

ASIA CLEAN ENERGY FORUM 2019

PARTNERING FOR IMPACT

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Deep Dive Workshop

Integrated Solutions for Livable Cities in Asia Pacific: Multi-Energy Systems and Sustainable Buildings



APUEA
Asia Pacific Urban Energy Association



**DISTRICT ENERGY
IN CITIES
INITIATIVE**



Department for
Business, Energy
& Industrial Strategy



**Wuppertal
Institut**

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Background

56 percent of the world's population lives in urban areas by 2020 and 80 percent of the world's energy is consumed here. The urban population in Asia-Pacific will grow by 16 percent between 2020–2030, and by 2050 more than half of the world's urban population will be in the Asia-Pacific region.

Cities in emerging economies, where 95 percent of population growth to 2030 and beyond will occur, will account for the majority (70 percent) of global growth in energy use through 2030. For instance, according to 2018 Global Status Report, the energy needed for cooling buildings will triple by 2050 – a growth equivalent to the current electricity demand in the USA and Germany combined.

Governments throughout the region struggle to keep pace with the growing demand for energy infrastructure while striving to meet the requirements for livable and environmentally sustainable cities. It is safe to say that the development of sustainable urban energy, complemented by other enabling systems of provision is crucial to combat climate change. Cities can be climate-solvers and can help countries in Asia-Pacific to achieve their international climate commitments.

Taking consideration huge potentials to retrofit existing urban energy systems into sustainable ones, and continuous urbanization particularly in our DMCs in Asia-Pacific – it is estimated that 75 percent of the urban infrastructure that will exist by mid-century, there is huge opportunity to shape more energy and resource-efficient cities to avoid the worst effects of climate change at the same time to make our cities more livable. Increasingly, it became evident that potentials of low-carbon buildings are critical in decarbonizing cities. Passive building design, energy efficient and clean energy-based cooling, district energy

and distributed energy systems, green and sustainable building materials, building insulation enhancement, water saving through smart facet and rainwater re-use in buildings, and other measures that enable zero-emission buildings demonstrated significant benefits, thus, drawn tremendous attention.

Furthermore, the importance of Multi Energy Systems (MES) including district energy as a solution for sustainable urban energy is increasingly being recognized globally, including during LPAA events since COP21, in the European Union Heating and Cooling Strategy, in China's 13th Five-Year Plan, in India's Cooling Action Plan, and through the Kigali Cooling Efficiency Program (K-CEP) where District Cooling is recognized as a not-in-kind solution for HFC phase-down.

This DDW aims to unlock these potentials and mainstream sustainable energy and building solutions while making our cities more livable.

Objective

The objective of the DDW is to;

- discuss challenges and opportunities for innovative cross-sectoral solutions to achieve livable, inclusive, and sustainable cities.
- increase the awareness of integrated and multi-source energy schemes
- share international and regional experiences
- present challenges and opportunities from different parts of Asia Pacific
- bridge sectorial public and private stakeholders, stimulating partnership developments

The benefits to ADB includes, but are not limited to;

- promote components of the ADB 2030 strategy
- capacity building for ADB staff to join the workshop
- opportunity to share success stories
- present financial offers to the participants
- enhance partnerships with hosting and participating organizations to promote district energy across the region
- identify potential project opportunities across Asia Pacific (inc. East Asia, Southeast Asia and South Asia) for both sovereign loans and private sector loans

Benefits to ACEF Participants includes, but are not limited to;

- getting insights in the potential of sustainable energy concepts across Asia Pacific
- getting insights in technical, financial and institutional challenges and opportunities
- getting insights in the regional diversity of the energy sector
- networking and potential partnerships with hosting organizations, contributing organizations and other participating organizations and individuals.

Indicative Agenda

- 09:00-09:10 a.m. **Opening remarks**
Amy Leung, Director General at East Asia Regional Development, ADB
(Strategy 2030, Making Livable Cities through Low-Carbon Energy systems and Building) (tbd)
Mark Radka, Chief Energy and Climate Branch, UNEP DTIE or
Kaveh Zahedi, Deputy Executive Secretary for Sustainable Development, UNESCAP
(UNEP Program on Cities Clean & Efficient Cooling)
- 09:10-09:20 a.m. **Setting the Scene and Program Introduction**
By **Na Won Kim**, Senior Environment Specialist, East Asia Sustainable Infrastructure, ADB
- 09:20-09:40 a.m. **Topic: Multi Energy Systems (MES)**
By **Kristina Lygnerud**, from IVL, DHC+ Vice Chair of Euroheat & Power, Advisor to EU H2o2o Magnitude project
- 09:40-10:00 a.m. **Topic: Harvest abundant low-grade energy sources for heating and cooling applications**
By **Clay Nesler**, Vice President, Global Sustainability and Industry Initiatives, Johnson Controls
- 10:00-10:10 a.m. **Introducing UNEP City Initiative on Clean and Efficient Cooling**
By **Lily Riahi**, Lead District Energy in Cities Initiative, UN Environment
- 10:10-10:30 a.m. **Addressing environment and energy challenges with District Cooling as a not-in-kind solution for HFC phase-down**
By **Husamuddin Ahmad**, Member of the Executive Committee of the Multilateral Fund (MLF) for implementation of the Montreal Protocol
- 10:30-11:00 a.m. Coffee Break
- 11:00-11:20 a.m. **Topic: Role of Green Buildings and Financing Products to Promote Green Buildings, with the case of the PRC green building markets**
By Representative (Chun Xia, TBD) from Wuppertal Institute & Yong Wu, China Association of Building Energy Efficiency
- 11:20-11:40 a.m. **Topic: UK government-IFC program on Market Accelerator for Green Construction (MAGC) using EDGE online tool**
By Peter Warran & Gabrielle Drinkwater, BEIS, UK Government or Autif Sayyed from IFC
- 11:40-12:20 a.m. **Cross-sectoral solutions for sustainable and livable cities in Asia Pacific (Panel Discussion)**

Moderator: Mikael Jakobsson, Executive Director, Asia Pacific Urban Energy Association

- 1) **Sanjeev Jaiswal**, Mayor Thane/Mumbai, India or **Mayor Bina J Acharya**, City of Rajkot, Gujarat, India
- 2) **Michael Schack**, Director, Engie
- 3) **Teruhisa Oi**, Senior Energy Specialist, South Asia Department, ADB
- 4) TBD, representative of K-CEP or TBD, representative of C40
- 5) TBD, government representative of SEA country no1
- 6) TBD, government representative of SEA country no2

12:20-12:30 a.m. Closing remarks

By **Manoj Sharma**, Chief of Urban Sector Group, ADB (tbd)

Indicative List of Speakers

Amy Leung, Director General at East Asia Regional Development, ADB

Mark Radka, Chief Energy and Climate Branch, UNEP DTIE

Kaveh Zahedi, Deputy Executive Secretary for Sustainable Development, UNESCAP (UNEP Program on Cities Clean & Efficient Cooling)

Na Won Kim, Senior Environment Specialist, East Asia Sustainable Infrastructure, ADB

Kristina Lygnerud, from IVL, DHC+ Vice Chair of Euroheat & Power, Advisor to EU H2o2o Magnitude project

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Mikael Jakobsson, Executive Director, Asia Pacific Urban Energy Association

Sanjeev Jaiswal, Mayor Thane/Mumbai, India

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Michael Schack, Director, Engie

Teruhisa Oi, Senior Energy Specialist, South Asia Department, ADB

Manoj Sharma, Chief of Urban Sector Group, ADB

About the Organizers

UN Environment:

The United Nations Environment Programme (UN Environment) is the leading global environmental authority that sets the global environmental agenda, promotes the coherent implementation of the environmental dimension of sustainable development within the United Nations system, and serves as an authoritative advocate for the global environment.

Our mission is to provide leadership and encourage partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations.

Wuppertal Institute:

The Wuppertal Institute undertakes research and develops models, strategies and instruments for transitions to a sustainable development at local, national and international level. Sustainability research at the Wuppertal Institute focuses on the resources, climate and energy related challenges and their relation to economy and society. Special emphasis is put on analyzing and stimulating innovations that decouple economic growth and wealth from natural resource use."

Asia Pacific Urban Energy Association (APUEA)

The Asia Pacific Urban Energy Association (APUEA) actively promotes the development of sustainable urban energy systems in the Asia Pacific region.

Through the secretariat located in Bangkok, the association convenes cross-sectoral stakeholders, shares global and regional experiences and best practices, and promotes market development for sustainable urban energy systems.

The APUEA platform serves as a bridge between the Association's members and governments/international agencies in the Asia Pacific region, helping cities to accelerate the development of sustainable urban energy systems.

APUEA is an initiative of the International Institute for Energy Conservation (IIEC), with support from an advisory board comprising representatives from United Nations Environment (UN Environment), Euroheat & Power (EHP), Asian Development Bank (ADB), Tsinghua University (China), and Danish Board of District Heating (DBDH).

District Energy in Cities initiative

The District Energy in Cities Initiative is a multi-stakeholder partnership coordinated by UN Environment, with financial support from DANIDA, the Global Environment Facility, and the Italian Ministry of Environment and Protection of Land and Sea.

As one of six accelerators of the Sustainable Energy for All (SEforALL) Energy Efficiency Accelerator Platform, the Initiative aims to double the rate of energy efficiency improvements for heating and cooling in buildings by 2030, helping countries meet their climate and sustainable development targets.

The Initiative supports local and national governments to build know-how and implement enabling policies that will accelerate investment in low-carbon and climate-resilient district energy systems. It currently provides technical support to cities in four pilot countries (Chile, China, India and Serbia) and ten replication countries (Argentina, Bosnia and Herzegovina, Colombia, Egypt, Malaysia, Mongolia, Morocco, Russia, the Seychelles and Tunisia).