

Zero and Net-Zero Energy Buildings + Homes

Eighth in a Series of White Papers on the Green Building Movement

Net-Zero Energy: The Next Frontier in Green Building

Ready or not, the U.S. design and construction industry is about to embark on an exciting journey: the development of net-zero energy buildings and homes.

The past decade gave the AEC industry the green building movement, inspired by the U.S. Green Building Council's Leadership in Energy and Environmental Design rating system. Now the U.S. design and construction industry is about to set forth on an uncharted and perhaps even more adventuresome path.

The stakes are high. Executive Order 13514 of October 2009 directs federal agencies, beginning in 2020, to achieve net-zero energy use in new construction and renovations by 2030. At least 15% of existing federal buildings need to meet the Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings by 2015.

The Energy Independence and Security Act of 2007 set a goal of net-zero energy use for all commercial buildings by 2030. EISA 2007 further specified a net-zero energy target of 50% of U.S. commercial buildings by 2040 and a net-zero standard for 100% of new and existing commercial buildings by 2050.

The U.S. General Services Administration has commissioned a number of net-zero energy buildings. The U.S. Department of Energy is developing measures that are designed to lead to cost-effective "NZEBS" by 2025.

In his 2011 State of the Union Address, President Obama proposed a Better Buildings Initiative whose goal is to make all commercial buildings 20% more energy efficient by the end of the decade.

We submit our eighth White Paper on Sustainability in the hope that it will inspire architects, engineers, contractors, building owners, developers, building product manufacturers, environmentalists, policymakers, government officials, corporate executives, officeholders, and the public to foster the development of net-zero energy buildings and homes.

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