Energy Benchmarking Legislation Moves Forward in Philadelphia

"You can't manage what you can't measure"

Understanding building energy use is a critical first step for engaging building owners in energy efficiency and retrofit strategies and achieving sustainability and energy savings goals locally and nationally. Benchmarking and disclosure of building energy use is an innovative policy that has been adopted by an increasing number of cities and states across the country, including New York, Washington D.C, San Francisco and Seattle, to support these goals.

Mandatory benchmarking seeks to provide building owners with a snapshot of how much energy their building uses and how their building relates to comparable buildings. Mandatory disclosure seeks to provide building users with a basis for comparing buildings they may rent or purchase. This is a form of labeling similar to EnergyStar ratings on appliances or mils per gallon ratings on automobiles, which helps consumers make informed choices as well as incentivize sellers to make improvements to their product so it can be appropriately valued by consumers in the market.

Benchmarking and disclosure legislation is intended to help accelerate the market for retrofits by generating interest and demand among owners and tenants in energy efficient space. The Institute for Market Transformation (IMT) has played a critical role in recent years by sharing best practices on benchmarking and disclosure and analyzing the effect of these new laws. In 2012, IMT studied the impacts of a national benchmarking and disclosure policy and estimated it would:

- Create more than 23,000 net new jobs in 2015 and more than 59,000 jobs in 2020
- Reduce energy costs for building owners, consumers, and businesses by approximately $3.8 billion through 2015 and more than $18 billion through 2020
- Generate more than $7.8 billion in private investment in energy efficiency measures through 2020, yielding $3 to $4 in energy cost savings for every dollar invested

Cliff Majersik of the Institute for Market Transformation, Chris Pyke of U.S. Green Building Council, David Hsu from University of Pennsylvania and Laurie Kerr from the City of New York at a Hub meeting on data disclosure

Signature of "Green Mayors"

Several cities and states have been early adopters of building energy benchmarking and data disclosure legislation including San Francisco, Austin, Washington, D.C., New York City, Seattle, California and Washington State. These states and municipalities have already created sustainability strategic plans and have focused on benchmarking as a key tool for driving implementation of their sustainability initiatives.

The EEB Hub hosted a workshop in November of 2011 on data transparency and benchmarking to establish leadership on the issue and explore best practices and lessons learned from other places that have already adopted legislation. New York City currently is considered to have the best existing laws with the highest compliance rates among building owners. The chief strategist for NYC's effort, Laurie Kerr, along with other national and regional experts met at the Navy Yard to discuss how to implement potential legislation in Philadelphia. The Institute for Market Transformation, an organization that has become the national expert and technical advisor on benchmarking legislation and data access and transparency issues, also participated.

One major lesson shared is that early support and partnership with local utilities makes implementation of benchmarking legislation easier since they are the gatekeepers of building energy use data but they typically do not make it easy for building owners to access it. It was also discussed that while not all building owners support mandated benchmarking, they do tend to support easier access to building energy data. If utility behavior can be influenced through disclosure policies, it could be a valuable driver into the retrofit marketplace through data access and transparency.

Presentations from that event can be found at http://www.eebhub.org/about-eebhub/event-presentations/.

Philadelphia legislation

On May 17, 2012 Philadelphia City Councilwoman Blondell Reynolds Brown introduced Bill # 120428, which would require commercial buildings in Philadelphia over 50,000 square feet to benchmark and disclose their energy and water consumption to the City on an annual basis. The bill also calls for the use of an online tracking program, the Environmental Protection Agency's Portfolio Manager, which would allow property owners, tenants, prospective purchasers, and the public at large to compare energy and water usage among comparable buildings.

Philadelphia City Council's Committee on the Environment held a hearing on the bill on June 5 and the full City Council voted unanimously in support of the legislation on June 21. The law will go into effect on June 1, 2013 and will be administered by the Mayor's Office of Sustainability. Failure to comply would be punishable by a $300 fine for the first 30 days, and then $100 a day.

Econsult Report

The EEB Hub commissioned a study by Econsult to help identify the extent to which mandated building energy use disclosure in Philadelphia could foster economic activity and other benefits.

Findings from the study include:

- The estimated energy efficiency improvements undertaken as a result of the legislation would result in the retrofit of approximately 5.3 million square feet of office space for a total cost of $1.9 million, supporting 157 direct jobs. The ripple effects of that activity would generate an additional $1.6 million in activity, for a total of $3.5 million in economic value to the Philadelphia economy.

- Rent reductions spurred by increased competition between landlords would induce a one-time absorption of 443,000 square feet of office space, supporting 1,480 to 2,950 new office jobs, with an annual payroll of $66.8 million to $133.5 million. The multiplier effect of the new jobs would mean an additional 1,150 - 2,230 jobs and $29.7 to $59.4 million in earnings, for a total of 2,630 to 5,250 new jobs and $96.5 to $192.9 in jobs and earnings in Philadelphia.

- If owners must disclose energy costs, tenants will be able to choose between paying higher rent (but lower utilities) for a more efficient space or paying lower rent (but higher utilities) for a less efficient space. Consequently, some building owners will be incentivized to make their spaces more efficient so that they can command higher rents, thereby increasing the overall energy efficiency of Philadelphia's commercial properties.

Econsult has identified three general obstacles to the successful implementation of this legislation in Philadelphia:

1. Disclosure- Most leases for commercial space are "triple net", where the tenant carries the costs of occupancy, including utility bills. In this case, it makes it difficult for the owner to disclose the energy use of the building if she does not have access to its utility expenditures. However, more utilities are now engaging in efforts to share energy data with their customers and PECO is exploring strategies to make this easier for building owners in the region as well.
2. Split Incentives- The structure of most leases means that the owner would pay for the improvement but the tenant- who pays the utility bills- would reap the benefit. Green leases can help to align the financial and energy incentives of building owners and tenants so they can work together to save money, conserve resources, and ensure the efficient operation of buildings. The EEB Hub is a partner in the Green Lease Library, a centralized resource for commercial green leasing sources.
3. High Cost- In the current market, most retrofits do not pay for themselves within a reasonable amount of time. While the retrofit may increase the value of the building, the rate at which the benefits are capitalized is typically either too low, too slow, or both, for the owner to be incentivized to undertake the retrofit at their own expense.

Econsult concluded that if owners disclose the efficiency of the space they are selling or renting, it would allow for more appropriate sorting of tenants into the space they are willing to pay for, along with more appropriate pricing of space based upon its relative energy efficiency. Moreover, if owners are willing to improve the energy efficiency of their space to gain the higher rent, and it is profitable to do so, then the overall energy efficiency of the stock of commercial space could potentially be improved. If current rents and prices do not accurately reflect utility and maintenance costs, and there is market value for this information, then this market may be improved by government actions that improve information symmetries between the market's participants.

Implementation Issues:
Many jurisdictions have met some of the obvious challenges to the successful implementation of benchmarking and disclosure policies that Philadelphia is also likely to face.

Sub-metering- Most leases for commercial space are "triple net", where the tenant carries the costs of occupancy, including utility bills. In this case, it makes it difficult for the owner to disclose the energy use of the building if they do not have access to its utility expenditures. However, more utilities are now engaging in efforts to share energy data with their customers (Chicago's ComEd is a pioneer in this work) and PECO is exploring strategies to make this easier for building owners in the region as well. The EEB Hub has been asked by the Pennsylvania Public Utilities Commission to establish a regional working group of building energy efficiency stakeholders to focus on common policies, standards and implementation strategies for access to building data that can potentially be adopted by utilities including PECO. Creating common standards and practices could foster both increased energy efficient building market activity and innovation as both potential clients (building owners) and service companies benefit from more uniform and accessible market rules. In addition, we expect this work to inform and benefit implementation and compliance with the City of Philadelphia's benchmarking legislation so that we can become a model for the rest of the country.

Split Incentives- The structure of most leases means that the owner would pay for the improvement but the tenant- who pays the utility bills- would reap the benefit. Green leases can help to align the financial and energy incentives of building owners and tenants so they can work together to save money, conserve resources, and ensure the efficient operation of buildings. The EEB Hub is a partner in the Green Lease Library, a centralized resource for commercial green leasing sources and will be hosting a workshop on June 12th with the Delaware Valley Green Building Council, IMT and the local real estate community and national experts to discuss strategies for solving split incentive issues that we can incorporate in our local market.

High Cost to Compete- In the current market, most retrofits do not pay for themselves within the amount of time demanded by most owners. The retrofit may increase the value of the building, but the rate at which benefits are capitalized is typically too low, too slow, or both for the owner to be incentivized to undertake the retrofit at their own expense. New York City requires that owners pursue a technique that often yields high returns at minimal investment: retro-commissioning. While the proposed Philadelphia ordinance does not require retro-commissioning, the technique is available to owners who wish to improve the benchmarking of poor performing buildings. Retro-commissioning is the process by which an existing building undergoes a quality control assessment by applying a systematic process for improving and optimizing a building's operations and supporting those improvements with enhanced documentation and operator training.

To address the cost obstacle, Econsult focused on the most economical type of retrofitting: commissioning. Retro-commissioning is the process by which an existing building undergoes a quality control assessment by applying a systematic process for improving and optimizing a building's operations and supporting those improvements with enhanced documentation and operator training. Very little, if any, new equipment or material is introduced to garner significant returns on investments through retro-commissioning, making it an excellent tool for lowering the cost of energy retrofits.

Metrics for retro-commissioning of existing buildings include:

- Average cost for commissioning is $0.30/SF (range: $0.15/SF to $0.60/SF);
- Average payback on retrofits is 1.1 years (range: 0.4 years to 2.4 years);
- Average cash-on-cash return is 91% (range: 49% to 210%).
- Average resulting savings were 16% (range: 8% to 31%) reduction of current costs.

Role of the EEB Hub moving ahead

The EEB Hub has served as technical advisors to the Coalition for an Energy Efficient Philadelphia (CEEP), a group of organizations that have worked with Councilwoman Reynolds Brown in the crafting of the legislation. In this role, the EEB Hub convened the November workshop, commissioned the Econsult Report. EEB Hub Deputy Director for Management and Administration Laurie Actman provided testimony at the June 5 hearing.

The EEB Hub remains committed to helping provide implementation support to the City of Philadelphia, PECO and other utilities and building owners and tenants so that this proposed legislation achieves its desired energy savings and economic outcomes.