



Webinar Series

Disease Resilient and Energy-Efficient Centralized Air-Conditioning Systems

Session Coordinated by ADB TA 6563

Webinar 3 - Smart HVAC Systems

Date: 15th September 2021

Time: 4.00– 5.30 PM

(Manila Time – GMT +08.00 Hours)

Background

Studies show that transmission of viruses, such as the coronavirus causing COVID-19, can be prompted by air-conditioned ventilation. In developing member countries (DMC), the risks of virus transmission are higher because of poor hygiene including the use of old air-conditioning equipment, lack of regular maintenance, and overcrowding in closed spaces. Additionally, inefficient centralized air-conditioning (CAC) systems in many DMCs account up to 50% of energy consumption in public buildings. Advanced air-conditioning systems with energy-saving technologies used in combination with demand-side management techniques could bring up to 45% energy savings. CACs also rely heavily on hydrofluorocarbons (HFCs), a greenhouse gas potentially thousands of times more potent than carbon dioxide. Proper management of HFCs are critical to addressing greenhouse gas emissions from CAC systems.

The Asian Development Bank (ADB) is implementing a knowledge and support technical assistance (TA), Regional Support to Build Disease Resilient and Energy Efficient Centralized Air-conditioning Systems, to promote disease-resilient clean energy development in developing member countries of ADB. The TA supports DMCs of ADB to improve energy efficiency, mitigate the risks of virus transmission, and ensure safe working conditions in public buildings by deploying efficient, clean, and smart CAC systems.

Objective

Third of a series of webinars, Webinar 3 – Smart HVAC Systems aims to increase awareness on the use of smart digital technologies and innovations for centralized air-conditioning systems towards improving disease resilience and energy efficiency in buildings with centralized air conditioning systems in ADB developing member countries. Speakers will talk about innovations in monitoring and control of centralized air-conditioning systems and present real-world examples smart, clean, and disease-resilient centralized air-conditioning systems in public buildings.

Registration of the event

https://adb-org.zoom.us/webinar/register/WN_FKgZC78sSS6v6eetlZmQrw

Point of Contact:

Jinmiao Xu / Remife De Guzman

Organization: ADB

Email: jinmiaoxu@adb.org / remifedeguzman.consultant@adb.org

Disease Resilient and Energy-Efficient Centralized Air-Conditioning Systems

Session Coordinated by ADB TA 6563

Webinar 3 - Smart HVAC Systems

Date: 15th September 2021

Time: 4.00 – 5.30 PM – Manila time (GMT + 8)

Time	Topic	Speaker
4.00-04:10	Introduction to TA 6563: Introducing TA-6563: Regional Support to Build Disease Resilient and Energy Efficient Centralized Air-conditioning Systems	Jinmiao Xu Energy Specialist, Energy Sector Group, Sustainable Development and Climate Change, ADB
4.10-04:25	Expert Address 1: Overview of Control Systems of Centralized Air-conditioning Systems	Donglan Huang Senior Energy Specialist, China Energy Engineering Group Guangdong Electric Power Design Institute Co., Ltd.
4.25-04:40	Expert Address 2: Smart Control Systems	Namita Gupta Founder & CEO Aiaveda Technologies Pvt. Ltd
4.40-04:55	Expert Address 3: Modelling and Control Algorithm	Lu Aye Professor of Energy Engineering, Faculty of Engineering and Information Technology, The University of Melbourne
4.55-05.10	Expert Address 4: Clean Centralized Air-conditioning in Public Buildings	Johnny Zhou General Manager of Asia Pacific, BROAD Group
5:10-5:30	Question and Answer Session: Question and Answer from participants, Closing Remarks	Yashkumar Shukla Executive Director, Center for Advanced Research in Building Science and Energy, CEPT University



Jinmiao Xu

Energy Specialist,
Energy Sector Group, Sustainable Development and Climate Change, ADB

Mr. Xu has more than 16 years of experience in the energy field. He is responsible for work related to carbon capture, utilization, and storage (CCUS) in the Energy Sector Group of the Sustainable Development and Climate Change Department (SDSC-ENE) of ADB. He also administers several regional technical assistance projects focused on CCUS, low-carbon energy technology roadmaps, and advanced centralized air conditioning systems. His expertise includes energy and environmental technologies, policies, and programs. He received BS in Environmental Engineering from North China Electric Power University in 2005, and MS in Thermal Engineering from Tsinghua University in 2011.



Donglan Huang

Energy Specialist, China Energy Engineering Group Guangdong Electric Power Design Institute Co., Ltd.

Ms. Donglan Huang has more than 14 years of experience in the energy field, especially in power plant instrumentation and control (I&C) system, and information system. She has participated as I&C chief designer in many power plant projects and project manager in telecommunication project. She received her Bachelor of Engineering in Automation and Master of Engineering in Control Theory and Control Engineering from Wuhan University.



Namita Gupta

Founder & CEO of Aiaveda Technologies Pvt. Ltd

Ms. Namita Gupta has more than 20 years experience in computer science field. She received BS and MS in Computer science and Math from Indian Institute of Technology. She has worked for Microsoft, Facebook and Zomata for many years before she founded Aiaveda Technologies Pvt. Ltd. She got 17 US patents in the fields of social networks, developer platforms and search.



Lu Aye

Professor of Energy Engineering, Faculty of Engineering and Information Technology, The University of Melbourne.

Prof. Aye has more than 40 years of engineering experience in university teaching, research, development, demonstration and commercialisation of renewable energy and energy efficiency technologies.

He has been internationally recognized as an expert in low-carbon technologies for built environment applications. His research areas include heating, ventilation, air-conditioning and refrigeration systems, waste to resources, complex systems modelling. Prof. Aye applied phenomenological modelling and simulation approaches for optimization of energy systems. He also optimizes computational and participatory approaches for modelling socio-ecological systems under deep uncertainty. These system models have been applied for identifying the effects of policy interventions and robust decision making. He has been recognized as a leading expert in modelling, simulation, optimization and forecasting of complex systems behaviours.

**Johnny Zhou**

General Manager of Asia Pacific, BROAD Group

Mr. Johnny Zhou has more than 10 years of experience in energy and HVAC industry specially for the wind energy, waste heat recovery and combined cooling, heating & power (CCHP) system. He has worked for both commercial and industrial projects across Asia Pacific region. He received Master of Science in Management from University of Leicester (2011).

**Yashkumar Shukla**

Executive Director, CARBSE, CEPT University

Dr. Yashkumar Shukla is Executive Director at Centre for Advanced Research in Building Science and Energy (CARBSE) at CEPT University, India. He has more than fifteen years of international experience in building energy-efficiency research and serves as a lead on several groundbreaking energy-efficiency research projects at CARBSE. He currently serves as a team lead of the technical assistance (TA) program by the The Asian Development Bank (ADB) that supports developing member countries to improve energy efficiency, mitigate the risks of virus transmission, and ensure safe working conditions in public buildings by deploying efficient, clean, and smart centralized air-conditioning (CAC) systems.

About the Organizer**Asian Development Bank**

The Asian Development Bank (ADB) 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.

About the Technical Assistance Donors**High-Level Technology Fund**

The High-Level Technology (HLT) Fund is a multi-donor trust fund established in 2017 with the Government of Japan as the first donor. It provides grant financing to promote the integration of HLT and innovative solutions into ADB-financed and administered sovereign and nonsovereign projects throughout the project cycle—from identification to implementation and operation. The fund encourages more widespread adoption of HLT to address development challenges in ADB developing member countries.

Clean Energy Fund (CEF) under the Clean Energy Financing Partnership Facility

The Clean Energy Fund (CEF) under the Clean Energy Financing Partnership Facility (CEFPF) was established in 2007 to help developing member countries of the Asian Development Bank (ADB) improve their energy security and decrease the rate of climate change through increased use of clean energy. The CEF is supported by the Governments of Australia, Norway, Spain, Sweden, and the United Kingdom.