Workshop Summary

Using Data To Cut Building Energy Use & Increase Building Energy Efficiency

April 18, 2016
San Francisco, CA

Background

California's plan to transform the energy efficiency of building relies extensively on making energy use data accessible and available to all market actors. New legislation, AB 802, requires utilities to provide large commercial buildings full access to energy data and annual public benchmarking. An additional new law, SB 350, calls for doubling the energy efficiency of existing buildings by 2030.

Purpose

This workshop brought together thirty stakeholders and experts, including commercial property managers, building operators, brokers, energy service providers, building efficiency experts, and policy makers, to explore key issues around data, building energy use, and building energy efficiency. Discussion focused on three key questions:

- What drives building owners/tenants to increase investments in energy efficiency and value energy performance?
- How can data be used to facilitate the market transformation California intends?
- What associated strategies might be needed to spur efficiency improvement action?

Key Takeaways

√ **Privacy of energy data is not a concern** expressed by commercial portfolio owners, managers, or tenants.

√ **The cumbersome, time consuming process for accessing data/benchmarking is more objectionable than actual disclosure.** Obstacles to obtaining data need to be reduced and process streamlined.

√ With 50% to 80% of energy use controlled by building tenants, action directed at owners is not enough; **requirements on tenants are also needed.**

√ **Building Standards documents that are attached to leases and govern tenant build out/use of space may be an opportunity to impact tenant energy use.** Research is needed on how these documents might be used to reduce plug load, office occupant energy use, etc.

√ **Few building engineers/facility operators have the capacity to operate buildings to maximize energy efficiency.** Improved, and more, training is needed.

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Discussion Summary

What drives building owners/tenants to increase investments in energy efficiency and value energy performance?

Class A Buildings (the newest and highest quality buildings in the market)

- Owners and tenants value sustainability and energy performance. Cost savings is not substantial enough to be a primary motivator for deep efficiency projects.
- Demand for efficiency and other green components is strong among Class A tenants. Sustainability features and 'green' ratings increase building desirability; tenant companies often include sustainability in their corporate reports.
- HVAC system, building installed lighting, elevators, and common areas can represent 45% or less of building energy use; 55% to 80% ("plug load") is directly controlled by tenant occupants.
- Building Standards documents attached to leases govern tenant build out/use of space. These documents could be used to affect tenant energy use (e.g., requiring high efficiency appliances, lighting, etc.).

Economic Valuation of Efficiency

- Owners want 3-5 year payback on investment¬20 year payback is a non-starter. Ownership cycle is a factor; brief ownership cycles reduce energy efficiency investment due to a short-term return on investment.
- "Prorata share based on square footage" is not an incentive for energy use reduction.
- Peak pricing is a strong motivator for shaving demand during peak periods; it can reduce total energy use.
- It is difficult for cost savings to be a motivator without sub meters: there is little tenant motivation to reduce plug load and owners lacks tenant-level transparency.

All Building Types

- Capacity gap: Few building engineers/facility operators fully understand demand response or know how to operate buildings to maximize energy efficiency. They do not have built in incentives to pull down building load.

Policy Considerations

- Additional tools are needed to affect tenant/occupant energy use.
- Research is needed on using Building Standards Documents to reduce tenant energy use.
- Energy competency of building engineers/facility operators is strongly correlated to building energy use.
- Direct metering or sub-metering, resulting in tenants receiving energy bills, may increase motivation for energy reduction.
- On-bill financing is a valuable tool: it provides audited data, identifies measures, and allows implementation/ efficiency investment without showing as a capitol cost.

How can data be used to facilitate the market transformation California intends?

What associated strategies might be needed to spur efficiency improvement action?

Data Accessibility, Privacy

- Privacy of energy data is not a significant concern for commercial portfolio owners, managers, or their tenants.
- Tenants are willing to give access to energy consumption data. Utility requirements (e.g., executive level authorization from office occupant 'owner') are a greater obstacle.
- Accessing data is a cumbersome, time consuming process, benchmarking is more objectionable than actual disclosure.

Disclosure, Benchmarking

- Owners/Asset managers prefer a set schedule for disclosure rather than an uncertain time period, such as lease holder or ownership change.
- Asset managers familiar with Portfolio Manager prefer not to switch platforms; the current platform provides feedback and allows building comparison.
- Benchmarking improved when the energy usage actionable by owner was differentiated from energy usage actionable by tenants. Australia is moving to benchmarking of building systems within control of the building owner with separate policies aimed at tenants.

Policy Considerations

- Reduce obstacles to obtaining energy use data.
- There is a preference for online access to whole-building and tenant-level monthly energy consumption data.
- Benchmarking may be facilitated if it is directed at utility bill holders. A Los Angeles ordinance requires the entity on the utility bill, tenant or building owner, to do benchmarking.
- Sub-meters: utilities currently are not incentivized to sub meter. Providing tenant-level sub-meters in existing building is valuable, but can be costly. The California Energy Commission might consider institutionalizing sub-metering in building code.
- Benchmarking can inform future regulatory processes, but to achieve energy use reductions additional requirements may be needed on the lowest performing buildings.

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