Advancing Climate Action and Resilience of Cities in the Asia-Pacific Region

Renewable energy and Air pollution control

30 March 2023, UNCC, Bangkok (10:30-11:15 hrs Thailand Time GMT+7)
[Side event of 10th Asia-Pacific Forum on Sustainable Development (APFSD), 27-31 March 2023]

Jointly organized by:
Asian and Pacific Centre for Transfer of Technology (APCTT) of the
United Nations Economic and Social Commission for Asia and the Pacific (ESCAP)
And
Sustainable Urban Development Section (SUDS), ESCAP

Meeting Report

A. Summary of discussions

1. The side event brought together experts and participants from the Asia-Pacific region and provided a platform to share insights and discuss strategies and actions for climate resilient cities through adoption of innovative and affordable technology solutions for renewable energy and air pollution control. Key domain from experts from Naresuan University and Asian Institute of Technology in Thailand deliberated and shared perspectives and good practices of innovative and affordable technologies for renewable energy transition and air pollution control in the urban space. The event was attended by about 15 participants comprising of policymakers, and relevant stakeholders involved in urban governance, renewable energy applications and city air pollution control in the region, as well as experts in the field of climate resilient cities.

2. It was highlighted that innovative technologies can be harnessed as an enabler to accelerate economic delivery but also address environmental and climate change impacts in cities.

3. Secondary and intermediary cities are facing the most challenges of climate change because of increasing urbanization, lack of institutional support systems and capacities. These cities will need support in terms of access to and adoption of innovative and affordable technologies, capacity building and promoting ideal solutions to address the challenges.

4. Innovative renewable energy technology options are necessary to make the cities climate resilient through reducing emissions, decentralized generation, increased efficiency, and cost reduction. Photovoltaics (PV), wind and concentrated solar power are popular renewable energy technologies to mitigate emissions in the urban space.

5. Renewable energy options such as solar, biomass, waste heat and PV/Thermal offer promising opportunities for the building air-conditioning sector in cities. These technologies can help in (a) reducing electricity consumption (b) reducing emissions, (c) decentralized generation eliminating transmission and distribution (T&D) losses, and (d) optimizing and reducing inefficiencies by using IoT applications.

6. For accelerated decarbonization of transport sector, promising technology options like electric vehicles and hydrogen fuel cells should be scaled up for large scale adoption in cities.

7. Air pollution management in cities requires an integrated approach comprising of air quality monitoring, impact assessment, and air quality modelling based on emissions inventory and meteorological data. Emission inventories for traffic and open burning are some enabling decision-making tools for effective air quality management in cities.

8. Artificial Intelligence (AI) based traffic data analysis is also an innovative tool to develop emission inventories for traffic in cities.

B. Recommendations

1. Accelerated actions for transitioning to climate resilient cities would require support for research and development (R&D), innovation and demonstration, capacity building and skills development, incentivizing linkages between various stakeholders, and providing financial incentives for innovation and adoption.

2. For effective transfer of innovative technologies, countries will need technical capacity building, access to know-how, matching of needs with available technologies/innovations, and active participation of private sector, financial institutions, universities and R&D institutions.

3. Technology needs assessment is recommended as an effective strategy for counties to identify priority list of needs in terms of technology, develop technology action plans and project ideas, and submit to donor agencies for support.

4. The needs of countries should be aligned with availability of their energy resources to decide what type of renewable energy source can be harnessed for a specific purpose.

5. Affordable technology solutions should be identified and supported through adequate technical, institutional and financial support.

6. APCTT can support and facilitate capacity building and training for accurate measurement and compilation of emissions data in targeted cities as a multi-year activity.

7. APCTT can work with member States to identify innovative and affordable solutions for scaling up and large-scale application of innovative technologies in cities.