Commercial Buildings Initiative
Washington, D.C.
December 10, 2007

Breakout Workshop Summary

This document summarizes results of breakout sessions conducted at the Commercial Buildings Initiative meeting held on December 10, 2007 in Washington, D.C. The breakout groups each focused on one of three commercial building sectors:

- Government and owner-occupied
- Commercial office and tenant-occupied
- Retail

For each sector, the breakout groups were asked to generate potential solutions focused on achieving zero energy buildings, and to identify the potential barriers associated with each solution. With the solutions compiled and barriers identified, the groups were then asked to generate strategies and tactics to address and/or neutralize the barriers.

This document presents a high-level summary of the breakout sessions in total. Common themes including solutions and barriers are identified in the sections that follow.

Common Themes

Solutions

1. Draw a Compelling Financial Picture

Compelling business cases and financials are required to drive the cause for dramatically more efficient, and ultimately zero energy, buildings. In addition, the business of developing such buildings would greatly benefit from leadership by financiers and developers.

2. Establish Progressive Policies and Tax Incentives

New and progressive government and utility policies, including tax incentives, are required to catalyze progress towards zero energy buildings.

3. Educate on a Broad Scale

Comprehensive education of a broad cross-section of stakeholders is a key element of the transformation required to move towards zero energy buildings. Stakeholders include:

- Design community
  - Architects
  - Engineers
  - Designers

- Developers and financiers
- Consumers
- Building owners and managers
- Building operators
- Manufacturers

4. Establish Common Benchmarking and Performance Standards for Buildings with a Public Rating System

Today, there are no standards regarding measures of performance for commercial buildings. Common best-practice methodologies for benchmarking and associated performance standards are critical enabling tools.

5. Publicly Rate Buildings

Making building performance highly visible, and understood by the public at large, would help to advance the cause for energy efficiency and zero energy buildings among a much greater audience.

6. Establish National Codes and Standards

Regional and local variations in codes and standards for commercial buildings result in inconsistent results, and they often present obstacles to innovation. Establishing national codes and standards for commercial buildings would create a level playing field.

7. Package Existing Technology

Existing technologies, especially renewable energy and energy conservation, must be packaged in ways that increase their economic viability. Furthermore, emphasis must be placed on demonstration and deployment.

8. Aggressively Advance Emerging and New Technologies

New and extensive research and development efforts are necessary to rapidly and aggressively advance emerging and new technologies to achieve zero energy buildings. And, like the packaging of existing technology, an emphasis must be placed on demonstration and deployment.

9. Mix Technology Solutions

No single technology solution is the answer. Instead, an array of technologies must be applied in combination with each other to maximize results.

10. Institute Industry-Wide Integrated Design Practices and Processes

Current design and construction practices will not achieve zero energy buildings. Instead, Integrated design practices and processes that employ collaborative teams are essential.

Barriers

1. Lack of Standard Benchmarking Practices

Presently, a lack of standard benchmarking practices for building performance do not allow buildings to be compared to each other and to standards or metrics in a meaningful manner.

2. Lack of Clear Performance Metrics

Even if buildings were benchmarked using a standard methodology, there are currently no clear performance metrics for building performance.

3. Local and Regional Variations

Local and regional variations in climate, standards, codes, policies, and support present impediments that must be overcome in order to progress towards net-zero energy buildings. A few examples include:

- Local standards and codes do not always allow for innovation and deviation from accepted norms.
- Congressional resistance to national codes and standards may cite states rights.
- Levels of support for energy-related issues, especially energy conservation and efficiency, vary across the country and around the world.

4. Inadequate Financial Tools and Incentives

Incentives by federal and state governmental institutions as well as utilities are presently inadequate, and in some cases, too difficult to be useful or meaningful.

5. Inadequate Federal, State, and Private Funding

Efforts to advance towards net-zero energy buildings require substantial investment, perhaps more than public and private institutions are willing to afford.

6. Resistant and Risk Averse Design and Construction Community

The design and construction community is comfortable with established practices, and will most likely resist change. For example, while it is understood that an integrated design approach is critical to progress, it is only applied in small pockets of the community today. Furthermore, the adoption of new processes, practices, and technologies present risk to a community that is very much risk averse in general. And, when they do take risks, they do not receive the quantifiable feedback necessary to know if it was a good decision or not.

7. Inadequate Sharing of Information and Best Practices

Information and best practices are not shared in a comprehensive manner that spans the design and construction community. The result is that all community members do not have access to the latest information, resources, and best practices with which to perform their work.

8. Lack of Buy-In from Leadership

Clear and committed buy-in on the part of government as well as corporate executive leadership is critical to advancement towards net-zero energy buildings.

9. Slow Adaptation of Utility Rates and Business Practices

Changes in utility rates happen infrequently, and the process to make such changes is slow and laborious. Greater freedom is required for utilities to better support the future.

10. Unfavorable Representation in Business Models

Finally, nothing happens if it does not make good business sense. Present business models and associated value systems do not adequately and consistently account for and support energy efficiency and conservation in buildings. Changes in value systems and more favorable business model representation are key elements in the journey to net-zero energy buildings.