

ASIA CLEAN ENERGY FORUM 2019

PARTNERING FOR IMPACT

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Deep Dive Workshop

Wednesday, 19 June 2019, 9:00 a.m. – 12:30 p.m.

Multifunction Hall 1

Urban Microgrids



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Background

Cities must play a central role in addressing climate challenges, not only because of their great potential to mitigate emissions of all kinds, but also because of the vulnerability of urban infrastructure to extreme weathers caused increasingly by the changing climatic patterns. The power system in cities is no exception. Against this backdrop, urban microgrids consisting of decentralized power generation, highly responsive loads, energy storage, and smart energy management systems, may offer a reliable and sustainable solution. With the increasing integration of local renewables in the urban environments, this option becomes more relevant and promising than ever for addressing the emerging energy challenges in cities.

However, how could the microgrids powered largely by variable renewable energy sources be best deployed and integrated in the urban power systems? What roles the advanced energy management systems enabled by digitalized energy infrastructure, other innovative technologies for smart cities can play in facilitating the configuration and operation of a smart urban microgrid? What kinds of legal and regulatory frameworks should be put in place to enable the scale up of such microgrids in cities?

These important questions deserve in-depth discussions that can help the national and local policy makers, urban energy planners and experts, and other stakeholders navigate the complexities of expanding the applications of urban microgrids in various contexts.

Objective

This DDW aims to address these questions by:

- Presenting the interesting use cases of urban microgrids with success stories and lessons learned, and providing the local officials, energy experts and private sector players with opportunities to share concrete business cases with their takeaways;
- Discussing the enablers and upcoming challenges of urban microgrids - technical barriers, regulatory issues, standardization challenges, and economic viability and business model creation and social implications; and
- Generating new thinking through interactive discussions at the workshop on how best we could explore potential of microgrids for cities in pursuit for a more inclusive, resilient and sustainable energy system and a transformative impact in urban life.

In line with ADB Strategy 2030, this DDW provides an excellent platform for synergizing the different sectors through a cross-sectoral and integrated approach by linking the microgrid with livable cities with the goal of delivering a reliable, resilient and efficient urban energy future for the Developing Member Countries.

Agenda

1. **Opening Remarks: Susumu Yoneoka, Energy Specialist (Smart Grids), ADB**
2. **Session1: Policy/Technologies (9:00-10:30) (Moderator: Gordon Falconer, Chairman Advisory Board Company, United Smart Cities (Singapore))**
 - Cai Wan Tam, ABB (Malaysia), Urban Microgrid: Enabling Utility and C&I towards Green and Digital Future
 - Romagnoli Alesandro, School of Mechanical and Aerospace Engineering (Singapore), Optimization tool for energy installations
 - Hu Ke, China, GEDI(China), 'Internet+' Integrated Energy Microgrids Application
3. **Session2: Business Models (11:00-12:30) (Moderator: Yong Chen, Programme Officer for Sustainable Urban Energy, IRENA)**
 - Michael Ashford, Chemonics International (USA), Towards a Viable Business Model for Urban Microgrids
 - Adrian Panow, Deakin University (Australia), Campus Microgrids - Research, energy cost and sustainability objectives
 - Yi Liu, Tsinghua University (China), DC Microgrid
 - Nathalie Risteau, Mandalay Yoma Renewable Energy (Myanmar), Solar mini-grids in Myanmar

About the Organizers

Asian Development Bank (ADB)

The Asian Development Bank was conceived in the early 1960s as a financial institution that would be Asian in character and foster economic growth and cooperation in one of the poorest regions in the world. ADB assists its members, and partners, by providing loans, technical assistance, grants, and equity investments to promote social and economic development. ADB is composed of 68 members, 49 of which are from the Asia and Pacific region.

International Renewable Energy Agency (IRENA)

IRENA is an intergovernmental organization that supports countries in their transition to a sustainable energy future, and serves as the principal platform for international cooperation, a center of excellence, and a repository of policy, technology, resource and financial knowledge on renewable energy. IRENA promotes the widespread adoption and sustainable use of all forms of renewable energy, including bioenergy, geothermal, hydropower, ocean, solar and wind energy in the pursuit of sustainable development, energy access, energy security and low-carbon economic growth and prosperity. (www.irena.org)