CONFERENCE DAY 3 – 04 MARCH 2021 - WORKSHOP
WORKSHOP ON DISTRICT COOLING SYSTEM

Venue & Time	
Venue	Workshop Hall
Time	New York 00:30 ~ 03:00 Paris 06:30 ~ 09:00 **India 11:00 ~ 13:30** Tokyo 14:30 ~ 17:00

Session Background

The summer temperature has been on the rise constantly all across India during the past 3 decades. The maximum temperature in Delhi has increased in the last 3 decades by 6 degree Celsius to exceed 48 degrees in 2019. At this rate by 2030, the summer temperature could be well over 50 degrees making it almost impossible for people to live, work or commute without cooling. Traditionally, space cooling in buildings is provided with room (window) air conditioner (AC) or centralized AC plants. With increasing economic prosperity, urbanization and rising temperatures, sale of room ACs are set to increase rapidly. Installed stock of room ACs in India increased from two million units in 2006 to 30 million units in 2017 and is expected to be between 55 - 124 million by 2030. Per another estimate, about 700 million new ACs by 2030 and 1.6 billion units by 2050 are expected to be added globally. This level of proliferation of ACs will worsen the crisis by increasing the ambient temperature and widen the divide between those who can afford to stay cool and those left out in the unbearable deadly heat.

Room ACs emit heat to the atmosphere creating heat islands in many parts in a city and increase the overall ambient temperature in the locality. Similarly, millions of air-conditioned cars in large cities like Delhi emitting heat make it very uncomfortable for pedestrians and commuters on 2-wheelers and 3- wheelers. This situation is set to aggravate as the number of rooms ACs and air-conditioned cars are increasing by the day. High temperatures are already affecting people's ability to work, making people sick, and outright killing thousands of elderly and children in low-income communities who cannot afford cooling. While cooling is a luxury at moderate to high temperatures, it is an essential need at temperatures above 40 degree Celsius.

The India Cooling Action Plan (ICAP) issued in March 2019 aims to reduce cooling demand by 25-30% and reduce cooling energy requirements by 25-40% by 2037-38 from 2017-18 levels. ICAP targets efficiency improvement and material substitution and related actions that will yield incremental improvements. The problem being so critical and imminent, it requires a radically different approach – incremental improvement in the efficiency of room AC units and better construction materials will not help to mitigate this challenge. District energy systems are being successfully implemented in many parts of the world and have evolved as a matured technology. In the Indian context, the district cooling system (DCS) presents an opportunity to address the space cooling challenge effectively.

Considering this, an actionable implementation plan needs to be developed focusing on both greenfield and brownfield projects along with commercially viable business models for providing cooling as a service. Government should also come up with policy and regulation both at central and state levels focusing on financing options, incentives and tariff policy for providing a push for adoption of DCS and attract investment in the sector.

Through this workshop, we would like to learn from international experience and figure out the issues and challenges for DCS projects in Indian context at both technical and commercial side. This workshop will also evaluate the key activities that need to be undertaken in terms policy and regulations, commercially viable business models, innovative financing options and new technologies to implement DCS in developing countries.

11:00 ~ 11:30	**Inaugural Session** **Welcome Address: ISGF** **Special Address:** Abhay Bakre, Director General, Bureau of Energy Efficiency
11:30 ~ 12:15 **Chair &**	**Session 1: Policy and Regulations and Implementation Plan** **Martin Schefler**, Co-Founder, Auroville Consulting

Moderator	
Speakers	1. **Arijit Sengupta**, Director, Bureau of Energy Efficiency 2. **Girja Shankar Charan**, General Manager, EESL 3. **Laxmi Rao**, Senior Director, International District Energy Association (IDEA) 4. **Dimitry Bochkalov,** Senior Director- Global Business Development, Danfoss 5. **Sudheer Perla**, Country Head, Tabreed 6. **Mikael Jakobsson**, Executive Director, APUEA 7. **Rahul Agnihotri,** Coordinator, District Energy Initiatives South Asia, UNEP 8. **Philippe Hamilton Reid,** Global Business Development Manager for District Heating & Cooling Systems, Tractebel Engineering SA
12:15 ~ 13:00 **Chair** **Moderator** **Speakers**	**Session 2: Technology and Business Models** **Rajeev Sharma**, Vice President, GIFT City **Peter Lundberg**, Head of Operations, APUEA 1. **Teruhisa Oi**, Principal Energy Specialist, ADB 2. **Ganesh Das**, Head Innovation & R&D, Tata Power DDL 3. **Dhiraj Wadhwa**, Director, Carrier India 4. **Laxmi Rao**, Senior Director, IDEA 5. **Jakob Bjerregaard,** Partner, Devcco 6. **Shubhasish Dey**, Director, Climate Policy, Shakti Foundation 7. **Prameet Gupta**, Business Development Associate, Tabreed
13:00 ~ 13:30	**Discussion on Way Forward**

Key Takeaways by Moderator