SEMINAR SERIES

International Institute for Carbon-Neutral Energy Research
Kyushu University

Title **Climate change and carbon management**

Speaker Prof. Robert Socolow
Professor Emeritus,
Mechanical and Aerospace Engineering,
Princeton University
USA

Date & Time Monday, June 10, 2019 4:00 p.m.

Place I²CNER hall, I²CNER Bldg.1, Ito Campus, Kyushu University

Abstract

As initially conceived, the technological strategy called CO_2 capture and storage (CCS) was intended to enable power generation from coal and natural gas power plants with minimal CO_2 emissions to the atmosphere. We can call this strategy "Fo-CCS," meaning "fossil-CO_2 capture and storage." so as to distinguish from a more recent second strategy, "A-CCS," meaning "air-CO_2 capture and storage," where the CO_2 is captured from the atmosphere. A-CCS has two principal variants: BECCS and DACCS. In BECCS (biological energy CO_2 capture and storage) the CO_2 has been generated from biological carbon as a byproduct of the production of energy. In DACCS (direct air CO_2 capture and storage) the CO_2 has been removed directly from the air with chemicals without the help of photosynthesis. It is interesting to consider how the interactions between Fo-CCS and of A-CCS as they are commercialized. Can one of them prosper while the other is ignored? Can one pave the way for the other, technologically and politically?

About the Speaker

Robert Socolow is professor emeritus and a full-time member of the senior research staff in the Department of Mechanical and Aerospace Engineering at Princeton University. In his research he seeks new conceptual decade-scale frameworks that are useful for climate change policy. With colleagues he introduced "stabilization wedges," "one billion high emitters," "committed emissions," and "destiny studies." He is engaged with multi-disciplinary efforts to anticipate key issues associated low-carbon futures, including analyses of energy efficiency in buildings, wind and solar power, nuclear fission and fusion power, CO_2 capture and storage from fossil fuels and the air, impacts on the land when biocarbon is priced, and technological "leapfrogging" by developing countries. He is a member of the American Academy of Arts and Sciences, an associate of the National Research Council of the National Academies, a fellow of the American Physical Society, a fellow of the American Association for the Advancement of Science, and the recipient of the Leo Szilard Lectureship Award by the American Physical Society. He earned his Ph.D. from Harvard University in theoretical high energy physics in 1964 and joined the Princeton University faculty in 1971.

Host: Professor Takeshi Tsuji

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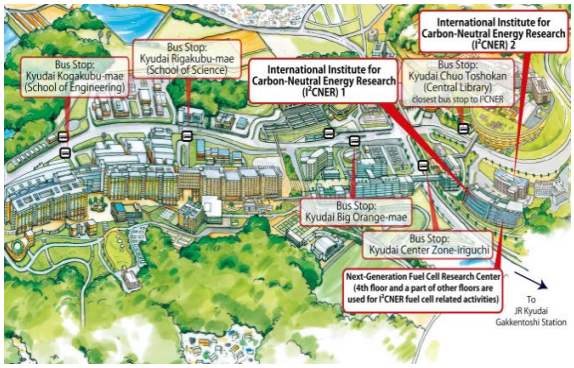

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