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Keynote Address

Critical Findings on Nuclear and Renewable Energies: Reflections on Rainbow Energy, Environmental Protection and Safety in the Wake of Fukushima Nuclear Accident

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http://www6.cityu.edu.hk/op/bio_en.htm

Abstract

Nuclear energy now provides roughly 11 percent of the world's electricity and 39 percent of global non-fossil fueled electric power generation. However, in spite of its impressive safety record since its commercial use in the 1950s, one can find some level of opposition to nuclear power everywhere it is used.

There are risks associated with any electricity generation source. The use of coal, for example, has caused more human and environmental damage than nuclear energy. Under the current circumstances, when most renewable sources are still intermittent and not suitable for generating base-load power, the loss of nuclear power would mean increase of fossil fuels, leading to additional greenhouse gas emissions, which is a prospect we cannot afford to face.

We should strike a balance between energy needs, economic growth, and safety and sustainability as each energy portfolio has its trade-offs.

About the speaker

Professor Way Kuo is President of City University of Hong Kong. Before he came to Hong Kong in 2008, he served on the senior management team at the Oak Ridge National Laboratory and as the Dean of Engineering at the University of Tennessee, Knoxville.

In addition to being a member of the US National Academy of Engineering, he is a foreign member of the Chinese Academy of Engineering, a foreign member of the Russian Academy of Engineering, and a member of Academia Sinica in Taiwan. He is a pioneer in designing and modeling the reliability of electronics systems at the infant stage, renowned for his work on designing reliability in electronics systems. He is the author and co-author of nine books on

reliability including a most recent book, *Importance Measures in Reliability, Risk, and Optimization*, published by N.Y.: Wiley, 2012, which addresses ways to design and enhance reliability of modern systems.

His first popular science book, *Critical Reflections on Nuclear and Renewable Energy*, has had an impact since its publication in 2013 by Commonwealth Publishing Group in Taiwan. The book has been translated into English, Japanese, French, simplified Chinese and published in Massachusetts, Tokyo, Paris, and Beijing, respectively.

Professor Kuo serves as Editor-in-Chief of *IEEE Transactions on Reliability*, and is the Chairman of the Gnedenko e-Forum based in Moscow, Russia.