

BUILDING PERFORMANCE CONSORTIUM MEETING, APRIL 27, 2007

MEETING SUMMARY

Prepared by Michael Bobker
May 17, 2007

Two themes emerged clearly from the first meeting of the Building Performance Consortium on April 27, 2007.

- (1) A need for progress on applicable measurement and reporting systems and performance data.
- (2) A need for effective education, to all levels of organizations but especially to CEOs and upper management including those of commercial tenants.

Substantial consensus on these themes was expressed in discussion and supported by tally of the responses on the written prioritization sheets (see attached). The written tally sheets also reveal an interest in specific technology guidance that was not evident in the discussion.

As a result of this consensus, two preliminary research outlines are drafted and attached, one for each of the above topics. Research leading to improved technology guidance is incorporated as part of the education-oriented agenda, to identify and develop appropriate content.

Early in the discussion the point was made, without disagreement, that energy savings potential represented only a very small fraction of total cost faced by tenants – on the order of \$0.50 - \$2.00 per square foot compared to \$70 - \$80 per square foot in rental costs. Because energy is such a small portion of total use-costs, motivation to spend much time on energy work may be limited regardless of cost-effectiveness. Several responses were suggested to this dilemma:

- Including energy usage in a package of cost-containment strategies
- Connecting energy savings with other “intangibles” – such as aspects of indoor environmental quality that could lead to improved productivity and tenant satisfaction
- Providing substantial financial incentives for energy-saving actions, perhaps ultimately associated with capitalization of building’s energy reductions through emerging carbon credit markets
- Structuring leases and metering arrangements in ways that would eliminate the various split incentives that occur in energy costs and incentives

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Michael Bobker, Manager BPL

- Culture change across organizations – by both educational and, possibly, mandatory means
- Education in the rental (brokerage) marketplace to better recognize power requirements, hidden energy costs, and quantified impacts of desirable space features

Culture change was raised in the context of bringing about change by legislative or regulatory means, including building codes and energy-use reporting. The need for more statistics, more specific benchmarking, and leading examples were cited with suggestion of some kind of data clearinghouse. No consensus was reached on mandatory approaches with voluntary and market-based (financial incentive) tools providing alternatives. Market-mechanism was also suggested by comment that building energy efficiency needed to be sufficiently mature so that it could “be presented at the table” for capitalization through emerging carbon-credit markets. Difficulty and expense of full energy modeling was cited as a barrier in the kind of quantification and reporting necessary.

The Mayor’s recently released P1ANYC2030 will provide for a range and mix of these mechanisms.

Interestingly, “education” was not a topic in the briefing materials but gained broad agreement when introduced into discussion by participants. Education was recommended across the full span of organizations, starting with CEOs. It was recommended for major commercial tenants as much as for real estate firms. Education was seen as a way for implementing culture change, especially when originating at the top levels of organizational leadership.

Tenant satisfaction was raised by the moderator as a dimension which might lead to energy-reducing maintenance actions but instead was seen as leading to higher energy use rather than lower. Demands for more cooling or more heating were perceived as the typical tenant perspective, reflected in temperature issues consistently being the leading area of complaint. The concept that HVAC-related complaints might be a telltale indicator of correctable system inefficiencies was not discussed as a possible alternative to the “conventional wisdom.” Research that supported such an “alternative account” could lead the industry towards a different mindset regarding tenant complaint patterns and maintenance responses. This topic is suggested for future consideration by the Consortium.

A transcription from notes is available upon request.

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No. of
"votes"

BUILDING PERFORMANCE TOPICAL AREAS Prioritization Tally Sheet

4

1. DIMENSIONS /MEASUREMENTS / METRICS OF TENANT SATISFACTION AND MARKET COMPETITIVENESS

0

2. INDOOR ENVIRONMENTAL QUALITY – DEFINING, MEASURING, QUANTIFYING, REPORTING

4

3. POWER RELIABILITY AND QUALITY
(grid stability, building-grid interactivity, harmonics, risks of data-productivity loss, etc)

7

4. TESTS, MEASUREMENTS, AND REPORTING FOR SYSTEMS OPERATIONS AND ENERGY MANAGEMENT

2

5. TEAMS AND ORGANIZATIONAL EFFECTIVENESS FOR ENERGY MANAGEMENT

0

6. EMERGENCY PREPAREDNESS CONCEPTS AND SCENARIO-BASED PLANNING

0

7. BUILDING SYSTEMS RISK MINIMIZATION AS PART OF ASSET MANAGEMENT

2

8. INFRASTRUCTURE CAPACITIES AND EXPANSION CAPABILITIES

7

9. VISIONING NEXT-GENERATION BUILDING SYSTEMS & RETROFITS
(mechanical, electrical, illumination, water, facades, control, automation etc)

2

10. SURVEYING CURRENTLY AVAILABLE TECHNOLOGIES

4

11. UNDERSTANDING AND CALCULATING CARBON / GREENHOUSE GAS FOOTPRINT AND REDUCTIONS

ADDED BY GROUP DISCUSSION

10

12. EDUCATION

6

13. REGULATORY MANDATE (including CODE)

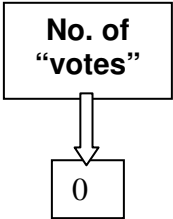
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BUILDING PERFORMANCE TOPICAL AREAS Prioritization Tally Sheet

In this set, line items are grouped together into related categories, showing a clear result in prioritization. Measurement and Education remain priority areas but Technology is seen to increase in importance when viewed this way.



0 INDOOR ENVIRONMENTAL QUALITY – DEFINING, MEASURING, QUANTIFYING, REPORTING

MEASUREMENT SET

- 7 TESTS, MEASUREMENTS, AND REPORTING FOR SYSTEMS OPERATIONS AND ENERGY MANAGEMENT **11**
- 4 UNDERSTANDING AND CALCULATING CARBON / GREENHOUSE GAS FOOTPRINT AND REDUCTIONS
- 4 DIMENSIONS /MEASUREMENTS / METRICS OF TENANT SATISFACTION AND MARKET COMPETITIVENESS **15**

2 TEAMS AND ORGANIZATIONAL EFFECTIVENESS FOR ENERGY MANAGEMENT

0 EMERGENCY PREPAREDNESS CONCEPTS AND SCENARIO-BASED PLANNING

0 BUILDING SYSTEMS RISK MINIMIZATION AS PART OF ASSET MANAGEMENT

2 INFRASTRUCTURE CAPACITIES AND EXPANSION CAPABILITIES

TECHNOLOGY SET

- 7 VISIONING NEXT-GENERATION BUILDING SYSTEMS & RETROFITS (mechanical, electrical, illumination, water, facades, control, automation etc) **9**
- 2 SURVEYING CURRENTLY AVAILABLE TECHNOLOGIES
- 4 POWER RELIABILITY AND QUALITY (grid stability, building-grid interactivity, harmonics, risks of data-productivity loss, etc) **13**

ADDED BY GROUP DISCUSSION

10 EDUCATION

6 REGULATORY MANDATE (including CODE)

DRAFT RESEARCH OUTLINE

TOPIC 1: Measurement, Metrics, and Reporting

HYPOTHESIS

There is a series of indicators that will help real estate professionals evaluate building performance for incorporation into their work. These may include measures of energy efficiency, EnergyStar rating, LEED points, carbon emission reductions, service reliability, and/or aspects of Indoor Environmental Quality such as daylighting and indoor air quality that may be reflected in tenant satisfaction. Identification of standardized indicative metric tools would help real estate organizations adapt sustainable practices into their operations.

RESEARCH DESIGN

- Phase One: Survey literature, especially regarding existing tools and characterization by objective and functionality.
- Phase Two: Identify potential products and collaborations. Assess tool integrations for various related functions, data transfers, and business process improvement.
- Phase Three: Assess market interest and readiness to adapt. Conduct interviews and surveys.

PHASE ONE: LITERATURE REVIEW

IDENTIFY

- What approaches and tools are in use or under development. What various objectives, purposes.
- What dimensions other than energy can / should be considered.

PHASE TWO: TOOL / PRODUCT APPLICATIONS

DEFINE

- How tools can be integrated with other areas of facility and organizational IT. Need / opportunity for new or linking tool development, guidance documents.
- Business Case: applications in Continuous Improvement, Best Practice, Culture Change processes.
- Resources within CUNY that could usefully support applications.
 - possible collaborations with Fred Moshary, NOAA-CREST, IEQ Research Working Group, Ted Brown, CUNY Institute for Software Design and Development, ABAS Industry Advisory process, CUNY DCM TOMCAT, Baruch-Zicklin Business School.

PHASE THREE: MARKET RESEARCH

ASSESS

- Market readiness to adapt tools and practices. Interviews, focus group, survey.
- Attractiveness of alternatives. Response to regulatory scenarios.

DRAFT RESEARCH OUTLINE

TOPIC 2: Education

HYPOTHESIS:

Culture change within organizations is led from the top down and can be strongly influenced by focused Executive Education. Corporate commitment and systematic human resource development are necessary to introduce and maintain sustainable practices and significant energy use reductions in facilities and would be adopted by firms if appropriate opportunity was available.

RESEARCH DESIGN

- Phase One: The initial research will review the literature to identify the education and training that is presently available for facilities energy management and will consider why the Consortium perceives a lack in the market.
- Phase Two: Initial findings will be characterized and used to inform sustainable real estate education-training program design. This work will address the question of what key information is required by decision-makers that needs to be included in an Executive Education offering.
- Phase Three: Program design concepts will be tested via market survey, interviews, focus group or other suitable market research tools and fed back into a marketing message and into the educational design.

PHASE ONE: LITERATURE REVIEW:

- Review existing education/training programs and their respective foci, objectives.
- Identify the best knowledge currently available about investment in building energy efficiency technologies and reliable outcomes.
- What can CUNY usefully provide that is not already available?

PHASE TWO: EDUCATIONAL PROGRAM DEVELOPMENT

- Define structure.
- Identify what knowledge is key, especially for executive-level decision-makers.
- Compile and develop key information, especially re technologies, for course content.
- Develop a program that provides for coordinated offerings across the full span of organizational departments and functions.

PHASE THREE: MARKETING / COMMUNICATION

- Identify target audience(s) and characteristics.
- Define message.
- Conduct a Market Survey – interviews to gauge interest, acceptance of approach.
- Identify channels and media for message broadcast.