

TAKING THE NEXT STEP IN SUSTAINABILITY

BY PAUL EHRLICH, P.E.



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THE WASHINGTON, D.C.-based U.S. Energy Information Administration confirms that buildings are the greatest consumers of energy in the U.S. and consequently create more than 40 percent of greenhouse-gas, or GHG, emissions. Although buildings are doing the most harm, they also hold the greatest opportunity for reducing energy consumption and GHG emissions.

Programs, codes and standards slowly have increased the efficiency of buildings, but recently the idea of zero-energy, or carbon-neutral, buildings is

being widely promoted. A zero-energy building features improved building systems designed to consume 70 to 80 percent less energy than today's traditionally constructed buildings.

Zero energy can be achieved with an improved structure that features a tight envelope and energy-efficient windows, among other attributes; proper site placement, including orientation and consideration of adjacent structures; and efficient lighting, heating and air-conditioning systems. Power needs are delivered through renewable sources, such as wind or photovoltaics, ideally located on-site. Demonstration projects validating this concept have been successfully deployed, but broad acceptance and deployment is a daunting task. The newly formed Commercial Buildings Initiative proposes to take on this endeavor for the betterment of the building industry, as well as the environment.

In late 2007, Congress recognized the importance of improving commercial buildings' energy efficiency by enacting The Energy Independence and Security Act of 2007. One section of the legislation directs the Washington-based U.S. Department of Energy to formally recognize and enter into an agreement with a "high-performance green-building partnership consortium."

Prior to the enactment of this legislation, five key building-industry organizations had formed CBI, including the Washington-based Alliance to Save Energy; Washington-based American Institute of Architects; Atlanta-based American Society of Heating, Refrigerating and Air Conditioning Engineers Inc.; Washington-

based U.S. Green Building Council; and Washington-based World Business Council for Sustainable Development. In March, CBI members submitted a formal letter to the DOE asking to be recognized as the consortium described in the bill.

In its expanded form, CBI brings together owners, financiers, manufacturers, utilities, practitioners, policy makers, regulators, program planners, researchers, funding agencies and other stakeholders as a public-private collaborative focused on technology innovation, process change and market transformation. CBI will plan, coordinate and implement a comprehensive set of activities to transform energy performance in the commercial sector during the next two to three decades.

The organization currently is formulating a series of action plans intended to define patterns of energy use; document best practices and projects; and identify the changes required for a transition to higher-performance buildings by building type, climate, ownership, management and stages in a building's life cycle. Planning also will identify technology and process barriers to zero energy and recommend actions to address each major barrier.

CBI actively seeks input from industry and other stakeholders in reviewing and commenting on the draft action plans. Effective market transformation also requires CBI to train builders, educate owners and occupants, attract lenders, encourage early adopters and more. To achieve this, CBI must engage many new stakeholders while continuing to motivate and support those already involved. Please consider supporting this monumental endeavor. To learn more, visit www.zeroenergycbi.org.

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