



Report and Recommendation of the President to the Board of Directors

Project Number: 49084-001
November 2015

Proposed Loan CT Environmental Group Limited Small and Medium-Sized Enterprise Industrial Wastewater and Sludge Treatment Project (People's Republic of China)

This is an abbreviated version of the document approved by ADB's Board of Directors that excludes information that is subject to exceptions to disclosure set forth in ADB's Public Communications Policy 2011.

CURRENCY EQUIVALENTS

(as of 6 November 2015)

Currency unit	–	yuan (CNY)
CNY1.00	=	\$0.1576
\$1.00	=	CNY6.3450

Currency unit	–	Hong Kong dollar/s (HK\$)
HK\$1.00	=	\$0.1290
\$1.00	=	HK\$7.7511

ABBREVIATIONS

ADB	–	Asian Development Bank
CTEG	–	CT Environmental Group
ESMS	–	environmental and social management system
PRC	–	People's Republic of China
SMEs	–	small and medium-sized enterprises

NOTES

- (i) The fiscal year of CT Environmental Group Limited ends on 31 December.
- (ii) In this report, "\$" refers to US dollars, unless otherwise stated.

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PROJECT AT A GLANCE

1. Basic Data		Project Number: 49084-001	
Project Name	Small and Medium-Sized Enterprise Industrial Wastewater and Sludge Treatment Project	Department /Division	PSOD/PSIF2
Country	China, People's Republic of		
2. Sector		ADB Financing (\$ million)	
✓ Water and other urban infrastructure and services	Urban sewerage		90.00
	Urban water supply		10.00
		Total	100.00
3. Strategic Agenda		Climate Change Information	
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Climate Change impact on the Project	Medium
Environmentally sustainable growth (ESG)	Urban environmental improvement		
4. Drivers of Change		Gender Equity and Mainstreaming	
Partnerships (PAR)	Commercial cofinancing	No gender elements (NGE)	✓
Private sector development (PSD)	Private Sector Promotion of private sector investment		
5. Poverty Targeting		Location Impact	
Project directly targets poverty	No	Urban	High
6. Nonsovereign Operation Risk Rating			
Obligor Name	Obligor Risk Rating Local Currency	Obligor Risk Rating Foreign Currency	Facility Risk Rating
CT Environmental Group Limited	NSO6	NSO6	NSO7
7. Safeguard Categorization Environment: B Involuntary Resettlement: B Indigenous Peoples: C			
8. Financing			
Modality and Sources		Amount (\$ million)	
ADB		100.00	
Nonsovereign Dual Currency Loan: Ordinary capital resources		100.00	
B-Loans		150.00	
Dual Currency Complementary Loan from Commercial Banks		150.00	
Official Cofinancing^a		0.00	
None		0.00	
Others^b		150.00	
Total		400.00	
9. Effective Development Cooperation			
Use of country procurement systems		Yes	
Use of country public financial management systems		No	

^a Concessional financing from external sources.

^b Derived by deducting ADB financing, B Loans and Official Cofinancing from Project Total Cost.

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan of up to \$250,000,000 equivalent in US dollars and yuan, comprising (i) an A loan of up to \$100,000,000 equivalent in US dollars and yuan, and (ii) a complementary loan of up to \$150,000,000 equivalent in US dollars and yuan to CT Environmental Group Limited (CTEG) for the Small and Medium-Sized Enterprise Industrial Wastewater and Sludge Treatment Project in the People's Republic of China (PRC).¹

II. THE PROJECT

A. Project Identification and Description

1. Project Identification

2. In the PRC, small and medium-sized enterprises (SMEs) play an important role in economic development, as they are key drivers of income and employment growth. In 2010, SMEs contributed 60% of gross domestic product, provided around 80% of new urban employment (with particular benefit to low-income workers and socially vulnerable groups), and introduced 75% of new technologies.² The PRC aims to further develop SMEs by accelerating their economic transformation, enhancing the provision of services, and promoting their sustainable growth.³

3. On the other hand, SMEs are becoming major polluters, and are associated with severe environmental impact in some industrial areas. More than 80% of SMEs generate pollution in industrial production, accounting for 60% of the pollution generated in the PRC.⁴ Most face challenges in their production processes, such as obsolete technologies, low efficiency, and high water consumption.⁵ Among various pollution indicators for wastewater, chemical oxygen demand and ammonia nitrogen have been specially targeted by the government for control. Industries where SMEs are responsible for wastewater with the highest levels of chemical oxygen demand and ammonia nitrogen are the paper, food processing, chemical, and textile industries.

4. Industrial wastewater is difficult to treat due to high pollutant concentration, complex chemical composition, and high variance in water quantity and quality. In the PRC, treatment of industrial wastewater is handled separately from sewage pipeline networks operated by the municipal governments. Large industrial enterprises often operate their own treatment systems on site, discharging treated wastewater into rivers and bypassing municipal wastewater treatment facilities. Most SMEs, however, do not have sufficient treatment capability and instead

¹ The design and monitoring framework is in Appendix 1.

² W. Li. 2012. Small and Medium Enterprises: The Source of China's Economic Miracle—and Their Financing Challenges. *China Express (University of Sydney)*. Issue 3.

³ Standing Committee of the National People's Congress of the PRC. 2003. *Law on Promotion of Small and Medium-sized Enterprises*. Beijing; and Government of the PRC, State Council. 2009. *Certain Opinions of the State Council on Further Promotion of the Development of Small and Medium Enterprises*. Beijing.

⁴ H. Li. 2009. *An Analysis to the Pattern of Pollution and the Approaches of Control for Small and Medium-sized Enterprises*. Beijing.

⁵ International Financial Corporation. 2012. *Study on the Potential of Sustainable Energy Financing for Small and Medium Enterprises in China*. Consultant's report. Washington, DC.

tend to dump untreated wastewater into waterways or sewers at volumes that often exceed the capacity of municipal wastewater treatment facilities.⁶

5. An additional challenge arises from sludge, a waste by-product of wastewater treatment or waste from industrial processes. More than 80% of sludge is untreated in the PRC, which has serious impact on soil and groundwater quality.⁷ Sludge from industry is particularly toxic, since it can be higher in heavy metal content (70%–90% of heavy metals are absorbed into sludge).

6. To address increasing impacts on health caused by pollution from industrial wastewater, the government is taking urgent action. In January 2015, an amended Environmental Protection Law took effect; the law's amendments raised wastewater discharge standards and imposed severe punishments on noncompliant enterprises, including criminal penalties and uncapped fines.⁸ In April 2015, the State Council released the Water Pollution Prevention and Control Action Plan, widely viewed as the PRC's most comprehensive and aggressive policy measure to arrest water pollution.⁹ Further, wastewater treatment standards have been progressively tightened for specific industrial subsectors.¹⁰ Tougher regulation raises particular challenges for SMEs; whereas environmental agencies tend to monitor and ensure environmental compliance from larger-scale factories, they have not historically imposed the same measures on SMEs, most of which are noncompliant. Many SMEs lack the technical capability to treat highly toxic wastewater to meet the higher standards by themselves. Further, the investment and operational costs for wastewater treatment equipment are prohibitively high for many SMEs due to a lack of economies of scale.¹¹

7. To address pollution from SMEs, the government has also launched various initiatives to promote eco-industrial parks, which are specially accredited industrial parks that have environmental risk control measures, centralize treatment of wastewater, and reuse industrial water. The number of industrial parks accredited as eco-industrial parks increased from 2 in 2001 to 64 in 2014.¹² The government's initiatives have created new business opportunities to treat wastewater for a cluster of SMEs.

8. Through continuous dialogue with stakeholders in the PRC wastewater sector, the Asian Development Bank (ADB) identified CTEG as a private sector pioneer in SME industrial wastewater and sludge treatment. The company was confirmed as a viable candidate for ADB support, following a review of its technical and financial performance, its willingness to meet ADB standards, and the potential benefits to the PRC environmental services industry resulting from the company's expansion.

⁶ Government of the PRC, Ministry of Environmental Protection. 2014. *Annual Report on Environmental Statistics. 2013*. Beijing.

⁷ The PRC has limited sludge treatment capacity. It is estimated that only 17% of sludge is treated, with the rest sent to landfills or dumped illegally.

⁸ Government of the PRC. 2014. *Environmental Protection Law of the People's Republic of China*. Beijing.

⁹ Government of the PRC, State Council. 2015. *Water Pollution Prevention and Control Action Plan*. Beijing.

¹⁰ Government of the PRC, Ministry of Environmental Protection. 2013. *Technical specifications for dyeing industry wastewater treatment (HJ 2036-2013)*. Beijing; Government of the PRC, Ministry of Environmental Protection. 2012. *Discharge standards of water pollutants for dyeing and finishing of textile industry (GB 4287-2012)*. Beijing; and Government of the PRC, Ministry of Environmental Protection. 2008. *Discharge standard of water pollutants for pulp and paper industry (GB 3544-2008)*. Beijing.

¹¹ In the PRC, industrial wastewater treatment for large-scale factories is done on site. For example, waste management company Veolia carries out oil and petrochemical wastewater treatment at each of its customers' plants in the PRC.

¹² International Institute for Sustainable Development. 2015. *Development of Eco-Efficient Industrial Parks in China: A Review*. Winnipeg.

2. Project Design

9. The project will support CTEG to build, own, and operate a series of specialized SME industrial wastewater and sludge treatment plants (or subprojects) in designated areas determined by the local governments. CTEG's facilities will target SMEs in highly polluting industrial sectors, such as textile, paper, chemical, and food processing. Treated wastewater will be discharged according to national environmental standards or supplied to industry for reuse in manufacturing.

10. CTEG will be responsible for identifying, evaluating, selecting, negotiating, implementing, and administering the subprojects. Subprojects for ADB assistance will meet eligibility criteria agreed between CTEG and ADB. In selecting a location for each subproject, CTEG will evaluate the local government's accountability, and the volume and quality of wastewater discharged by industries.

3. The Sponsor and the Borrower

11. The project sponsor and borrower, CTEG, is a leading provider of integrated water solutions in the PRC, with businesses covering wastewater treatment, industrial water supply, and sludge and solid waste treatment. CTEG was founded as Xi Zhou Enterprises Hong Kong in 1999 by Tsui Cham To of Hong Kong, China; the company commenced operations in 2003, and under Tsui's leadership became an early leader in its industry. In anticipation of a stock exchange listing, in 2010 the company was renamed as CTEG and established as a holding company incorporated in the Cayman Islands.¹³ In 2013, CTEG was listed on the Hong Kong Stock Exchange.

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12. CTEG differentiates itself from peers in the PRC's wastewater treatment and water supply market by focusing on industrial SMEs, including customers in the textile, paper, and food processing sectors. The company aggregates wastewater discharge from customers in a single location, such as an industrial park, and then treats it using a combination of chemical and biological processes. CTEG employs custom technologies that are adapted to the specific characteristics of its customers' effluent.¹⁴ Additionally, treated wastewater is recycled to customers for reuse in manufacturing processes.

13. As of June 2015, CTEG operated six industrial wastewater treatment plants with total treatment capacity of 545,000 tons per day, three industrial water supply plants with total supply capacity of 280,000 tons per day, one industrial solid waste treatment plant with capacity of 2,278 tons per day, two municipal wastewater treatment plants with total treatment capacity of 120,000 tons per day, three sludge treatment plants with total capacity of 3,142 tons per day, and five hazardous waste treatment plants with total capacity of 904 tons per day.

14. CTEG has demonstrated rapid growth since its establishment, especially in the period since 2012.

¹³

¹⁴ To achieve the best treatment performance, CTEG uses specialized equipment and technologies developed in-house, such as rotary solid removal equipment, anaerobic hydrolysis tanks, and solar-powered sludge drying systems.

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B. Development Impact, Outcome, and Outputs

15. **Impact.** The project will contribute to mitigating water pollution from SMEs, consistent with goals of the State Council of the PRC (footnote 9).

16. **Outcome.** The outcome will be improved SME industrial wastewater and sludge management through increased treatment of wastewater and sludge. About one-third of the treated wastewater for SME customers impacted by the project will be reused.

17. **Output.** The output will be the installation and operation of SME industrial wastewater and sludge treatment plants at designed performance levels. By 2019, wastewater treatment capacity of 450,000 tons per day (to meet the most stringent national standard¹⁵), sludge treatment capacity of 4,200 tons per day, and industrial water supply capacity of 240,000 tons per day will be developed. The facilities will comply with ADB safeguards and technical and financial eligibility criteria.¹⁶

C. Alignment with ADB Strategy and Operations

18. **Consistency with ADB strategy.** The project is consistent with ADB's Midterm Review of Strategy 2020, which identifies infrastructure and the environment as two of the four strategic priorities.¹⁷ On infrastructure, the project is in line with the strategy's focus on water, sanitation, and waste management, as well as with its emphasis on public-private partnership. On the environment, the project mitigates water pollution and health threats and promotes environmentally sustainable growth.

19. **Consistency with country partnership strategy.** By supporting inclusive growth and environmental sustainability, the project addresses two of the three development goals of ADB's country partnership strategy for the PRC.¹⁸ The project aligns with the country partnership strategy's sector focus on environmental protection, water management, and pollution control, and strongly complements ADB's current initiatives in wastewater treatment and water pollution control in urban areas, including advisory support.

20. **Consistency with the water and urban operational plans.** The project aligns with ADB's water policy, which recognizes that remedies to water stress must include reversing the degradation of water resources caused by agricultural, industrial, and municipal effluents.¹⁹ ADB's Water Operational Plan, 2011–2020 also identifies wastewater management as a key operational focus in rapidly industrializing countries like the PRC.²⁰ The project is an example of the type of intervention envisaged by the plan, which promotes water as a core investment area and raises ADB's water investment target to \$2.0 billion–\$2.5 billion a year by 2020, and targets an additional \$500 million per year for private sector lending. In addition, the project supports

¹⁵ Government of the PRC, Ministry of Environmental Protection. 2002. *Discharge Standard of Pollutants for Municipal Wastewater Treatment Plant [GB18918-2002] Class 1A*. Beijing.

¹⁶ Eligibility criteria shall include a build-own-operate agreement with service exclusivity, and documentation proving satisfaction of ADB's safeguard and financial screening criteria and compliance with PRC environmental standards.

¹⁷ ADB. 2014. *Midterm Review of Strategy 2020: Meeting the Challenges of a Transforming Asia and Pacific*. Manila.

¹⁸ ADB. 2012. *Country Partnership Strategy: People's Republic of China, 2011–2015*. Manila.

¹⁹ ADB. 2003. *Water for All: The Water Policy of the Asian Development Bank*. Manila.

²⁰ ADB. 2011. *Water Operational Plan, 2011–2020*. Manila.

the Urban Operational Plan, 2012–2020, which identifies green cities as a priority theme of ADB operations.²¹

D. Project Cost and Financing Plan

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E. Implementation Arrangements

21. Table 2 summarizes the implementation arrangements.

Table 2: Summary of Implementation Arrangements

Aspects	Arrangements
Regulatory framework	Each subproject is based on a build–own–operate or build–operate–transfer arrangement. Each subproject will be implemented in accordance with granted approvals, and during construction and operation will be subject to government inspections of various aspects, including environment, land acquisition, involuntary resettlement, ethnic minorities, labor, safety, quality, and sanitation. Inflow and outflow volumes and quality will be monitored in all the subprojects.
Management	CTEG will establish a company for each subproject. CTEG will own and manage all of its subproject companies, and will centrally control their development, procurement, and financing.
Implementation period	January 2016–December 2018
Procurement	Goods and services will be required to be procured from ADB member countries in a transparent manner, through competitive bidding procedures. Each subproject company will enter into engineering, procurement, and construction contracts with subcontractors separately.
Operations arrangements	
Revenue structure	CTEG will directly negotiate and enter into agreements with customers to provide industrial wastewater and sludge treatment services or industrial water supply. Customers will undertake wastewater pretreatment to bring effluent within a defined quality range before delivery to CTEG. Treatment fees will depend on the quality of the wastewater and sludge CTEG treats or the industrial water it supplies. The treated wastewater will be discharged to water bodies or reused by industries where possible. CTEG will treat sludge from its own plants as well as from municipal water treatment plants owned by local governments; treated sludge will be reused as nutrition soil, bricks, or ceramsite where technically and commercially possible. [CONFIDENTIAL INFORMATION DELETED]
Major cost structure	The major costs comprise electricity, materials, labor, and administrative and maintenance expenses.
Operation and maintenance	Operation and maintenance will generally be handled by each subproject company's employees, who will be transferred from CTEG and/or recruited externally.
Performance monitoring	Key performance indicators, including output and outcome indicators, and compliance with ADB's safeguard requirements, will be reported by CTEG.

ADB = Asian Development Bank, CTEG = CT Environmental Group.

Source: Asian Development Bank.

²¹ ADB. 2013. *Urban Operational Plan, 2012–2020*. Manila.

F. Projected Financial and Economic Performance

22. Initial financial projections indicate the project would yield a minimum financial internal rate of return of higher than the weighted average cost of capital. The project is economically viable, as the economic internal rate of return is higher than the social discount rate of 12.0%.

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III. THE PROPOSED ADB ASSISTANCE

A. The Assistance

23. ADB's proposed assistance to CTEG consists of (i) an A loan of up to \$100 million equivalent in US dollars and yuan, and (ii) a complementary loan of up to \$150 million equivalent in US dollars and yuan. ADB will fund the A loan from its ordinary capital resources and the complementary loan from participating banks with ADB acting as lender of record. The A loan will have a maturity of up to 10 years from the date of the facility agreement.

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B. Value Added by ADB Assistance

24. Justification for ADB involvement in the project is based on the following:
- (i) Through ADB's partnership with a pioneering company, the project will demonstrate how SME industrial wastewater and sludge treatment investments can be commercially and technically viable. ADB's requirements will ensure that CTEG operates according to best international practices and adheres to high standards of environmental and social management, serving as a model for the industry. ADB assistance will build confidence in future private sector participation.
 - (ii) ADB assistance will lower transaction costs by bundling multiple infrastructure subprojects, which are often too small and time-consuming for international commercial banks to finance on a stand-alone basis. ADB will link the cluster of subprojects with the international financing community by arranging syndication and providing in-depth technical and safeguard due diligence.

C. Risks

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25. **Demand risk.** Demand for CTEG's services depends on local governments' commitment to develop industrial zones and to attract SMEs into such areas and contract for CTEG's services. CTEG mitigates this risk by expanding in phases. In addition, ADB loans will support subprojects developed under arrangements that provide exclusive rights to provide services in designated areas. Lastly, the recent tightening of environmental discharge standards and enforcement (para. 6), and the significant investment required for SMEs to build and operate their own wastewater treatment facilities, should encourage SMEs to outsource wastewater treatment to CTEG.

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26. **Offtaker counterparty risk.** CTEG's customers are SMEs, which pose increased counterparty risk due to their smaller size and varying credit quality. CTEG's customers are also concentrated in the highly seasonal textile industry, resulting in volatile cash flows.

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27. **Regulatory risk.** The PRC's increased promotion of environmental protection and sustainable development imposes stricter regulation on industrial water pollution. Policies implemented nationally from 2015 significantly tighten standards for industrial effluent quality, increase pollution penalties, and empower local regulators to close noncompliant factories. Since the implementation of national regulations varies locally and regulatory practices are evolving, the standards and costs under which CTEG operates face some uncertainty.

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IV. POLICY COMPLIANCE

A. Safeguards and Social Dimensions

28. **Safeguards.** The project is classified as category B for environment. The wastewater and sludge treatment services cater to various SMEs, particularly in textile industries. Dewatered sludge is transported to a brick-making facility, which is also operated by CTEG. The sites for CTEG's wastewater and sludge treatment plants are selected in coordination with respective local governments. Since 2003, the PRC has required wastewater and sludge treatment plants to conduct a full environmental assessment. The facilities are to be planned and operated in full compliance with PRC's laws and regulations. Potential adverse environmental impacts during operation include effluent quality, sludge management, noise, odor, and possible generation of toxic gases. Potential adverse impacts associated with construction and operation can be mitigated through the adoption of good engineering practices and an appropriate environmental management plan. Initial environmental examinations (including environmental management plans) will be prepared for ADB-funded subprojects in accordance with Appendix 1 of ADB's Safeguard Policy Statement (2009). CTEG's environmental and social management system (ESMS) will include environmental safeguards screening procedures to avoid subprojects with potential to be category A. The subprojects are contingent on local government plans for industrial development and pollution control; CTEG bids on and secures specific subprojects before preparing each environmental assessment, including the initial environmental examination requirement of ADB's Safeguard Policy Statement. The potential environmental and social impacts of the project have been identified and effective measures to avoid, minimize, mitigate, and compensate for the adverse impacts are in the environmental and social audit report, including the corrective action plan.

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29. The project is classified as category B for involuntary resettlement and category C for indigenous peoples. Subprojects will be located in or near industrial zones. As industrial zones are set up by municipal governments, land acquisition, compensation, resettlement, and rehabilitation are expected to be insignificant and, if needed, will be carried out by municipal governments. The ESMS will reflect the resettlement policy principles of Appendix 2 of ADB's Safeguard Policy Statement and will include procedures to screen subprojects that may be eligible for ADB funding. Subprojects with potential to be category A for involuntary resettlement

will be excluded. Should subprojects have involuntary resettlement impacts entailing physical and economic displacement, resettlement plans will be prepared and implemented by municipal governments following PRC national laws and in accordance with ADB's Safeguard Policy Statement requirement on involuntary resettlement. The ESMS will include social safeguards screening procedures to avoid adverse impacts on ethnic minorities. Subprojects with potential to be category A or category B for impacts on indigenous peoples will be excluded.

30. **Social dimensions.** The project is categorized "no gender elements." However, CTEG will undertake gender analysis as part of the environmental and social impact assessment for each subproject, and will involve women in consultation, awareness campaigns, and recruitment. CTEG upholds gender equality and provides equal benefits for both men and women. Priorities are given to women for certain jobs, such as in the financial and administrative departments and laboratories. The project is not expected to cause any specific cultural or social impact on any socioeconomic group, including women, or exclude women from benefiting from the project. CTEG will comply with national labor laws and, pursuant to ADB's Social Protection Strategy (2001), will take measures to comply with the internationally recognized core labor standards.²² CTEG will report regularly to ADB on (i) its (and its contractors') compliance with such laws and (ii) the measures taken. Information disclosure and consultation with affected people will be conducted in accordance with ADB requirements.

B. Anticorruption Policy

31. CTEG was advised of ADB's policy of implementing best international practice relating to combating corruption, money laundering, and the financing of terrorism. ADB will ensure that the investment documentation includes appropriate provisions prohibiting corruption, money laundering, and the financing of terrorism, and remedies for ADB in the event of noncompliance.

C. Investment Limitations

32. The proposed direct A loan is within the medium-term, country, industry, group, and single-project exposure limits for nonsovereign investments.

D. Assurances

33. Consistent with the Agreement Establishing the Asian Development Bank (the Charter),²³ ADB will proceed with the proposed assistance upon establishing that the Government of the PRC has no objection to the proposed assistance to CTEG. ADB will enter into suitable finance documentation, in form and substance satisfactory to ADB, following approval of the proposed assistance by the Board of Directors

V. RECOMMENDATION

34. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the loan of up to \$250,000,000 equivalent in US dollars and yuan, comprising (i) an A loan of up to \$100,000,000 equivalent in US dollars and yuan from ADB's ordinary capital resources; and (ii) a complementary loan of up to \$150,000,000 equivalent in US dollars and yuan to CTEG for the

²² ADB. 2003. *Social Protection*. Manila (adopted in 2001).

²³ ADB. 1966. *Agreement Establishing the Asian Development Bank*. Manila.

Small and Medium-Sized Enterprise Industrial Wastewater and Sludge Treatment Project in the PRC, with such terms and conditions as are substantially in accordance with those set forth in this report, and as may be reported to the Board.

Takehiko Nakao
President

16 November 2015

DESIGN AND MONITORING FRAMEWORK

Impact the Project is aligned with:

Water pollution caused by SMEs is mitigated (Water Pollution Prevention and Control Action Plan)^a

Project Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
<p>Outcome SME industrial wastewater and sludge management in the PRC improved</p>	<p>By 2021</p> <p>a. 141.8 million tons of SME industrial wastewater is treated annually to reach national standards (2015 baseline: not available)</p> <p>b. 1.3 million tons of sludge treated annually (2015 baseline: not available)</p> <p>c. 75.6 million tons of industrial water supplied annually (2015 baseline: not available)</p> <p>d. Up to 720 full-time equivalent jobs generated (2015 baseline: not available)</p> <p>e. CNY295 million in tax paid to municipal governments on average per annum during 2020–2022 (2015 baseline: not available)</p>	<p>a–e. Annual project monitoring reports and semiannual development effectiveness monitoring reports from CTEG</p>	<p>Associated infrastructure, such as tap water distribution network and sewage pipelines, is delayed.</p> <p>Utilization rates are lower than expected.</p>
<p>Output SME industrial wastewater and sludge treatment plants installed and operation commenced at designed performance levels</p>	<p>By 2019</p> <p>a. 450,000 tons per day of industrial wastewater treatment capacity constructed and installed (2015 baseline: not available)</p> <p>b. 4,200 tons per day of sludge treatment capacity constructed and installed (2015 baseline: not available)</p> <p>c. 240,000 tons per day of industrial water supply capacity constructed and installed (2015 baseline: not available)</p> <p>d. CNY2.1 billion of local goods and services procured during construction (2015 baseline: not available)</p>	<p>a–e. Annual project monitoring reports and semiannual development effectiveness monitoring reports from CTEG</p>	<p>Competition becomes so intense that the sponsor cannot secure new projects as planned.</p> <p>Local governments delay implementation of stricter national environmental regulations.</p>

	available) e. Up to 900 full-time equivalent jobs generated during construction (2015 baseline: not available)		
Key Activities with Milestones			
1	SME industrial wastewater and sludge treatment plants installed and operation commenced at designed performance levels		
1.1	Signing of loan agreements by Q2 2016		
1.2	Financial closure by Q2 2016		
1.3	Corporate ESMS established before ADB's first disbursement		
1.4	Construction work in progress, as scheduled		
1.5	Full commissioning of subproject plants by 2019		
Inputs			
ADB: Up to \$100,000,000 equivalent (A loan in US dollars and yuan) Up to \$150,000,000 equivalent (complementary loan in US dollars and yuan)			
CTEG: Equity to meet debt-equity ratio requirements			
Assumptions for Partner Financing			
Not applicable.			

ADB = Asian Development Bank, CTEG = CT Environmental Group, ESMS = environmental and social management system, PRC = People's Republic of China, SME = small and medium-sized enterprise.

^a Government of the PRC, State Council. 2015. *Water Pollution Prevention and Control Action Plan*. Beijing.

Source: Asian Development Bank.