



ICEER 2017

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## **Keynote Lecture by**

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### **Clean Energy Development in Asian Cities, Challenges and Opportunities**

Cities throughout Asia have experienced an unprecedented economic development over the past decades. In many cases, this has contributed to their rapid and uncontrolled growth, and has resulted in multiple problems, which include a rapid population increase, enhanced environmental pollution, collapsing traffic systems, dysfunctional waste management, as well as a rapid increase in the consumption of energy, water, and other resources. Cities in rapidly industrialized regions of Asia face many tasks related to economic and environmental issues. So far, the energy use and emissions are not well understood. Urban authorities are largely not aware of the multiple benefits of energy management and GHG reduction. Given their growing scale and significance, Asian cities will have to be active in the global fight against climate change if it is to be effective. Municipal authorities in Asian cities therefore have a significant scope to pursue urban low emission strategies and clean energy initiatives in ways that will also foster economic development. Moreover, clean energy initiatives at the city scale could generate knowledge and innovations that can have wider economic and social benefits, in addition to inspiring climate action in other cities and at a national scale. Without more coordination between international, national, regional and local institutions, integration into different sectoral priorities and policies, and engagement between the public, private and civic sectors it seems likely that the cities in Asia will lock in more fully to high-cost, high carbon development paths. Because of the global significance of Asian cities, policies and programs, facilitating large-scale adoption and deployment of clean and renewable energy will need to play a central role in this area.

This research will demonstrate a new strategic planning mechanism for achieving multiple energy, environmental, public health and economic benefits of clean energy development strategies in Asian cities, together with a robust analytical framework that can be used to assess those benefits during the development and implementation process. By evaluating potential clean energy policies with criteria that cut across the multiple benefits, localities are able to select options that facilitate the achievement of multiple goals and avoid options that may impede key priorities. The first part of this presentation will focus on evaluating the existing clean energy policy developments, countermeasures and challenges in the selected cities in Japan, South Korea, China and India. The second part will address in detail the role of executive clean energy policy targets that are consistent with sustainability goals and the final part will summarize the key opportunities and the institutional barriers to mainstreaming clean energy development in these cities. This research project is supported by the Unit of Academic Knowledge Integration Studies of Kyoto University and the Japan Society for the Promotion of Science (JSPS).



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### About the author



Dr. Hooman Farzaneh is a Jr. Associate Professor at the Institute of Advanced Energy, Kyoto University, Japan. He has expertise on a broad spectrum of issues related to quantitative and qualitative analysis focusing on developing research patterns of low carbon scenarios and policy implementations designed to tackle air pollution problems in regional and local scales. Before joining Kyoto University, Hooman worked as a research fellow at the United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS), Tokyo, Japan. He has been involved in several research projects in relation to sustainable development and mitigation such as climate co-benefits approach in Asian Cities and transfer of low carbon technology to developing countries. He also collaborated with the graduate school of energy science, Kyoto University as a research fellow and a member of the Global Center of Excellence (GCOE) scenario planning group. Dr. Farzaneh is currently conducting a comprehensive research on clean energy development for urban sustainability and serving as the Principle Investigator of a research project entitled " Assessing the multiple benefits of clean energy policies in Asian mega-cities" at Kyoto university. Born and educated in Iran, Hooman holds a bachelor's degree in chemical engineering and master's and PhD degrees in energy system engineering. He has published over 40 journal and conference papers and numerous other reports (both public and confidential).