

Buildings Technology Research and Development Working Group Meeting

January 15, 2009

Location: 950 L'Enfant Plaza DOE

Time: 1:30-3:30 p.m.

Attendees¹

Shyam Sunder

Jerry Dion

Kevin Hurst

Paul Domich

Dru Crawley

Alan Schroeder

Matt Grey

Mark Halverson

Patrick Hughes

Kevin Kampschroer

David Campbell (check)

Bobbie Lippiatt

Andy Persily

Steve Bushby

Hunter Fannee

William Brodt

Robin Hayes

Dale Manty

Ken Sandler

Diana Bauer

Chris Smith

Larry Bank

Richard Fragaszy

Renee Tiefjen

Ewa Lewandowska

Agency/Office

DOC/NIST

DOE/EE-Buildings

EOP/OSTP

DOC/NIST

DOE/EE-Buildings

DOE/EE-Buildings

DOE/FEMP

PNL

ORNL

GSA

USPS

DOC/NIST

DOC/NIST

DOC/NIST

DOC/NIST

NASA

EPA/ORD

EPA

EPA

Architect of the Capitol

NSF

NSF

VA

Smithsonian Institution

BTRD Co-chair

BTRD Co-chair

BTRD Ex-Sec

Next Meeting: February 19, 2009, 1:30 - 3:30 PM, 950 L'Enfant Plaza DOE

February 19, 2009

March 12, 2009

April 16, 2009

May 21, 2009

June 18, 2009

July 16, 2009

August 20, 2009

September 17, 2009

October 15, 2009

November 19, 2009

December 17, 2009

¹ Active Members not attending identified in light gray

Introductions: Working Group Co-chairs Paul Domich and Dru Crawley opened the meeting of the Buildings Technology Research and Development (BTRD) Subcommittee meeting welcoming the agency representatives and thanking them for their participation. Domich reviewed the agenda for the meeting. Sunder suggested that the order of the agenda be changed to have the speakers present first, followed by the Subcommittee discussion of the Implementation Plan.

Review of Minutes: Informal review of Minutes for December 4, 2008 was performed prior to the start of the meeting.

Presentation on the GSA Office of Federal High Performance Green Buildings Kevin Kampschroer (GSA) began the presentation by distributing a House of Representatives Press Release which contained a number of significant areas related to High Performance Green Buildings that would be funded in the draft American Recovery and Reinvestment Plan. Kampschroer remarked that currently no new appropriations have been allocated to the GSA Office of Federal High Performance Green Buildings and the current efforts have focused on leveraging existing GSA activities in support of high-performance green buildings (HPGB). Current and new activities did include establishment of a Steering Committee as required by law, advancing voluntary standards activities such as ASHRAE 189, contributing to the Interagency Sustainability Working Group, and developing new perspectives on how to measure energy usage in buildings.

Currently, there exists a debate as to whether energy usage should be measured in terms of intensity (energy consumed per sq ft of space) or productivity (energy consumed per unit of output). In the example of data centers, Kampschroer presented data from a recent HP datacenter where the consolidation of buildings and the increased concentration of equipment allowed HP to reduce the total number of buildings and lower total energy consumption. Similarly, Kampschroer recalled the disparity between promised performance and what it delivered in the final product. The distinction between HP Buildings and HPGB is primarily the additional focus on the occupants was also made.

A net-zero portfolio approach was also discussed where a cluster of buildings when grouped are able to achieve net-zero energy usage providing a balance of energy consumption and effectively aggregating beyond the four walls of a building. Finally, Kampschroer identified the need for federal agencies to share resources and contracts/contractors when engaging in major building procurements. Leveraging expertise, shared practices, documented requirements, and existing relationships in cross-agency efforts can help in the procurement and delivery of HPGBs across the federal enterprise.

Presentation on the DOE's Net-Zero Energy, Commercial Building Initiative Dru Crawley (DOE) began the presentation highlighting why buildings and commercial buildings in particular are important consideration in energy use and conservation, GHG emissions, and water consumption. The CBI focuses on "turning tomorrow's buildings into domestic energy assets by constructing

energy-efficient, high-performance buildings that expeditiously and cost-effectively achieve sustainable carbon reductions and enable, through energy-efficient buildings, higher ROIs for building owners and occupants as well as to economy as a whole". To that end, DOE is organizing a range of public/private partnerships to accelerate the improvements in building technologies and the commercialization of these products. A major CBI goal is to enable market-ready net-zero energy commercial buildings no later than 2025 in all climate zones.

Accomplishments of the program include:

- Development of the first Database of Zero-Energy Buildings (buildings.energy.gov/highperformance/zero_energy_buildings.html)
- Development of a National Laboratory Collaborative on Building Technologies (Argonne, LBNL, NREL, ORNL, and PNNL)
- Creation of Building Energy Alliances (CBEA)
 - Retailer Energy Alliance – 29 Members, rep. 2B sq ft (launched 2/2008)
 - Commercial Real Estate Alliance- 22 members (Steering Committee launched 10/2008, launching March 2009)
 - Institutional Energy Alliances (Federal/state/local government, hospitals, colleges/universities/K-12 schools)
 - Hospital Energy Alliance –10 members, rep. 100M sq ft (Steering Committee launched 10/2008)
- CBEA Technology Procurement for LED Outdoor Area lighting.

Participation by leading industry players is one of the hallmarks of the CBI. Please see the PDF of the presentation available on the BTRD website.

Current Status of the Implementation Plan for Net-Zero Energy, High-Performance Green Buildings Domich provided an overview of the Implementation Plan and the unfinished areas current draft document. Sunder then provided an overview of additional material suggested by OSTP as a result of internal EOP discussions of the Plan. The guidance includes developing additional material which provides:

1. An estimate and description of the potential benefits of additional R&D funding in these areas
2. How the implementation plan proposal fits in with all the stimulus (ARRP) funding for efficient buildings
3. A enhanced focus on retrofit technologies R&D
4. Emphasize long-term materials R&D and collaboration with the materials research community and others
5. Describe how the Plan outcomes will advance the multiple goals of high-performance buildings, including other building attributes.

Action Item: Paul Domich will organize notes for the Implementation Plan Lead writers for developing the requested changes to their sections

Closure: Domich and Crawley thanked the agency representatives for their participation and contributions.