Zero Energy Commercial Buildings Consortium

Members of the Steering Committee,

Webinar Launch
Wednesday, December 3, 2009

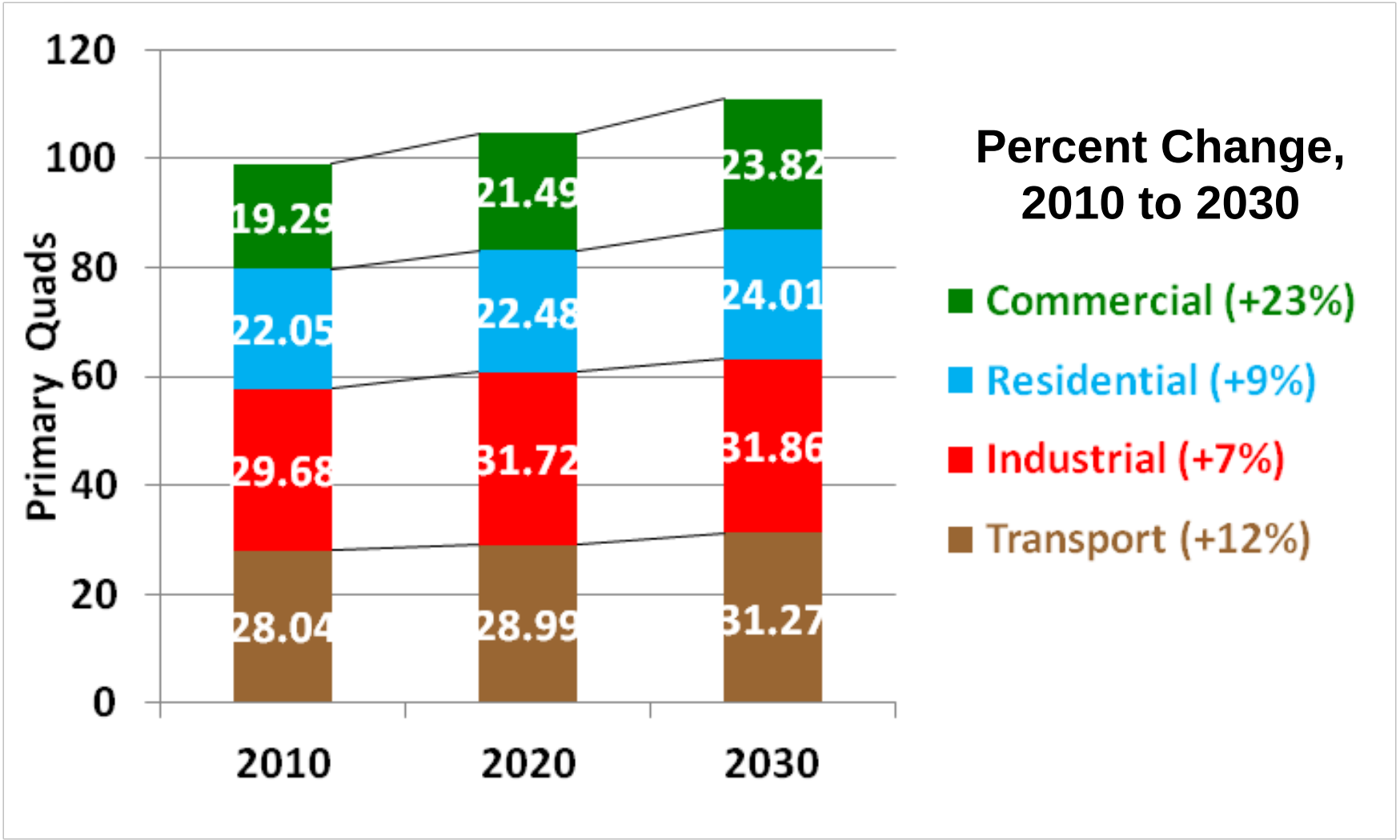
Launch Objective & Overview

- Welcome!
- Provide background and context on the Commercial Buildings Initiative and the Consortium
- Present the ways you can be involved on the Consortium's Working Groups
- Invite your comments and feedback

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

Commercial Building Energy: Fastest Growth



What is a “Net-Zero Energy Building?”

Defining NZE:

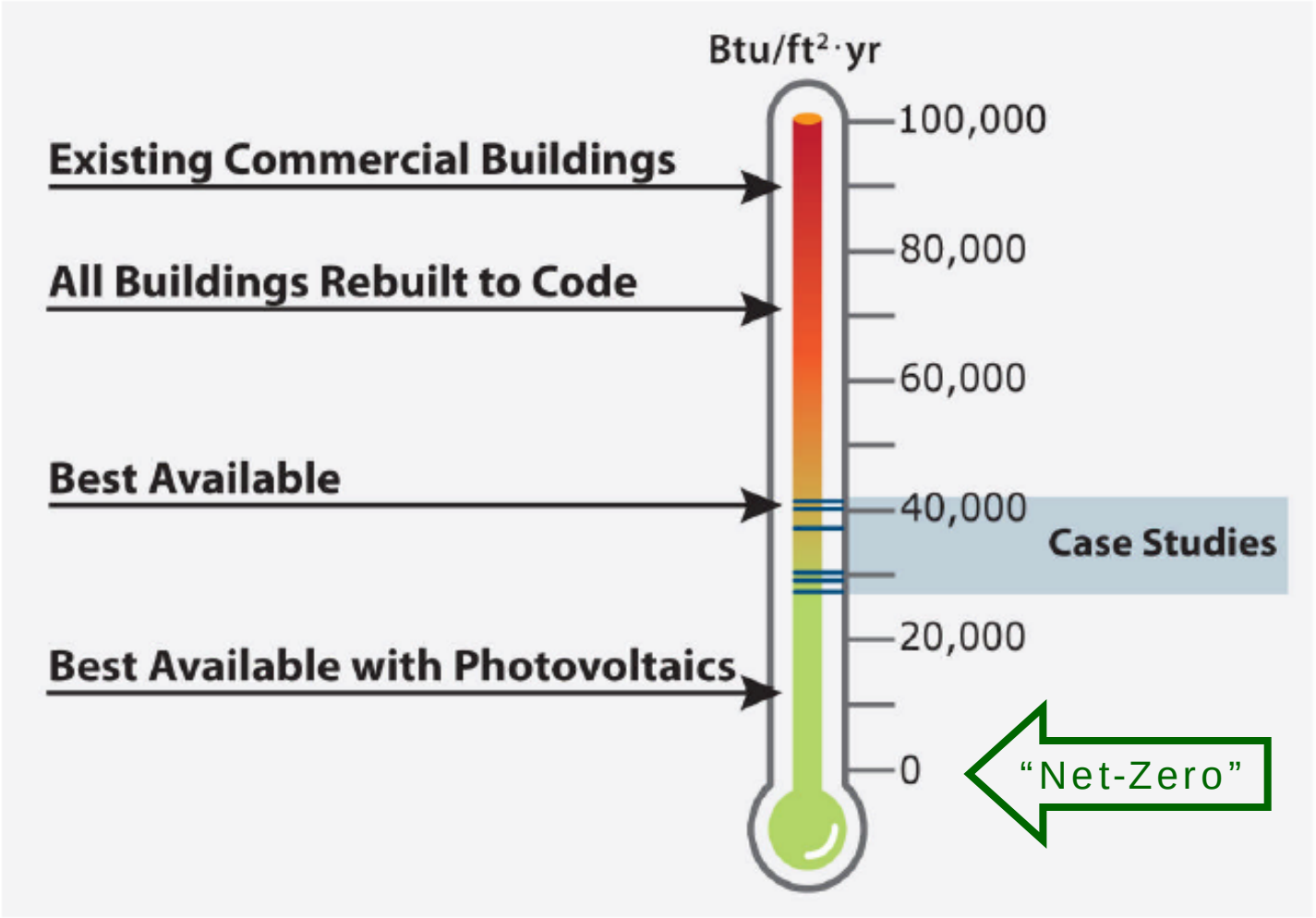
A high-performance building that is designed, constructed, and operated:

- To greatly reduce energy use (i.e. ~80%) through integrated technologies
- Meet remaining energy needs from renewable sources
- Be economically viable

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

Net Zero Energy – Where Are We Today?



Source: P. Torcellini, NREL

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
- Insufficient workforce capacity

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

The Consortium Leadership

Consortium Tasks Overview

1. Project Management and Administration
2. Identifying Potential Next-Generation Technologies
3. Analysis of Cost and Non-Cost Barriers
4. Collaboration with Industry Stakeholders
5. Prepare and Disseminate Annual Summary Reports

- **Ultimate Goal**—Accelerate market transition to net-zero commercial buildings

Task 1 : Project Management

- Responsible for Project Management Plan revisions
- Ensures timely delivery of reports and project deliverables
- Subcontracts project tasks to implementing organizations
- Organizes and supports Steering Committee and Consortium meetings and calls
- Prepares annual reports (Task 5)

Task 2:
Next Generation Technologies

- Extend and take advantage of ongoing DOE CBEA technology identification and screening effort
- Stimulate introduction of new technology by providing ready market for efficient products and systems
- Expand awareness of emerging technology as it becomes available

CBEA Technology Screening

1. Partners and vendors and developers nominate technologies http://apps1.eere.energy.gov/buildings/retailer/cfm/tech_strategy.cfm

2. DOE team applies screening criteria and presents results/recommendations to CBEA subcommittees

3. CBEA subcommittees select target technologies for further action

CBEA Screening Status

- Initial Cycle
  - Screened entries received by February 2009 combined in groups
  - Corresponding recommendations submitted to CBEA subcommittees for consideration and action
- Second Cycle
  - Entries received by October 31 now being screened
  - Minor criteria changes under consideration to accommodate new CBEA membership

What Next?

ASERTTI/NASEO conference or symposium drawing on R&D at the state level. Technology supported by ASERTTI members is likely to be:

- More forward-looking than in CBEA tech screen, which has been dominated so far by existing products and technologies already in use to some degree.
- At the same time, nearer term and locally applicable than what Federal programs generally support. (National-level R&D would be included, of course.)

What Next? (Continued)

- Reevaluation of entries in CBEA technology database to identify entries screened out in the past for programmatic reasons, e.g., technology for new construction or for non-retail buildings.
- Engagement of Working Groups to select target technologies for further action and define technology needs for future investigation

Task 3: Cost & NonCost Barrier Analysis

- Identify needed technology cost reductions for industry acceptance
- Analysis of cost-savings potential in existing systems, delivery methods, and other processes
- Identify non-cost barriers such as transaction costs and split incentives
- Explore potential solutions and recommendations

Task 4: Industry Stakeholder Collaboration

- Help DOE “connect the dots”
- Outreach
  - Consortium members and working groups
  - Other government, utility, & industry programs
- Disseminate project results
- Website (www.zeroenergycbc.org)
- Conferences and workshops
- Potential future tasks: special studies, demonstrations, pilots programs

How you can get involved: Become a Consortium Member

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

Working Groups Overview

- Two clusters of Working Groups
  - Technologies & Practices - support Task 2
  - Market and Policy - support Task 3
- Consortium members may participate in 1 or more working groups
- May add, re-define, or merge Working Groups over time
- 1 or 2 co-chairs coordinate with other groups, task leads, & Steering Committee

Working Groups (2)

- Most work via conference calls (bi-monthly or as needed) and shared files
- Member responsibilities:
  - Participate in meetings
  - Help set agenda and priorities
  - Review & contribute to committee drafts
  - Coordinate with other WGs and outside activities
  - Help disseminate Consortium findings

Working Groups (3)

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
- Financing and Appraisal
- Voluntary Programs, Incentives, & Green Building Initiatives
- Owner/Tenant Issues
- Workforce Development

Wrap-Up

- Help us promote the Consortium's session at EcoBuild America on Dec. 9 *(agenda attached)*
- Contact us with Working Group comments and chair nominations
- Contact us with other industry initiatives and events
- Stay tuned for the first Working Group calls

For More Information…

- Contact Diana Lin (dlin@ase.org) for more information on membership
- Visit us at www.zeroenergycbc.org