarking data can also be useful to code officials by providing insight into achievable efficiency goals when considering enhancements to the energy code. Eventually, the line between energy codes, which regulate physical attributes, and building performance policies, which help regulate operating characteristics, may begin to blur. This could lead to the development of a true "energy performance" code, which would consider not just building design and construction quality but also how well the completed and occupied building actually performs.

Job Creation Benefits

A benchmarking and transparency policy can serve as the backbone of a strong energy services market. Benchmarking provides building owners, managers, and operators with a measure of their buildings' performance, but it does not provide detailed information about the equipment and components that are causing poor energy performance and how they might be addressed. More detailed analysis and energy services are needed to do that. However, benchmarking and transparency policies do create conditions that allow a market for these services to develop. Once a policy is in place and building performance information is available to real estate stakeholders, owners and energy services vendors will have a better understanding of which buildings are most prime for energy upgrades and the first steps that owners can take to improve their performance. 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.

RETROCOMMISSIONING AND AUDITS

Benchmarking can be used to identify priority buildings for energy audits and retro-commissioning, leading to significant savings opportunities. An energy audit is a comprehensive assessment of building energy consumption, including systems, insulation, and operational characteristics. There are different degrees of energy audits that will give owners a progressively clearer picture of the factors affecting their building's energy performance. These results help owners and building operators understand their energy costs and measures they can take to improve energy performance. Recommendations range from simple, low-, or no-cost energy efficiency measures to technology and equipment upgrades and envelope improvements. Energy auditors provide cost and energy-savings estimates for each recommended measure, giving owners the information necessary to design a cost-effective energy improvement plan.

In San Francisco, buildings are required to perform an energy audit every five years in addition to benchmarking their energy use. Energy audits of over 800 buildings found opportunities to make $60.6 million in efficiency improvements with a net present value of $170 million. Altogether, these improvements would pay for themselves in three years and save 150 GWh of electricity and 1.4 million therms of natural gas each year.[15]

Retro-commissioning is an energy performance assessment for existing buildings that ensures systems are functioning as originally designed. It typically focuses on energy-using equipment such as mechanical equipment, lighting, and controls with the aim of optimizing their performance rather than replacing them with more efficient systems. Retro-commissioning is one of the most cost-effective methods of reducing energy use in existing buildings. Almost inevitably, even the best designed buildings will become less efficient over time. This can occur because occupancy and use differs from the assumptions used in building design, because the building is not operated as intended, or because equipment becomes uncalibrated or ceases to function correctly. The retro-commissioning process can correct these malfunctions, saving energy, reducing future maintenance and repair costs, and improving occupant comfort. A study of commissioning projects on existing buildings found 16 percent median whole-building energy savings with 1.1 year payback periods.[16]

The building efficiency market has enormous potential. The potential magnitude of the building efficiency market is so great that it could support a large energy services industry. Work by Deutsche Bank Climate Advisors and the Rockefeller Foundation estimated that cost-effective efficiency upgrades in the residential, commercial, and institutional sectors represent a $279 billion investment opportunity, returning $1 trillion in energy savings and creating a cumulative 3.3 million jobs over 10 years.[17] In the context of an individual city, a study of Philadelphia's building stock found that 77 percent of its 7,000 commercial buildings are in need of upgrades. Making all of those improvements would generate $600 million in local spending and support up to 23,000 jobs.[18] That study recommended energy benchmarking as a means to help the worst performing buildings improve.

Benchmarking creates demand for energy services. Today, the energy services industry is restrained by a market in which the availability of building performance information is limited. Energy benchmarking supplies the market with the data needed to increase demand for better buildings. Companies that benchmark their buildings have been shown to take three times the number of energy actions than companies that do not.[19] Benchmarking policies that cover a substantial portion of a region's building stock should lead to a widespread increase in investment in building performance, meaning the creation of many jobs in training workers, conducting energy audits, retro-commissioning base building systems, and installing upgraded systems and equipment. Furthermore, when benchmarking information is made transparent, these energy service providers can use the information to market their services to the clients most in need of them, reducing the cost of new customer acquisition. Cities with benchmarking and transparency laws in place are already seeing evidence of a strong response in their labor markets. Local businesses in cities with benchmarking and transparency ordinances report hiring new employees to meet new demand driven by greater awareness of the value of efficiency. As an

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[15] SF Environment, "Why Audit." http://www.sfenvironment.org/article/energy-efficiency-audits/why-audit

[16] Mills, Evan. "Building Commissioning: A golden opportunity for reducing energy costs and greenhouse gas emissions in the United States," http://evanmills.lbl.gov/pubs/pdf/cx-enef-mills.pdf

[17] The Rockefeller Foundation and DB Climate Change Advisors. "United States Building Energy Efficiency Retrofits Market Sizing and Financing Models." March 2012. https://assets.rockefellerfoundation.org/app/uploads/20120301221532/United-States-Building-Energy-Efficiency-Retrofits.pdf

[18] Greater Philadelphia Innovation Cluster for Energy-Efficient Buildings. "The Market for Commercial Property Energy Retrofits in the Philadelphia Region. October 2011. http://energycodesocean.org/sites/default/files/resources/EEBHUB_reports_econsult_energy-market_2011-10.pdf

[19] Institute for Building Efficiency. "2012 Energy Efficiency Indicator: Global Results." 2012. http://www.institutebe.com/InstituteBE/media/Library/Resources/Energy%20Efficiency%20Indicator/2012-EEI-Global-Results-Executive-Summary.pdf

example, between 2010 and 2013, New York City calculated that 3,132 direct jobs were created by energy efficiency improvements in buildings.

Indirect Benefits

The overarching goal of a benchmarking and transparency policy is to encourage the development of a strong market for building efficiency. To the extent benchmarking and transparency succeeds in achieving this goal, jurisdictions should see economic, environmental, and health benefits resulting from increased retrofit activity and deeper energy savings. While these benefits are not directly attributable to benchmarking and transparency, their fruition is dependent on a functioning efficiency market in which building energy data is available. The following sections of this paper describe the way these indirect benefits may impact a jurisdiction.

Additional Economic Benefits

One dollar spent on energy efficiency is more economically productive than a dollar spent on buying energy. A business operating in an inefficient building uses more energy than it actually needs to produce its good and services. Therefore, it is operating in an economically inefficient way. If the business were housed in an energy-efficient building, it would be able to operate more optimally and thus more competitively as more money would be available to invest in core business activities.

Energy efficiency spending stays local. In addition to productivity benefits for businesses working in energy-efficient buildings, there are significant economic benefits that accrue to the community as a result of investments in energy efficiency. Dollars spent on energy consumption are more likely to leave the community, whereas investments in efficiency are more likely to remain in it. Investments in energy efficiency create and support jobs for local contractors, engineers, and other building professionals, producing more economic activity than many alternatives.[20] A study by the U.S. Department of Energy found that each dollar spent on energy efficiency generated $2.23 for the local economy. This number

[20] Laitner, John, Steven Nadel, R. Neal Elliott, Harvey Saches, and A. Siddiq Khan. "The Long-Term Energy Efficiency Potential: What the Evidence Suggests." January 2012. http://www.garrisoninstitute.org/downloads/ecology/cmb/Laitner_Long-Term_E_E_Potential.pdf

compares favorably to local consumer goods ($1.90) and utility services ($1.66).[21]

Energy-efficient properties are better investments. In addition to job creation and greater economic impact per dollar, there are other ways that energy efficiency can enhance a region's economic competitiveness. Studies have produced evidence that energy-efficient properties run a lower risk of defaulting on loans, because their lower operating expenses mean stronger cash flow and thus more resilience to economic hardship. A 2013 study by IMT found that mortgage default risks for energy-efficient single-family homes are on average 32 percent lower.[22] ENERGY STAR- and LEED-certified commercial buildings are correlated with lower mortgage default rates.[23] A review of energy efficiency loan programs by ACEEE revealed that default rates hovered between zero and 3 percent, making efficiency loans significantly less risky compared to other lending opportunities.[24]

Environmental and Health Benefits

Jurisdictions with benchmarking policies have seen a decrease in greenhouse gas emissions. Because energy benchmarking reduces energy use, it also reduces the greenhouse gas emissions associated with generating that energy. The degree to which emissions are reduced depends on the fuel mix that is used to supply energy to buildings. Regions that depend heavily on fossil fuels to generate energy will experience greater reductions than those that depend on low-carbon fuel sources. Cities that are dependent on carbon-heavy fuel sources have seen significant reductions since implementing benchmarking and transparency policies; though even Seattle, which receives the majority of its electricity from hydropower,[25] traces 19 percent of its greenhouse gas emissions back to commercial building energy use.[26] New York City reported that cumulative greenhouse gas emissions fell 9.9 percent from 2010 through 2013; however, a portion of this reduction can be attributed

[21] Meres, Ryan, Jeremy Sigmon, Mike DeWein, Ken Garrett, and Jim Brown. "Successful Strategies for Improving Compliance with Building Energy Codes." 2012. http://aceee.org/files/proceedings/2012/data/papers/0193-000112.pdf
[22] http://www.imt.org/uploads/resources/files/IMT_UNC_HomeEEMortgageRisksfinal.pdf
[23] An, Xudong and Gary Pivo. "Default Risk of Securitized Commercial Mortgages: Do Sustainability Property Features Matter?" March 30, 2015. http://www.reri.org/research/files/2014funded_An-and-Pivo.pdf
[24] Hayes, Sarah, Steven Nadel, Chris Granda, and Kathryn Hottel. "What Have We Learned from Energy Efficiency Financing Programs?" September 20, 2011. http://aceee.org/research-report/u115
[25] Seattle City Light Fuel Mix. 2013. http://www.seattle.gov/light/FuelMix/
[26] "2012 Seattle Community Greenhouse Gas Emissions Inventory." April 2014. http://www.seattle.gov/Documents/Departments/OSE/2012%20GHG%20inventory%20report_final.pdf

to mandated phase-out of fuel oil #6 in favor of cleaner fuels.[27] In San Francisco, where buildings are responsible for 52 percent of the city's greenhouse gas emissions, the city found that buildings that were subject to the city's benchmarking and energy audit requirements decreased source emissions by 17 percent.[28]

Mounting evidence shows that reducing energy consumption and greenhouse gases can have profound implications for public health. New York City's first city-wide benchmarking report observed a strong correlation between the number of emergency room visits for asthma incidences and the average building energy intensity in a neighborhood, raising the possibility that targeted energy efficiency projects could help relieve asthma incidences where they are most common.[29] In San Francisco, a health impact assessment by the city's Department of Public Health found that standard energy efficiency upgrades of the city's housing stock would reduce deaths caused by fine particle pollution by four percent. When energy efficiency improvements included ventilation and filtration systems, the number rose dramatically to a reduction of 43–55 percent.[30]

Occupants of energy-efficient buildings benefit from superior comfort and better health and well-being, translating into higher productivity and lower absenteeism. Even small improvements in productivity and health-related costs can mean huge benefits for businesses—for whom the vast majority of expenses are employee salaries and benefits. Many energy efficiency measures such as improved ventilation, expanded daylighting, and improved lighting are associated with gains in occupant productivity. A meta-analysis by the World Green Building Council of productivity benefits experienced by occupants of high-performance buildings found that productivity increases by 23 percent from better lighting, 11 percent from better ventilation, and 3 percent from individual temperature control.[31]

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[27] 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%20snd%20Transparency%20Policy%20Impact%20Evaluation....pdf

[28] ULI Greenpoint Center for Building Performance and SF Environment. "San Francisco Existing Commercial Buildings Performance Report 2010-2014." http://www.sfenvironment.org/sites/default/files/fliers/files/sfe_gb_ecb_performancereport.pdf

[29] "New York City Local Law 84 Benchmarking Report." August 2012. http://www.nyc.gov/html/gbee/downloads/pdf/nyc_ll84_benchmarking_report_2012.pdf

[30] San Francisco Department of Public Health. "Saving Energy, Improving Health: Potential Impacts of Energy Efficiency Program Design on Noise and Air Pollution Exposure." May 2013. http://www.pewtrusts.org/en/~/media/assets/external-sites/health-impact-project/savingenergyimprovinghealth_finalhia.pdf

[31] World Green Building Council. "The Business Case for Green Building." 2013. http://www.worldgbc.org/files/1513/6608/0674/Business_Case_For_Green_Building_Report_WEB_2013-04-11.pdf

Conclusion

Energy benchmarking and transparency is proving to be a crucial 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, governments, and the public have gained an improved understanding of building energy use. This understanding has already resulted in significant energy reductions and the increasing demand for energy-efficient properties. As time goes on, U.S. jurisdictions with benchmarking and transparency policies in place will stand to benefit from the even greater economic and environmental benefits that will follow a fully functioning market for energy efficiency.

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About the Institute for Market Transformation (IMT)

The Institute for Market Transformation (IMT) is a Washington, DC-based nonprofit organization promoting energy efficiency, green building, and environmental protection in the United States and abroad. IMT's work addresses market failures that inhibit investment in energy efficiency and sustainability in the building sector. For more information, visit imt.org.

About the Pacific Coast Collaborative

The Pacific Coast Collaborative (PCC) was launched in 2008 to set a cooperative direction in key policy areas of mutual interest among North America's West Coast jurisdictions. In 2013, the Governors of California, Oregon, and Washington and the Premier of British Columbia announced the Pacific Coast Action Plan on Climate and Energy as an initiative of the PCC, outlining a set of shared goals for reducing carbon emissions and building a clean energy economy on the West Coast. With a population of 54 million people and an economy that is the 5th largest in the world, the West Coast jurisdictions that compose the PCC are demonstrating that transitioning to a low-carbon economy can create jobs and support robust economic growth. For more information, visit www.pacificcoastcollaborative.org.

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City of Portland, Maine

Request for Proposals – Conversion of City Street Light System To LED Fixtures and from Utility Owned To Municipally Owned and Maintained Fixture On Utility Owned Poles RFP #xx17

The City of Portland, Maine is inviting qualified companies to submit proposals for the design and implementation of City-wide street light enhancements and conversions to LED fixtures. Proposals must be submitted no later than 3:00 City on (date). Late, unsigned bids or bids submitted electronically shall not be accepted. Four (4) complete hard copies of your proposal, including any descriptive literature, shall be submitted on the forms provided and in an envelope plainly marked on the outside with the RFP's title and number along with one (1) digital copy on a flash drive.

Proposals from vendors not registered with the Purchasing Office may be rejected; receipt of this document directly from the City of Portland indicates registration. Should a vendor receive this Request from a source other than the City, please contact 207-874-8654 to ensure that your firm is listed as a vendor for this RFP.

GENERAL

Project Background

The City of Portland (City) incurs significant annual costs related to street lighting. Approximately 6100 of the existing street lights in the City are owned by the local investor owned utility, Central Maine Power. The City owns another 600 lights in, primarily, decorative fixtures. Through this RFP, the City is interested in selecting a service provider to assist it in reducing street light costs by retrofitting these street lights to LED technology and implementing Smart City and IoT technologies where practical. The City anticipates that the scope of work may include street lights mounted to utility owned poles, decorative street lights, parking facility lighting, lighting controls, etc., in the LED conversion process. An inventory of utility owned street lights and an inventory of City owned lights is included in this document.

The City is very interested in exploring "smart city" technologies that offer increased functionality of infrastructure, innovative services to residents and visitors, and opportunities for public/private partnerships that could offer revenue streams to the City.

Scope of Services

The City is seeking proposals from qualified service providers (referred to variously as "proposer", "firm", or "contractor") This proposal is to be a turn-key proposal that includes: undertaking an IGA (Investment Grade Audit) of the street lights and their attributes, performing an independent and certified lighting design analysis which includes designing each unique street to either an RP 8-14 standards where applicable or at a standard to be specified; providing a comprehensive financial analysis to indicate ROI (Return On Investment), savings and payback period; completing all applicable incentive applications; carrying out all procurement requirements; applying on behalf of the City for all available grants and rebates relating to the LED conversion project; performing project management functions; undertaking or overseeing the LED luminaire installation and the recycling/disposal of all waste material; and identifying any Financing Options that the supplier can provide. The service provider must also demonstrate experience in performing street light acquisitions from Electric Utilities or submit a detailed approach to how best perform an acquisition and the options associated with an acquisition. The service provider must also have experience implementing smart city and IoT technologies that can enhance the functionality of existing urban infrastructure.

Conflict of Interest

The City seeks to work with firms that represent consumers, not suppliers, avoiding both the appearance, as well as any actual conflict of interest. Any subsequent disclosure of a conflict of interest after the award has been made, but which existed at the time of proposal submission, will be grounds for termination of any resulting contract

General

Pursuant to City procurement policy and ordinance, the City is unable to contract with businesses or individuals who are delinquent in their financial obligations to the City. These obligations may include but are not limited to real estate and personal property taxes and sewer user fees. Bidders who are delinquent in their financial obligations to the City must do one of the following: bring the obligation current, negotiate a payment plan with the City's Treasury office, or agree to an offset which shall be established by the contract which shall be issued to the successful bidder.

It is the custom of the City of Portland, Maine to pay its bills 30 days following equipment delivery and acceptance, and following the receipt of correct invoices for all items covered by the purchase order. If your organization prefers to receive payment via electronic transfer rather than by check, please see the web link below* and include that EFT form with your bid submission. In submitting bids under these specifications, bidders should take into account all discounts; both trade and time allowed in accordance with this payment policy and quote a net price. The City is exempt from the State's sales and use tax as well as all Federal excise taxes.

* http://www.portlandmaine.gov/DocumentCenter/Home/View/817

All materials and equipment used as well as all methods of installation shall comply at a minimum with any and all Federal, OSHA, State and/or local codes, including applicable municipal ordinances and regulations.

Insurance Requirements

The successful bidder shall agree to defend, indemnify and save the City harmless from all losses, costs or damages caused by its acts or those of its agents, and, before signing the contract, will produce evidence satisfactory to the City's Corporation Counsel of coverage for General Public and Automobile Liability insurance in amounts not less than $400,000 per person, for bodily injury, death and property damage, protecting the contractor and the City, and naming the City as an additional insured from such claims, and shall also procure Workers' Compensation insurance.

Equal Employment Opportunities

Vendor shall comply fully with the Nondiscrimination and Equal Opportunity Provisions of the Workforce Investment Act of 1998, as amended (WIA, 29 CFR part 37); the Nontraditional Employment for Women Act of 1991; title VI of the Civil Rights Act of 1964, as amended; section 504 of the Rehabilitation Act of 1973, as amended; the Age Discrimination Act of 1975, as amended; title IX of the Education Amendments of 1972, as amended; and with all applicable requirements imposed by or pursuant to regulations implementing those laws, including but not limited to 29 CFR part 37 and all other applicable laws, including the Maine Human Rights Act, ordinances and regulations regarding equal opportunity and equal treatment.

August xx, 2016

Matthew Fitzgerald
Purchasing Manager

PROPOSAL FORMAT

Proposals must be submitted in the following format using the numbering sequence outlined below. This is the minimum information to be provided and will be used in the evaluation process. Proposals are to be limited to a maximum of 25 pages excluding addendums

A. Cover Letter

A cover letter signed by an authorized representative of the company of Proposer shall outline the intent of the response and shall state that the information contained in the Proposal accurately describes the services to be provided

B. Company Profile

- Provide a description of the your firm's company or business, its purpose, history and successes, including the number of years in LED street lighting business and major successes.
- List any similar projects completed or underway, the client/owner, and the approximate value of the work.
- Describe your firm's experience developing projects that conform to relevant state laws, local standards, and local Public Utility Commission rules.
- Provide examples where the firm has successfully assisted municipalities with evaluation and acquisition of their street lights from electric utilities.
- Describe the firm's experience deploying smart city and IoT (internet of things) technology as part of LED street lighting projects.
- Describe partnerships with vendors, technology providers, or service providers and describe how these have added value to previous projects.

C. Key Personnel

Identify key personnel that would be employed for this program and provide a detailed resume/CV of their relevant experience, education & successes. Key personnel should demonstrate ample experience in managing turn-key street lighting projects.

D. References

Include a list of at least three (3) projects that the Proposer has successfully completed an LED retrofit and provide associated references and contact information for the persons or organizations that engaged the Proposer. By submitting a proposal, the Proposer consents to City contacting these references, and consents to City also contacting any other organization for the purposes of evaluating the Proposal.

E. Approach

Describe the approach and/or process proposed to address the project requirements. Include any notable methodologies, tools and techniques, and their respective suitability to this project. Also provide a project plan that reflects your proposed approach/process and demonstrates your ability to meet the milestones.

The following key components must be included in the approach description:

1. Audit

The provider will determine the existing street and outdoor light inventory via a Geographic Information Systems (GIS) inventory assessment of all the street lights and outdoor lights included in the project. The provider should list the attributes that they collect and describe how they relate to the design process.

During the inventory assessment, the provider will report and review all issues with the City weekly so that the City may begin to address them in order to minimize any delay on the eventual conversion.

The proponent must produce an electronic inventory file suitable for use in common GIS software (e.g. ESRI ArcMap), as well as Microsoft Excel, that contains the required attributes.

Based on the inventory, utility bill analysis, and consultation on controls and/or other products, the Proposer will develop an Audit Report which will include:

- Deficiencies in the current street lighting network
- Baseline energy use, energy cost and operations & maintenance costs
- Estimated retrofit energy use and operations & maintenance costs
- Estimated sources of funding, including rebates
- Calculation of estimated total conversion cost (remaining design tasks, product, and installation), energy reduction, and simple payback

The City seeks Proposers who can provide the strongest case for why their Audit will be most accurate and support approval by the City.

2. Financial stability

- Proposer should demonstrate the capacity to finance street lighting projects by having financed or been part of a financing project using an Energy Savings Performance Contract (ESPC).

- Should the City opt for this type of financing, the Proposer must produce an ESPC contract at the time opt in.

3. Design

The design of an LED network will have a measurable impact on both the life cycle savings as well as overall light quality. Proposers must include a design component in the scope of work.

The determination of adequate light levels for safety of pedestrians, cyclists, and vehicles is guided by the Illuminating Engineering Society (IES) Standard for Roadway Lighting (RP-8-14). The City recognizes that existing pole placement limits the degree to which IES standards may be met. The City will look favorably upon proposals that use design methodologies that will best deliver adequate lighting through the City for the expected life of the products and the City's desire for specific goals associated with customized lighting levels. IES standards may not be the standard selected by the City. Additionally, the designer should incorporate an analysis of the following data points to identify target areas that may need special consideration:

- Pedestrian/vehicle and bicycle/vehicle crash data for the last 5 years to identify areas where light levels and/or spacing have affected public safety.
- Important localized land uses (e.g. parks, schools, hospitals, etc.)
- Relative volumes of pedestrian and bicycle activity
- Unique neighborhood characteristics

The provider should describe their design process, including how actual light levels are measured before & after the conversion, and how designs are modified for unique street characteristics.

4. Project Management

Proposers shall describe their approach to Project Management and how this will impact cost, quality control and timing of the project.

- Qualifications and experience of Project Team
- Experience in projects managing multiple projects simultaneously
- Experience in projects managing large LED retrofits (over 1,000 fixtures)
- Detailed description on how the project will be managed including:

    - A description of the methods to be employed in the performance and coordination of the work that will control the scope, quality, schedule and cost of the Project
    - The anticipated risks and assumptions that will be part of completing the Project
    - Any special challenges or considerations foreseen by the Proposer and proposed solutions for each.

5. Technology Procurement

a. Fixtures

Describe the process for selecting appropriate fixtures.

The Proposer should develop complete and detailed specifications for LED Luminaires to replace lighting fixtures. The specifications will be non-proprietary performance specifications describing all relevant photometric, electrical, physical, and durability characteristics of the luminaires.

The Proposer should provide details on their method of developing specifications and how that ensures that appropriate quality standards are met.

b. Smart Controls , IoT, and other Smart City solutions

The Proposer will advise the City on the use of controls in terms of impact on safety, standardization, and energy and cost savings. The Proposer should be able to present analysis of how advanced controls could impact the total life-cycle costs of the system. The Proposer should also propose to the City other value-add systems and discuss with the City their financial impacts, commercial readiness, and alignment with utility policies.

The Proposer will demonstrate their knowledge and ability to advise municipalities on different Smart City applications that can enhance the value and functionality of the street light network.

6. Installation & Maintenance

Based on the finalized design, the Proposer will describe their approach to installation and maintenance or oversight as an owner representative. The following elements should be covered:

- Description of Work
- Required installation schedule
- Reference standards
- Submittals
- Quality Assurance and Warranty
- Installation
- Field Quality Control
- Adjusting and Cleaning
- Disposal

7. Construction Administration

The Proposer will describe their approach to Construction Administration including the following:

- Perform a sampling of spot-checks on installed lights to ensure proper installation procedures are being followed, especially at the beginning of the project
- Manage data on installations and provide a weekly status update of the of the project

- Confirmation of satisfactory installation completion by install contractor

8. Acquisition of Street Lights

The Proposer will describe their experience and methodology for assisting municipalities in acquiring their street lights.

9. Rebates/Incentives

The Proposer will describe their experience and approach to managing rebates/incentives for street lights on behalf of municipalities.

F. Value Added Services

The Proposer should describe value added services or products and detail what the Proposer is prepared to supply as part of a contract. Discussion should include opportunities for the City to monetize elements of the infrastructure through public/private partnerships. The City is interested in opportunities including, but not limited to, citywide Wi-Fi connectivity, smart traffic and parking management, interactive electronic communication with residents and visitors, advanced lighting controls, remote sensing of environmental conditions such as noise and air quality, and opportunities to provide the public with enhanced services. The City is open to collaborations with third party partners who may be able to offer revenue in support of such services.

G. Additional Information

The proposer may provide any other information that may be relevant for the review and evaluation of the prospective vendor's experience or capabilities.

H. Project Schedule

The selected Proposer shall be expected to begin work immediately upon contract signing and complete the tasks in their entirety within a reasonable yet aggressive schedule.

I. Submission

Four (4) paper copies and one (1) digital copy of the proposal must be submitted. No facsimile or e-mail submissions will be considered. Please submit the electronic copy as a disc or thumb drive in PDF format and enclose with your paper copies.

J. Proposer Selection

At its discretion, the City may select a firm outright or select a finalist(s) for in-person interviews. The City reserve the right to negotiate directly with the firm selected for additional project work at a negotiated contract for services. The City reserve the right to accept or reject any or all proposals for any reason, to negotiate with any individual or firm and to select one or more of the proposals. Attachment B includes a table that identifies the selection criteria which will be used to rank proposals.

K. Questions

All questions shall be directed in writing ONLY to the Purchasing Office at the above address and be received at least five business days prior to the bid opening date (FAX 207-874-8652, or E-mail jrl@portlandmaine.gov). Questions received after this time will not be addressed. Responses from the City that substantially alter this bid will be issued in the form of a written addendum to all bid holders registered in the Purchasing Office. Oral explanations or interpretations given before the award of the contract will not be binding.

PROPOSAL FORM

Request for Proposals -
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and from Utility Owned To Municipally Owned
and Maintained Fixture On Utility Owned Poles
RFP #xx17

**** THIS SHEET MUST BE INCLUDED IN YOUR PROPOSAL ****

The undersigned hereby declares that he/she or they are the only person(s), firm or corporation interested in this proposal as principal, that it is made without any connection with any other person(s), firm or corporation submitting a proposal for the same, and that no person acting for or employed by the City of Portland is directly or indirectly interested in this proposal or in any anticipated profits which may be derived there from.

The undersigned hereby declares that they have read and understand all conditions as outlined in this Request for Proposals, and that the proposal is made in accordance with the same.

The bidder acknowledges the receipt of Addenda numbered: _____

COMPANY NAME:
_____

AUTHORIZED SIGNATURE: _____

DATE:_____

PRINT NAME & TITLE:
_____

ADDRESS:
_____

E-MAIL ADDRESS: _____

PHONE NUMBER: _____ FAX NUMBER:
_____

TYPE OF ORGANIZATION - PARTNERSHIP, CORPORATION, INDIVIDUAL, OTHER:

_____
_____

STATE OF INCORPORATION, IF APPLICABLE: _____

FEDERAL TAX IDENTIFICATION NUMBER (Required): _____

NOTE: Proposals must bear the handwritten signature of a duly authorized member or

employee of the organization submitting a proposal.

ATTACHMENT A - Participating City Profile

City PROFILE	Approximate Units
Portland, Maine	
• Lane Miles of Road	568
• Street Lights attached to public utility poles and scheduled for replacement through this project	6,300
• Population	66,000

ATTACHMENT B - **Rating Categories**

The following table will be used to rank proposals in the selection process:

RATING CATEGORY	WEIGHTT

Company Capability & Experience
• Respondent demonstrates strong knowledge of street light technology, quality standards, and design requirements.
• Respondent documents relevant experience
  o Managing or performing all aspects of the proposed project
  o With large projects (1,000+ lights) in urban and suburban environment
• Knowledge of municipal street lighting operations and maintenance
• Experience or demonstrated understanding of utility requirements and incentives.
• Experience in assisting municipalities with evaluation and acquisition of their street lights
• Experience providing and/or recommending financing solutions for street light conversions
• Possession of unique tools and technologies to improve system performance
• Experience incorporating smart cities and IoT technologies into LED street light conversions
• Sufficient qualified staff to support project implementation
	40

Project Approach
• Describes a coherent, convincing plan to meet or exceed requirements of scope of work for all tasks
  o Includes a detailed project plan that accelerates implementation where possible
  o Includes a description of a rigorous Audit Report that can be used to support financing of the remaining project costs
  o Includes a design approach that will meet the City's goals of safety, standardization, and minimizing lifecycle costs
  o Includes a project management approach which demonstrates efficiencies in time and cost
  o Describes the City's involvement in all phases and describes an efficient use of their time and resources (e.g. efficient plan for meetings, use of police details or avoiding them)
  o Describes opportunities to implement smart cities and IoT technologies that enhance the capabilities of urban infrastructure.
  o Identifies opportunities for public/private partnerships that may provide services to the public and potentially generate revenue for the City.
	60