

Update on Energy Choices and Consequences

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Abstract:

With the world's population increasing from seven billion currently to approximately nine billion by the year 2040, achieving a healthy lifestyle for all people on earth will depend, in part, on the availability of affordable energy, especially electricity. This work considers the various choices, or options, for producing electricity and the consequences associated with each option. The options are fossil, renewables, and nuclear. The consequences associated with these three options are addressed in five different areas: economics, environmental effects, public health and safety, sustainability, and politics. All options are needed, but some options may be better than others when compared in the five areas. This presentation is a brief summary of the content in a short course entitled “Energy Choices and Consequences,” which was created by the author several years ago and is continually updated.

Bio:

Dr. H. L. (Lee) Dodds is IBM Professor of Engineering and Department Head, Emeritus, in the University of Tennessee Nuclear Engineering (UTNE) Department. He joined UTNE in 1976 after working for the DuPont Company at the Savannah River Laboratory for six years. He began serving as UTNE Department Head in early 1997 and led the department to a top ten national ranking by *U.S. News and World Report*. He also previously worked at the Oak Ridge National Laboratory and the National Aeronautics and Space Administration. Dr. Dodds has served as a consultant to the U.S. Department of Energy and several American, Canadian, and Dutch research institutes and companies. He currently serves on the External Advisory Boards for the nuclear engineering programs at The Ohio State University, Virginia Commonwealth University, and Harbin Engineering University (Harbin, China). He is also a past member of the Accreditation Board of the National Academy for Nuclear Training, which is part of the Institute of Nuclear Power Operations, a past member of the National Board of Directors of the American Nuclear Society (ANS), and a past member of the National Board of Directors of the Nuclear Energy Institute (NEI). Dr. Dodds has received many awards during his career including the ANS Arthur Holly Compton National Teaching Award. He is a Licensed Professional Engineer in Tennessee, a Fellow of ANS, and the author of over 200 technical publications. More detailed information about Dr. Dodds is available online at <http://web.utk.edu/~hdj/>.