



Zero Energy Commercial Buildings Consortium

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The Need for Net-Zero Energy Commercial Buildings

- Buildings account for 40% of energy use and GHG emissions in the U.S.
- Commercial sector makes up half that total
- \$450B invested in commercial building construction and renovation in 2006



What is a “Net-Zero Energy Building?”

Defining NZE:

A high-performance building that is designed, constructed, and operated:

- To greatly reduce energy use (i.e. ~80%) through integrated technologies
- Meet remaining energy needs from renewable sources
- Be economically viable
- Other non-energy high-performance building elements?



A Federal Response: Commercial Buildings Initiative

- Authorized in Energy Independence and Security Act (EISA) § 421-423
- Administered by U.S. DOE
- Requirement to coordinate with an industry partnership consortium
- Milestones are:
 - NZE New commercial buildings by 2030
 - NZE for 50% of all commercial buildings by 2040
 - NZE for all commercial buildings by 2050



Barriers and Challenges

- Components and systems integration
- Performance assurance and feedback
- Lack of information
- Highly diverse sector (climate, size, etc.)
- Perceived risk
- Split incentives
- Financing and appraisals
- Insufficient workforce capacity
- Weak Codes & Compliance



The Zero Energy Commercial Buildings Consortium

- Broad industry representation includes:
 - Design professionals
 - Development, construction, financial and real estate industries
 - Building owners and operators
 - Academic and research organizations
 - Building code agencies and organizations
 - High-performance green building organizations
 - Indoor air quality and intelligent buildings experts
 - Utility energy efficiency programs
 - Manufacturers and providers of equipment and techniques
 - Public transportation experts
 - Nongovernmental energy efficiency organizations



CBC Goals and Objectives

- Characterize barriers and challenges and recommend solutions
- Coordinate with industry to act on those recommendations
- Provide broad industry perspective
- **Ultimate Goal**—Accelerate market transition to net-zero energy commercial buildings



Consortium Tasks

- Identify Potential Next-Generation Technologies
- Analyze Cost and Non-Cost Barriers and Policy Solutions
- Prepare and Disseminate Annual Summary Reports
- Collaborate with Industry Stakeholders



The Consortium Leadership: Steering Committee Members



Energy Efficiency &
Renewable Energy





Project Team

- NASEO – Program Secretariat and Manager
- Alliance to Save Energy – Working Group coordination, membership management and recruitment
- Brad Hollomon, ASERTTI – Technologies and Practices
- Dave Hewitt, New Buildings Institute– Market & Policy



Consortium Membership

- Membership is open to everyone
- Active Members:
 - Participate in one or more working groups
 - Contribute best practices and case studies
 - Review reports
 - Represent the Consortium at industry events
- Corresponding Members:
 - Receive Consortium communications and activity updates



Working Groups

Technologies & Practices

- Building Envelope
- Mechanical Systems and Controls
- Lighting/Daylighting and Controls
- Process, IT, and Misc. Equipment
- Grid and Micro-Grid Integration

Market & Policy

- Codes and Standards
- Integrated Design and Building Delivery
- Benchmarking and Performance Assurance
- Voluntary Programs
- Financing & Appraisal
- Owner/Tenant Issues
- Workforce Development



Working Group Status

- All 12 groups have held inaugural calls with members
- Many have held or scheduled follow-on calls
- Current activities include:
 - Assessing existing research and literature
 - Vetting and refining outlines
 - Research and writing on specific topics
 - Coordinating with other related initiatives



2010 Timeline

- End of Aug. 2010: Working Groups to provide chapters to report task leads
- End of Sept. 2010: Draft reports due to DOE
- Oct. – Dec. 2010: Working Groups to review and finalize draft reports
- End of Dec. 2010: Final reports due



CBC Challenges and Opportunities

- High volume of interest and registration
- Coordinating with other programs and initiatives
- Tying near-term savings and opportunities in existing buildings into long-term NZE strategy
- Closer collaboration with DOE and other CBI partners
 - Clearinghouse



For More Information

- Contact Diana Lin (dlin@ase.org) for more information on membership
- Contact Kate Marks (kmarks@naseo.org) for all other inquiries
- JOIN TODAY:
 - ** Visit us at www.zeroenergycbc.org **