



# Regional: Regional Support to Build Disease Resilient and Energy Efficient Centralized Air Conditioning Systems

Project Name	Regional Support to Build Disease Resilient and Energy Efficient Centralized Air Conditioning Systems
Project Number	54210-001
Country	Regional
Project Status	Proposed
Project Type / Modality of Assistance	Technical Assistance
Source of Funding / Amount	
Strategic Agendas	Environmentally sustainable growth Inclusive economic growth
Drivers of Change	Knowledge solutions Partnerships Private sector development
Sector / Subsector	Energy - Energy efficiency and conservation Health - Disease control of communicable disease Water and other urban infrastructure and services - Urban policy, institutional and capacity development
Gender Equity and Mainstreaming	Some gender elements
Description	<p>1. The knowledge and support technical assistance (TA) will support developing member countries (DMCs) of the Asian Development Bank (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 centralized air conditioning (CAC) systems.</p> <p>2. The TA will support the implementation of ADB's Strategy 2030 , particularly operational plan for priority 1: addressing remaining poverty and reducing inequalities, with emphasis on addressing human development and better health for all; operational plan for priority 3: tackling climate change, building climate and disaster resilience, and enhancing environmental sustainability; and operational plan for priority 4: making cities more livable. This TA also seeks to help DMCs respond to coronavirus disease (COVID-19) pandemic and similar health risks. It is included in the 2020 management-approved results-based work plan of the Sustainable Development and Climate Change Department.</p>
Project Rationale and Linkage to Country/Regional Strategy	<p>3. Air conditioning is becoming one of the most basic services in many cities of DMCs where it accounts for up to 50% of energy consumption in public buildings. If advanced air conditioning systems with energy-saving technology are used along with demand side management in buildings, energy savings of 25% 45% are possible. Efficient CAC systems will reduce the operational cost of public buildings, and decrease energy consumption therefore contributing to climate change mitigation.</p> <p>4. During the COVID-19 outbreak, the risk of transmitting the virus through CAC systems in public buildings has become a major concern. According to recent research studies, the coronavirus can survive in the air for several hours in fine particles known as aerosols. Another study indicated that droplet transmission was prompted by air-conditioned ventilation. The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) advised that _transmission of coronavirus through the air is sufficiently likely that airborne exposure to the virus should be controlled. Changes to building operations, including the operation of heating, ventilating, and air-conditioning (HVAC) systems can reduce airborne exposures. . ADB has implemented projects about energy efficiency but these are not focused on clean and high efficiency air conditioning systems. This TA will further assess the risks of airborne transmission in CAC system in DMCs and make appropriate recommendations.</p> <p>5. CAC systems commonly use recirculated air (70%), mixed with fresh air (30%) in public buildings. Air filtration components of standard CAC systems are not effective in filtering viruses and other pathogens. Therefore, the recirculated air inside public buildings and other closed spaces have a high risk to the spread of COVID-19, other viruses, and bacteria highlighting the role that CAC systems can play in the transmission of COVID-19 and airborne diseases. In many DMCs, such risk is higher because of inadequate hygiene standards, such as the use of old and inefficient air conditioning equipment, lack of regular maintenance, and large crowds in closed spaces. The awareness and capacity of government institutions as well as the operators of the public buildings are also limited in dealing with these risks. Therefore, there is an urgent need to build (and/or retrofit) virus resilient and energy efficient CAC systems in the short and the longer term.</p>
Impact	Health resilient clean energy development in DMCs promoted
Outcome	Deployment of CAC systems that meeting energy efficiency and indoor air hygiene requirements increased
Outputs	Energy efficiency and virus transmission risks of CAC systems in typical public buildings (including clinics) assessed Operational process for smart automated control system under pandemic and normal conditions developed Capacity to use innovative CAC systems for energy conservation and containing indoor virus transmission enhanced
Geographical Location	Regional
<b>Summary of Environmental and Social Aspects</b>	
Environmental Aspects	
Involuntary Resettlement	
Indigenous Peoples	
<b>Stakeholder Communication, Participation, and Consultation</b>	
During Project Design	
During Project Implementation	

Business Opportunities	
Consulting Services	Individual consultants International (14 person-months) and National (24 person-months)
Procurement	Competitive grant selection procedure

Responsible ADB Officer	Zhai, Yongping
Responsible ADB Department	Sustainable Development and Climate Change Department
Responsible ADB Division	SDSC-ENE
Executing Agencies	Asian Development Bank 6 ADB Avenue, Mandaluyong City 1550, Philippines

Timetable	
Concept Clearance	02 Jul 2020
Fact Finding	-
MRM	-
Approval	-
Last Review Mission	-
Last PDS Update	16 Jul 2020

Project Page	<a href="https://www.adb.org/projects/54210-001/main">https://www.adb.org/projects/54210-001/main</a>
Request for Information	<a href="http://www.adb.org/forms/request-information-form?subject=54210-001">http://www.adb.org/forms/request-information-form?subject=54210-001</a>
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