



***Integration of Renewable Energy in Energy Systems
Perspectives on Investment, Technology, and Policy***

8-10 July 2020

3:00-5:30 pm (Tokyo time)

Venue: Online

Pressing environmental, social, and political challenges are accelerating Asian economies' transition towards a resilient energy system. While the cost-competitiveness of solar and wind energy continues to improve, renewable energy consumption remains constrained by the lack of necessary policies, technologies, and infrastructure to manage intermittent generation from renewable energy sources.

The intermittency caused by renewable energy sources makes balancing the energy system problematic and could impose a significant burden on power systems or even lead to more serious problems. Energy infrastructure such as energy storage technologies and energy transmission lines could support stable, reliable, and sustainable renewable energy. However, investments in energy infrastructure require policies that address technological, financial, policy, and market barriers.

This ADBI virtual workshop will feature new research on the investment, technology development, and reforms needed to promote the integration of renewable energy in the energy systems of Asia's developing economies. The workshop will spotlight ways to manage intermittent generation from renewable energy sources, drawing upon case studies and lessons learned.

Day 1: 8 July (Wednesday) 14:50 - 17:30 (Tokyo time)

14:50-15:00 Introduction (Technical Guidance) and speakers' group photo

Opening Session

Welcoming Remarks

15:00-15:10 Tetsushi Sonobe, Dean and CEO, Asian Development Bank Institute (ADBI)

Session 1 Integration of renewable energy in Asia 1

Chair: Dina Azhgaliyeva, Research fellow, ADBI

Paper 1: The future of offshore charging stations

15:10-15:25 Presenter: Jun Yuan, China Institute of FTZ Supply Chain, Shanghai Maritime University, China

15:25-15:35 Discussant: Deok-Joo Lee, Professor, Department of Industrial Engineering, Seoul National University, Seoul, South Korea

15:35-15:45 Q&A

Paper 2: Will Renewable Energy Generated by The Private Ownership Electric Power Plants Reduce CO₂? Evidence from Heterogeneous Panels

15:45-16:00 Presenter: Dzul Hadzwan Husaini, Lecturer, Faculty of Economics and Business, Universiti Malaysia Sarawak, Malaysia

16:00-16:10 Discussant: Tooraj Jamasb, Professor, Copenhagen Business School, Denmark

16:10-16:20 Q&A

Session 2 Integration of renewable energy in Asia 2

Chair: Peter Morgan, Senior Consulting Economist, Vice Chair, ADBI

Paper 3: Analysis of Mitigation Measures Effectiveness and Investment Requires for Vietnam NDC Attainment

16:20-16:35 Presenter: Gary Goldstein, President, DecisionWare Group, USA

16:35-16:45 Discussant: Hailong Li, Associate Professor, Mälardalen University, Sweden

16:45-16:55 Q&A

Paper 4: Conundrums of Grid Integration of Small-scale Solar PV Systems in India: A Techno-economic and Policy Analysis

16:55-17:10 Presenter: Gopal K. Sarangi, Assistant Professor, TERI School of Advanced Studies, India

17:10-17:20 Discussant: Ryoichi KOMIYAMA, Associate Professor, University of Tokyo, Japan

17:20-17:30 Q&A

Day 2 : 9 July (Thursday) 14:50 - 17:30 (Tokyo time)

14:50-15:00 Introduction (Technical Guidance) and speakers' group photo

Session 3 Energy Storage

15:00-16:15 Chair: Toru Kubo, Principal Energy and Climate Change Specialist, Asian Development Bank

Paper 5: Role of Energy Storage System (ESS) in Decarbonizing future power system – insight from unit commitment dispatch model

15:05-15:20 Presenter: Victor Nian, Senior Research Fellow, National University of Singapore, Singapore

15:20-15:30 Discussant: Bo Shen, Research Scientist, Energy Analysis and Environmental Impacts Division, Lawrence Berkeley National Laboratory, USA

15:30-15:40 Q&A

Paper 6: Energy Storage and Renewable Energy Deployment: Empirical Evidence from the OECD countries

15:40-15:55 Presenter: Dina Azhgaliyeva, Research Fellow, ADBI

15:55-16:05 Discussant: Jinyue Yan, professor of Energy Engineering, Royal Institute of Technology (KTH) and Mälardalen University, Sweden; Director of Future Energy Profile; Editor-in-Chief of Applied Energy (IF= 8.426, Elsevier)

16:05-16:15 Q&A

Session 4 Technology and Infrastructure for Integrating Renewable Energy in Asia

16:15-17:30 Chair: Shannon Cowlin, Senior Energy Specialist, Asian Development Bank

Paper 7: Appropriate Technologies for Removing Barriers to the Expansion of Renewable Energy in Asia: Case of Vertical Axis Wind Turbines

16:20-16:35 Presenter: Hooman Peimani, Senior Consultant on energy security and related issues

16:35-16:45 Discussant: Victor Nian, Senior Research Fellow, National University of Singapore, Singapore

16:45-16:55 Q&A

Paper 8: Accounting for Energy Infrastructure when Decarbonizing other Energy Sectors Through Renewable Energy

16:55-17:10 Presenter: Christina Kockel, Research Associate, RWTH Aachen University, Institute for Future Energy Consumer Needs and Behavior, Germany

17:10-17:20 Discussant: Derek Bunn, Professor, London Business School, UK

17:20-17:30 Q&A

Day 3: 10 July (Friday) 14:50 -17:30 (Tokyo time)

14:50-15:00 Introduction (Technical Guidance) and speakers' group photo

Session 5 Policy for Integrating Renewable Energy in Asia

15:00-16:50 Chair: Andrew Jeffries, Director, Southeast Asia Energy Division, Asian Development Bank

Paper 9: Enhancing Policy and Market Strategies to Accelerate Renewable Energy through Distributed Resources: The case of the U.S.

15:05-15:20 Presenter: Bo Shen, Research Scientist, Energy Analysis and Environmental Impacts Division, Lawrence Berkeley National Laboratory, USA

15:20-15:30 Discussant: Romain Zissler, Senior Researcher, Renewable Energy Institute, Japan

15:30-15:40 Q&A

Paper 10: Rebalancing Subsidies in Market-Based Energy Sectors with Renewables: Synergies and Obstacles

15:40-15:55 Presenter: Tooraj Jamasb, Professor, Copenhagen Business School, Denmark

15:55-16:05 Discussant: Gopal K. Sarangi, Assistant Professor, TERI School of Advanced Studies, India

16:05-16:15 Q&A

Paper 11: Impacts of the carbon intensity of electricity on CO₂ emissions from 'green' data centers

16:15-16:30 Presenter: Hailong Li, Associate Professor, Mälardalen University, Sweden

16:30-16:40 Discussant: Hooman Peimani, Senior Consultant on energy security and related issues

16:40-16:50 Q&A

Session 6 Remarks on the journal special issue

Chair: Dina Azhgaliyeva, Research fellow, ADBI

Remarks on the journal special issue

16:50-17:05 Jinyue Yan, professor of Energy Engineering, Royal Institute of Technology (KTH) and Mälardalen University, Sweden; Director of Future Energy Profile; Editor-in-Chief of Applied Energy (IF= 8.426, Elsevier)

17:05-17:10 Q&A

Closing Session

Closing Remarks

17:10-17:20 Peter Morgan, Senior Consulting Economist, Vice Chair, ADBI