Nuclear Engineering Seminar

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The Role of Nuclear Energy in Achieving Deep Decarbonization

Abstract

Evidence of climate change and its impacts become more obvious with each passing year. Few scientists would dispute the recent U.S. government report, which noted that "human activities, especially emissions of greenhouse gases, are the dominant cause of the observed warming since the mid-20th century." Unfortunately, the disconnect between science and government policy is significant, at the same time that the magnitude of the challenge of sufficiently reducing carbon emissions is extremely daunting and growing. Few technology options are available to address this challenge. While some argue for a 100% renewable future, such claims have little credibility when carefully examined. Of existing options, only nuclear and renewable energy sources can address the challenge and it essential that their use be approached from an integrated, synergistic viewpoint. Many studies around the world are exploring these synergisms and offer significant opportunity to revolutionize energy systems while simultaneously addressing carbon emissions. Integration of clean energy sources, both renewables and nuclear energy, offer the only credible current pathway toward the deep decarbonization that the world needs.

Dr. Peter B. Lyons retired from the Department of Energy on June 30, 2015. He now consults on several corporate and laboratory boards, as well as assisting several international groups. In addition, he serves on the Nuclear Energy Advisory Committee of the U.S. Department of Energy and on the Advocacy Council of Nuclear Matters. He was confirmed as Assistant Secretary for Nuclear Energy on April 14, 2011 after serving as Acting Assistant Secretary since November 2010. Dr. Lyons was appointed to his previous role as Principal Deputy Assistant Secretary of the Office of Nuclear Energy (NE) in September 2009.