China, People's Republic of: Air Quality Improvement in the Greater Beijing–Tianjin–Hebei Region—Regional Emission-Reduction and Pollution-Control Facility

Project Name	Air Quality Improvement in the Greater Beijing–Tianjin–Hebei Region—Regional Emission-Reduction and Pollution-Control Facility
Project Number	51181-001
Country	China, People's Republic of
Project Status	Approved
Project Type / Modality of Assistance	Loan
Source of Funding / Amount	**Loan 3629-PRC: Air Quality Improvement in the Greater Beijing-Tianjin-Hebei Region Regional Emission-Reduction and Pollution-Control Facility** Ordinary capital resources — US$ 499.00 million
Strategic Agendas	Environmentally sustainable growth Inclusive economic growth
Drivers of Change	Governance and capacity development Knowledge solutions Partnerships Private sector development
Sector / Subsector	**Agriculture, natural resources and rural development** - Rural solid waste management **Energy** - Energy efficiency and conservation - Renewable energy generation - geothermal - Renewable energy generation - solar **Transport** - Multimodal logistics - Urban public transport **Water and other urban infrastructure and services** - Other urban services
Gender Equity and Mainstreaming	No gender elements
Description	The proposed project is the third in a multiyear, multisector Asian Development Bank (ADB) support program for air quality improvement in the greater Beijing Tianjin Hebei (BTH) region. The first loan, approved in 2015, focused on reforming policy and strengthening regulatory capacity in Hebei province. The second loan, approved in 2016, targeted better access to finance, especially for small and medium sized-enterprises, to scale up investments in pollution-reduction projects in the region. This third project will complement the previous projects and will directly help remove barriers to deploying high technologies that could reduce air pollution from industries, urban infrastructure, and agriculture.

Project Rationale and Linkage to Country/Regional Strategy	The greater BTH region is one of the most important economic regions in the PRC, generating about one-third of the country's gross domestic product. However, it also has a high concentration of people and energy-intensive and highly polluting industries, which resulted in widespread air pollution. Cities in the greater BTH region consistently rank highest in the country for high concentration of particulate matter less than 2.5 micrometers in diameter (PM2.5) and other air pollutants that contribute to the high air quality index (AQI) level. High levels of PM2.5 are serious health risks and can lead to premature deaths. In 2013, the Government of the PRC launched the Comprehensive Action Plan for Air Pollution Prevention and Control (CAAP), 2013 2017, which introduced the PRC's most stringent measures to reduce air pollution. It set specific emission-reduction targets on levels of sulfur dioxide, nitrogen oxide, PM2.5, and volatile organic compounds nationally and for the BTH region. The government in its Thirteenth Five-Year Plan (Thirteenth plan) further requires hundreds of cities to meet good or excellent air quality standards 80% of the time and has set a cap on total energy consumption. In support of CAAP implementation, ADB contributed, targeted, and coordinated financing of $800 million (footnotes 2 and 3) and the World Bank did the same for $1 billion. Since then, air pollution and PM2.5 concentration levels across the BTH region have declined each year by 10.4% in 2014, 14.3% in 2015, and 7.8% in 2016 reversing the trend of increasing air pollution in the pre-CAAP years. The number of days with good AQI has also improved across the region, demonstrating the effectiveness of CAAP and its actions. Despite this initial improvement, the annual average PM2.5 concentration level across more than 95% of the cities in the region is still above World Health Organization and national ambient air quality standards. Thus, efforts need to be intensified and supplemented with fundamental changes in the region's energy and industry structure by adopting cleaner production methods and high technology. This is essential to decouple robust economic growth from rising air pollution. In response to CAAP, industrial enterprises chose to invest in low-cost, end-of-pipe measures instead of more advanced and cleaner technologies. The main reasons for these are (i) enterprises are currently prioritizing investments in end-of-pipe control measures which give immediate benefits but do not address the underlying issues; (ii) enterprises' preference of following cheaper, high-return investments in capacity expansion and diversification instead of capital-intensive, modest-return investments in pollution reduction; (iii) limited knowledge of financially viable high-technology options; and (iv) absence of appropriate financing vehicles and instruments to deal with associated risks. The PRC's economic structure is gradually moving away from export-oriented industrial growth to consumption-based growth of the service industry. But systematic microeconomic transformations in industries and infrastructure services are needed to enhance the environmental outcomes of this macroeconomic transformation. Meeting longer-term air quality standards can be achieved only if major polluting sources adopt high technologies and cleaner production practices to meet stringent emission standards. In addition to stringent standards and a robust enforcement system, investments in air pollution reduction must be cost-effective to business owners. The role of advanced or high technologies in such a paradigm is important because it can improve process efficiency while reducing emissions. Advanced or high technologies must be combined with appropriate financing to overcome existing barriers. In industry and infrastructure services, high technologies can be combined for a more comprehensive low-emission solution for any specific application. An energy-efficient building retrofit, for example, could include rooftop solar energy, more efficient lighting, advanced thermal management systems for space heating and cooling, and an intelligent digital control system that ensures that all these high technologies work in sync as a system. But to be successful in this strategy requires bringing together a high level of technical expertise on high technologies, appropriate financing, and innovative business models. Demonstrating this approach through a selected portfolio of subprojects distributed across various industries and infrastructure services in the greater BTH region can reinforce confidence in the commercial viability of such an approach and stimulate further demand. The project will establish a regional emission-reduction and pollution-control facility for the greater BTH region. The facility will support deployment of high technologies in major emitting industries. It will be held at and controlled by the China Energy Conservation and Environmental Protection Group (CECEP), which is highly regarded for its high level of technical expertise across key sectors. It also has a proven record of successfully managing similar investment funds. It will identify subprojects, match them with appropriate business models for deploying high technologies at scale, and provide financing through the facility. The facility will have a fund-of-funds structure with three types of complementary investment funds: a regional fund, provincial or municipal funds involving local government investors, and technology- or industry-specific funds targeting high-polluting sources. In addition, the facility is expected to invest about 10% of the facility amount directly into some highly potent pollution-reducing subprojects. The figure provides an overall structure of the facility. The facility will provide debt and equity investments to eligible subprojects, but will limit the aggregate amount of equity investments. All equity investments will be protected with a creditworthy put option against a third party or will have a viable exit strategy that will enable CECEP to recover the investment in a timely manner. Investee companies will have the following necessary characteristics: (i) profitable, (ii) a professional management team, and (iii) clear routes of enhancing value. In the case of put-protected equity, the facility or the funds may support (i) special purpose vehicles for stand-alone equity investments to finance financially viable and capital-intensive subprojects where the sponsor lacks sufficient registered capital to raise necessary debt funding, or (ii) enterprises with capital-intensive investments that need equity financing matching their risk profiles. The facility will set up an energy service company (ESCO) fund to support energy-saving and emission-reduction subprojects in the iron and steel industry. ESCOs have been effective in driving energy-efficiency investments in other countries, and is a priority for the Government of the PRC. But the region only has a limited number of ESCOs with the capacity to finance and implement complex and larger industrial energy-efficiency projects. An Steel Group Energy Saving Technology Co., Ltd., which is expected to cofinance this fund with the facility and a commercial bank, is an ESCO under the An Steel Group. It is one of only two registered ESCOs recognized by the National Development and Reform Commission and the Ministry of Finance in the iron and steel industry. An Steel ESCO has identified for potential investments more than 80 subprojects in the iron and steel industry. In addition, two CECEP _super ESCOs_ may receive funding through the regional fund for further investment in qualified subprojects. The key features of the proposed project include: (i) innovative use of financial intermediation loan modality; (ii) leverage large cofinancing; (iii) enable high technology deployment across key sectors; (iv) achieve high co-benefits of climate change mitigation; (iv) improve sustainability via market-based approach; (v) improve corporate governance.

Impact	Air pollution reduced and public health in the BTH region improved.

Project Outcome	
Description of Outcome	Air pollution reduced and high technology deployed across the greater BTH region.
Progress Toward Outcome	
Implementation Progress	
Description of Project Outputs	Regional Emission-Reduction and Pollution-Control Facility established High technologies to reduce air pollution in agriculture, distributed energy, heating, transport, and iron and steel industry deployed Capacity of key stakeholders to deploy high technologies for pollution reduction in the greater BTH region improved
Status of Implementation Progress (Outputs, Activities, and Issues)	
Geographical Location	Beijing, Hebei, Henan, Inner Mongolia, Liaoning, Shandong, Shanxi, Tianjin

Safeguard Categories	
Environment	FI
Involuntary Resettlement	FI
Indigenous Peoples	FI

Summary of Environmental and Social Aspects	
Environmental Aspects	The project is classified financial intermediary for the environment. ADB conducted environmental and social due diligence on CECEP's existing portfolio and safeguard policies, institutional capacity, and six sample subprojects. ADB and CECEP jointly developed an ESMS to meet national laws and the requirements of ADB's Safeguard Policy Statement (2009). The ESMS provides guidance on (i) screening, categorization, and review of subprojects; (ii) organizational structure and staffing, including skills and competencies in environmental and social areas; (iii) capacity building; (iv) grievance redress; and (v) monitoring and reporting. Subprojects classified category A for the environment and category A and category B for involuntary resettlement and indigenous peoples are excluded from ADB financing. The ESMS has been approved by ADB and will be fully implemented prior to first disbursement.
Involuntary Resettlement	The project is classified financial intermediary for the involuntary resettlement. ADB conducted environmental and social due diligence on CECEP's existing portfolio and safeguard policies, institutional capacity, and six sample subprojects. ADB and CECEP jointly developed an ESMS to meet national laws and the requirements of ADB's Safeguard Policy Statement (2009). The ESMS provides guidance on (i) screening, categorization, and review of subprojects; (ii) organizational structure and staffing, including skills and competencies in environmental and social areas; (iii) capacity building; (iv) grievance redress; and (v) monitoring and reporting. Subprojects classified category A for the environment and category A and category B for involuntary resettlement and indigenous peoples are excluded from ADB financing. The ESMS has been approved by ADB and will be fully implemented prior to first disbursement.
Indigenous Peoples	The project is classified financial intermediary for the indigenous peoples. ADB conducted environmental and social due diligence on CECEP's existing portfolio and safeguard policies, institutional capacity, and six sample subprojects. ADB and CECEP jointly developed an ESMS to meet national laws and the requirements of ADB's Safeguard Policy Statement (2009). The ESMS provides guidance on (i) screening, categorization, and review of subprojects; (ii) organizational structure and staffing, including skills and competencies in environmental and social areas; (iii) capacity building; (iv) grievance redress; and (v) monitoring and reporting. Subprojects classified category A for the environment and category A and category B for involuntary resettlement and indigenous peoples are excluded from ADB financing. The ESMS has been approved by ADB and will be fully implemented prior to first disbursement.
Stakeholder Communication, Participation, and Consultation	
During Project Design	The main stakeholders of the project include bureaus in each province and municipality in the greater BTH region, that play a part in environment improvement, and their local government counterparts from the municipality, district, and county. The provincial/municipal bureaus include finance, development and reform commission, environment protection, transport, public security, housing, urban rural development, agriculture, and human resource and social security.
During Project Implementation	Regular review missions (with the implementing agency and possibly subproject representatives) will be undertaken to ensure the project is implemented in a timely manner and project issues are addressed promptly.

Business Opportunities

Procurement	The investee companies will use commercial practices acceptable to ADB for procuring goods and services using the proceeds of the subloans and equity investments. ADB has prepared a procurement manual to provide guidance on how commercial practices can be adopted in a manner consistent with ADB's procurement principles.

Responsible ADB Officer	Yamamura, Shigeru
Responsible ADB Department	East Asia Department
Responsible ADB Division	EASI
Executing Agencies	*China Energy Conservation and Environmental Protection Group (CECEP)* *No. 42 Jieneng Mansion, Xizhimen North* *Street, Haidian District,* *Beijing, 100082*

Timetable	
Concept Clearance	17 May 2017
Fact Finding	09 Aug 2017 to 11 Aug 2017
MRM	12 Sep 2017
Approval	14 Dec 2017
Last Review Mission	-
Last PDS Update	28 Sep 2018

Loan 3629-PRC

Milestones					
Approval	**Signing Date**	**Effectivity Date**	**Closing**		
			Original	**Revised**	**Actual**
14 Dec 2017	18 Oct 2018	-	30 Nov 2023	-	-

Financing Plan		**Loan Utilization**			
	Total (Amount in US$ million)	Date	ADB	Others	Net Percentage
Project Cost	2,036.70	Cumulative Contract Awards			
ADB	499.00	14 Dec 2017	0.00	0.00	0%
Counterpart	1,537.70	Cumulative Disbursements			
Cofinancing	0.00	14 Dec 2017	0.00	0.00	0%

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