

DEVELOPMENT COORDINATION

A. Major Development Partners: Strategic Foci and Key Activities

1. Energy has been a core sector of Asian Development Bank (ADB) assistance to the People's Republic of China (PRC) since the start of cooperation between the PRC and ADB in 1987. ADB has provided the country with more than \$4.5 billion in lending support for 47 energy projects, more than 50% of that amount going to energy conservation, energy efficiency, and emission reduction projects. Because of the project focus on energy efficiency and emission reduction in the chemical industry and the attention given to global pollutants, this review of development partners' support looks at projects involving (i) improvements in industrial energy efficiency and emission reduction, and (ii) the reduction of global pollutants such as mercury or hydrofluorocarbon emissions.

2. Energy efficiency is the most cost-effective and rational way of reducing carbon dioxide and other local air pollutant emissions while increasing the security of energy supply. In line with this approach, major multilateral and bilateral development partners, including ADB, the European Investment Bank, Agence Française de Développement, the International Finance Corporation, and the World Bank support projects that promote long-term energy efficiency in the PRC.

3. Promoting energy efficiency and emission reduction has been and remains a priority in ADB's energy sector operations in the PRC, the world's largest industrial energy user and carbon dioxide emitter. Since 2008, ADB has approved several industrial end-user energy efficiency improvement projects using the financial intermediary loan modality to overcome barriers to and leverage commercial financing of such projects. The first project, the Guangdong Energy Efficiency and Environment Improvement Investment Program, was also the first to use a financial intermediary as trustee of ADB funds to be lent to privately owned small and medium-sized enterprises for financially viable energy efficiency projects.¹ Loan proceeds could thus be rolled over as the subloans were repaid, and used to fund new projects. The investment program included support for the energy service company (ESCO) sector. A number of projects were implemented through ESCOs, mainly small vendor energy service companies, which made use of this mechanism to sell their industrial goods.

4. The Shandong Energy Efficiency and Emission Reduction Project and the Hebei Energy Efficiency Improvement and Emission Reduction Project closely followed the design of the Guangdong Energy Efficiency and Environment Improvement Investment Program.² The Shandong project applied the concept to larger industrial energy efficiency projects, while the Hebei project established a guarantee fund for ESCO development.

¹ ADB. 2008. *Report and Recommendation of the President to the Board of Directors: Proposed Multitranche Financing Facility and Administration of Grant from the Clean Energy Fund for the Guangdong Energy Efficiency and Environment Improvement Investment Program in the People's Republic of China*. Manila (MFF 0020-PRC, \$100,000,000, approved on 4 June 2008).

² ADB. 2011. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of China for the Shandong Energy Efficiency and Emission Reduction Project*. Manila (Loan 2771-PRC, \$100,000,000, approved on 18 August 2011); ADB. 2011. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of China for the Hebei Energy Efficiency Improvement and Emission Reduction Project*. Manila (Loan 2835-PRC, \$100,000,000, approved on 14 December 2011).

5. The European Investment Bank is supporting the second phase of the China Climate Change Framework loan under the European Union–China Partnership on Climate Change.³ The loan was approved in October 2010 and mainly finances clean and renewable energy projects for climate change mitigation. Of the €500 million loan, €296 million is allocated for clean energy and renewable energy sector projects, and €135 million for projects aimed at improving industrial energy efficiency and emission reduction.

6. The World Bank has provided more than \$1.9 billion in funding for energy efficiency in the PRC since 2005. Through its China Energy Efficiency Financing Project (first phase approved in 2008, second phase in 2010, and third phase in 2011), it provided domestic commercial banks with credit lines for energy efficiency financing. In 2012, the World Bank approved a project specifically for energy efficiency in the power sector. It also approved the Shandong Energy Efficiency Project, which channeled financing through financial leasing arrangements to end-user energy efficiency investments.

7. Under the Hydrochlorofluorocarbons (HCFCs)⁴ Phaseout Project (Stage I), approved by the World Bank in 2012, the PRC received a grant of \$73 million from the Montreal Protocol Investment Fund⁵ to support the PRC to meet its HCFC consumption and production phase-out obligations under the Montreal Protocol and the adoption of alternative low-carbon technologies, where possible, to replace HCFCs.

Major Development Partners

Development Partner	Project Name	Duration	Amount (million)
Energy Efficiency and Emission Reduction			
ADB	Guangdong Energy Efficiency and Environment Improvement Investment Program (MFF)	2008–2012	\$100.0
	Shandong Energy Efficiency and Emission Reduction Project	2011–2015	\$100.0
	Hebei Energy Efficiency Improvement and Emission Reduction Project	2011–2015	\$100.0
EIB	China Climate Change Framework Loan II	2010–2012	\$500.0
World Bank and/or GEF	Urban Scale Building Energy Efficiency and Renewable Energy	2013–present	\$100.0 ^a
	China HCFC Phase-Out Project (Stage I)	2012–2017	\$12.0 ^b
IFC	China Utility-Based Energy Efficiency Finance Program	2006–2010	\$73.0 ^c
	China Utility-Based Energy Efficiency Finance Program	2006–2010	\$50.0
KfW	Green Finance Program	2008–2012	€75.0
AFD	Green Credit Line	2007–2012	€120.0

ADB = Asian Development Bank, AFD = Agence Française de Développement, EIB = European Investment Bank, GEF = Global Environment Facility, HCFC = hydrochlorofluorocarbon, IFC = International Finance Corporation, MFF = multitranches financing facility.

^a World Bank loan.

^b Grant from the Global Environment Facility.

^c Grant from Montreal Protocol Investment Fund.

Source: Asian Development Bank staff estimates.

³ The Partnership was established in 2005 to strengthen cooperation and dialogue on climate change. Its major objective is to promote low carbon energy technologies.

⁴ HCFCs are compounds consisting of hydrogen, chlorine, fluorine, and carbon that deplete stratospheric ozone. According to the terms of the Montreal Protocol, as amended in September 2007, HCFC emissions in developing countries must be reduced by 35% by 2020, 67.5% by 2025, and 97.5% by 2030.

⁵ The Montreal Protocol and its amendments govern the phase out of ozone-depleting substances. Under the protocol, the Multilateral Fund provides resources to developing countries to promote the transition to ozone-safe technologies.

8. Since 2009, as part of its Global Mercury Partnership, the United Nations Environment Programme (UNEP) has been providing technical assistance to the PRC for the development of a national inventory of mercury and the preparation of action plans. UNEP supported the preparation of a feasibility study on an alternative, gold-based, mercury-free calcium carbide-based polyvinyl chloride production process. UNEP also supported a strategic policy study and the preparation of policies and guidelines on mercury management.

B. Institutional Arrangements and Processes for Development Coordination

9. Close cooperation among development partners has been pursued mainly through informal meetings and information exchange. ADB has established working relationships with the World Bank and other multilateral and bilateral agencies in addressing policy issues and coordinating lending and technical assistance operations. Both ADB and the World Bank emphasize the importance of energy efficiency improvement, promotion of clean energy, environmental protection, and a greater role for the private sector in clean energy financing.

C. Achievements and Issues

10. Multilateral development banks (MDBs), including ADB, have taken several initiatives to mobilize financing for industrial energy efficiency projects. Initial assistance projects were focused mainly on increasing the capacity of energy management companies to provide technical and financial resources for energy efficiency improvements in small and medium-sized industrial enterprises.⁶ MDBs have been largely successful in directing their limited funds at energy efficiency projects, but they have not been able to mainstream energy efficiency as a key corporate objective. So far, none of the development partners has approved an energy efficiency loan for a large state-owned corporation in an energy-intensive industry. MDBs, in partnership with energy-intensive industries, must take more innovative approaches to (i) bringing energy efficiency and emission reduction investments into the corporate mainstream, and (ii) disseminating novel and high-impact technologies that will achieve the desired improvements in energy-intensive industries.⁷

D. Conclusion

11. For the period covered by the 13th Five-Year Plan, 2016–2020, the Government of the PRC has identified as a need the development of new institutional structures and mechanisms to (i) mainstream energy efficiency and emission reduction investments, and (ii) disseminate innovative technologies in energy intensive industries.⁸ The proposed project will demonstrate a sustainable financing mechanism that will help mainstream and scale up energy efficiency financing, and disseminate pilot-tested, high-impact technologies within one of the most energy-intensive industries. The project will show how energy efficiency improvements can be made on the demand side by means of an alternative model.

⁶ World Bank. 1998. *Energy Conservation Project*. Washington, DC; World Bank. 2002. *Energy Conservation Project Phase II*. Washington, DC.

⁷ Ministry of Industries and Information Technology. 2013. *Guidelines on Energy Conservation and Emission Reduction in the Petroleum and Chemical Industry Sectors*. Beijing.