Report and Recommendation of the President to the Board of Directors

Project Number: 48137
June 2014

Proposed Loan
Sound Global Ltd. and Beijing Sound Environmental Engineering Co., Ltd.
Rural Smart Wastewater 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.

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 16 June 2014)

Currency unit	–	yuan (CNY)
CNY1.00	=	$0.1610
$1.00	=	CNY6.2104

ABBREVIATIONS

ADB	–	Asian Development Bank
BOT	–	build–operate–transfer
BSEE	–	Beijing Sound Environmental Engineering Co., Ltd.
ESMS	–	environmental and social management system
NSO	–	nonsovereign operation
PPP	–	public–private partnership
PRC	–	People's Republic of China
RBC	–	rotating biological contractor
SMART	–	small multiple modular automatic rapid technologies
TA	–	technical assistance

NOTES

(i) The fiscal year (FY) of Sound Global Ltd. ends on 31 December.

(ii) In this report, "$" refers to US dollars.

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PROJECT AT A GLANCE

1. Basic Data — **Project Number:** 48137-001

Project Name	Rural Smart Wastewater Treatment Project	**Department /Division**	PSOD/PSIF2
Country	China, People's Republic of		

2. Sector	**Subsector(s)**	**ADB Financing ($ million)**
Agriculture, natural resources and rural development	Rural sanitation	100.00
	Total	**100.00**

3. Strategic Agenda	**Subcomponents**	**Climate Change Information**	
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Climate Change impact on the Project	Low
Environmentally sustainable growth (ESG)	Eco-efficiency		

4. Drivers of Change	**Components**	**Gender Equity and Mainstreaming**	
Partnerships (PAR)	Commercial cofinancing Private Sector	No gender elements (NGE)	✓
Private sector development (PSD)	Promotion of private sector investment		

5. Poverty Targeting		**Location Impact**	
Project directly targets poverty	No	Rural	High

6. Nonsovereign Operation Risk Rating

Facility Type	**Facility Risk Rating**
Corporate	NSO9
Obligor Name	**Obligor Risk Rating**
Sound Global Ltd.	NSO8

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	**200.00**
Dual Currency Complementary Loan from Commercial Banks	200.00
Official Cofinancing [a]	**0.00**
None	0.00
Others [b]	**100.00**
Total	**400.00**

9. Effective Development Cooperation

Use of country procurement systems	No
Use of country public financial management systems	No

[a] Includes loans funded by Clean Technology Fund and Canadian Climate Fund.
[b] Derived by deducting ADB financing, B Loans and Official Cofinancing from Project Total Cost.

Source: Asian Development Bank

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan of up to $300 million equivalent in dollars and yuan without government guarantee to Sound Global Ltd. and Beijing Sound Environmental Engineering Co., Ltd. (BSEE), comprising (i) a proposed A-loan of up to $100 million equivalent in dollars and yuan, and (ii) a proposed complementary loan[1] of up to $200 million equivalent in dollars and yuan for the Rural Smart Wastewater Treatment Project in the People's Republic of China (PRC).[2]

II. THE PROJECT

A. Project Identification and Description

1. Project Identification

2. Pollution exacerbates water scarcity in the PRC. The enormous volume of wastewater generated by rural areas—home to a half of the country's population—poses a major environmental threat to the country's rivers, lakes, and underground aquifers. The responsibility for wastewater management falls on local governments outside of major city areas. However, wastewater treatment facilities and sewage pipelines are scarce. Among the limited pipeline networks, most have a combined sewer system, where storm water and wastewater are collected in a single pipe system, allowing untreated wastewater to escape into the environment with the storm water. In rural areas, less than 20% of wastewater was treated; the rest was discharged untreated into rivers and the lakes.[3] Furthermore, only 10% of rural wastewater treatment projects were properly maintained.[4] With most untreated wastewater flowing directly into the local surface water, the quality of local water sources has greatly deteriorated, often exceeding water quality limits specific to the source's water body.[5] In 2012, 31% of 10 major river systems and 39% of 62 primary lakes could not meet the water quality requirement for drinking water. The quality of as much as 57% of total national groundwater is classified "bad" or "very bad."[6] This pollution in upstream areas can have a great sanitation impact on local populations who depend on these local water sources for their water supply; this problem is exacerbated in rural areas where drinking water treatment is inadequate or nonexistent.

3. Along the spectrum of wastewater treatment systems, the decentralized wetland approach relying on natural purification has been most widely implemented. It is mechanically simple, yet biologically complex. However, this treatment method often cannot meet the central government's higher discharge standards.[7] As constructed wetlands are open-air, the facilities are vulnerable to adverse weather, secondary contamination, and local sanitation problems. The long-term efficiency and stability of purifying ever-increasing wastewater is uncertain.

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[1] Complementary loan is an ADB syndicated loan funded by commercial banks, where ADB is the lender of record.
[2] The design and monitoring framework is in Appendix 1.
[3] Government of the People's Republic of China, State Council. 2012. *The 12th Five-Year Plan on National Urban Wastewater Treatment and Reuse Infrastructure Construction*. Beijing.
[4] World Bank. 2011. *Guide for Wastewater Management in Rural Villages in China.* Washington, DC.
[5] Government of the People's Republic of China, Ministry of Environmental Protection. 2002. *Environmental Quality Standards for Surface Water (GB-3838-2002).* Beijing.
[6] Government of the People's Republic of China, Ministry of Environmental Protection. 2013. *Report on the State of Environment in China 2012*. Beijing; and Government of the People's Republic of China, Ministry of Environmental Protection. 1993. *Quality Standards for Groundwater (GB/T 14848-93)*. Beijing.
[7] Government of the People's Republic of China, Ministry of Environmental Protection. 2002. *Discharge Standard of Pollutants for Municipal Wastewater Treatment Plants (GB18918-2002).* Beijing.

4. To address this challenge, the central government set a target to increase the wastewater treatment rate in townships to 30% by 2015.[8] Furthermore, the government reemphasized the importance of integrated urban and rural development through the Central Committee Resolution: Concerning Some Major Issues in Comprehensively Deepening Reform. This shift is expected to yield high environmental benefits but will require significant investment in wastewater plants and sewage networks. As for technology selection, conventional large-scale wastewater treatment systems in urban areas typically employ oxidation ditch, sequencing batch reactor, and anaerobic–anoxic–oxic, with a fast-growing trend for membrane biological reactors. Those approaches require high up-front capital expenditure and a number of highly skilled operations staff on site to constantly adjust oxygen, chemical, and retention time. The local utilities owned by local governments have limited financing, technology, and operating know-how for rural wastewater treatment. A cost-effective and flexible technical solution that can adapt to the characteristics of rural areas is urgently needed.

5. Water management, including drinking water and wastewater treatment, has been a focus area for Asian Development Bank (ADB) operations in the PRC since 1992. ADB's long-term support for broad-based policy and regulatory reforms has played a critical role in enabling private sector participation (e.g., lifting tariffs to reach cost recovery, strengthening technical standards). ADB has been taking a lead in supporting private sector participation in the water sector since the government requested ADB support for the first water sector public–private partnership (PPP) project and the national water tariff guidelines encouraging cost recovery.[9] Recently ADB has helped various provincial and city governments in the Songhua River Basin to develop pollution control strategies via the use of technical assistance projects to develop a long-term road map for PPP, and to fund projects using sovereign and nonsovereign modalities to achieve higher environmental performance.[10]

6. Through continuous project screening and discussion with stakeholders, ADB identified Sound Global Ltd., an integrated water services provider, as having an innovative business model and proprietary technology to address rural wastewater management. The proposed project is timely and builds on the achievements of earlier projects that addressed wastewater treatment and reuse in cities.[11] The project represents the first opportunity for ADB to provide direct assistance focusing on rural wastewater management.

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[8] Government of the People's Republic of China, State Council. 2012. *The 12th Five-Year Plan for National Urban Wastewater Treatment and Reuse Infrastructure Construction.* Beijing. Townships comprise the lowest administrative level with a wastewater treatment rate target under the 12th Five-Year Plan.

[9] ADB. 1997. Technical Assistance *to the People's Republic of China for the Build-Operate-Transfer Chengdu Water Supply*. Manila; ADB. 1997. *Technical Assistance to the People's Republic of China for the Water Supply Tariff Study*. Manila; ADB. 2001. *Technical Assistance to the People's Republic of China for Preparing the National Guidelines for Urban Waster Tariffs and Management Study*. Manila; and ADB. 2003. *Technical Assistance for Urban Wastewater and Solid Waste Management for Small Cities and Towns*. Manila.

[10] ADB. 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Equity Investment and Loan to the Songhua River Basin Water Pollution Control and Management Project Private Sector Facility in the People's Republic of China*. Manila; and ADB. 2012. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to Longjiang Environmental Protection Group Share Company Limited for the Songhua River Basin Water Pollution Control and Management Project Private Sector Facility (Phase 2) in the People's Republic of China*. Manila.

[11] ADB. 2013. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Technical Assistance to Beijing Enterprises Water Group Limited and BEWG Environmental Group Company Limited for the Wastewater Treatment and Reuse Project in the People's Republic of China.* Manila.

2. Project Design

7. The project will support Sound Global Ltd. to build and operate a series of small wastewater treatment plants and build the associated sewage trunk pipelines across the PRC. The project involves the design, construction, operation, and maintenance of multiple wastewater treatment subprojects using the small multiple modular automatic rapid technologies (SMART) solution with capacity of up to 240,000 tons/day and construction of the associated trunk sewage pipeline networks by 2017. ADB's loans will be channeled to subprojects through Sound Global Ltd. and BSEE, a wholly owned subsidiary of Sound Global Ltd.

8. Each subproject will have a mother plant that controls multiple daughter plants, which do not require control rooms for operations. The concession agreement between the project company and a county or municipal government will cover both types of plants, which is in line with the PRC's urban–rural integration policies, under which a municipality's regulatory jurisdiction covers both the county center and surrounding villages and communities.

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3. The Sponsor and the Borrowers

9. The project sponsor and borrower, Sound Global Ltd., is a private company established in 1993 in Beijing and listed on the Hong Kong Stock Exchange. The major shareholders include Yibo Wen, the founder and chairman (50.2%),[12] Schroders PLC (7.4%), International Finance Corporation (7.3%), and JPMorgan Chase & Co. (6.0%).[13] Sound Global Ltd. reported pretax profit of CNY566 million ($91 million), total assets of CNY8.8 billion ($1.4 billion) with gearing of 55% in fiscal year (FY) 2013. BSEE, the second borrower, is incorporated in the PRC as an onshore platform fully owned by Sound Global Ltd. to develop wastewater treatment-related business and hold wastewater treatment project companies.

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10. Sound Global Ltd.'s core value is integrated water environment management. The business lines cover engineering, procurement, construction, operation, and maintenance of water and wastewater treatment facilities; and the manufacturing of water and wastewater treatment equipment. In 2013, Sound Global Ltd. operated a portfolio of 25 municipal wastewater treatment projects with a combined treatment capacity of 1.2 million tons/day and two rural wastewater treatment projects with a combined treatment capacity of 42,400 tons/day under build–operate–transfer (BOT) arrangements. It also provided operation and maintenance services to 19 projects with an aggregate treatment capacity of 310,000 tons/day.

11. Sound Global Ltd. differentiates itself from its peers by adding a focus on rural wastewater treatment. Since 2005, Sound Global Ltd. has been developing an innovative

[12] Yibo Wen owns his shares through Sound Water (BVI) Limited, incorporated in the British Virgin Islands, a company jointly owned by Yibo Wen and his wife. The Global Forum for Transparency and Exchange of Information for Tax Purposes recently rated British Virgin Islands as a "noncompliant" jurisdiction. The project team has referred this significant integrity issue to ADB PSOD Operations Coordination Division (PSOC), Office of Anticorruption and Integrity, and Office of the General Counsel and conducted detailed due diligence to satisfy ADB that there are valid business and commercial reasons for the use of such an intermediate jurisdiction.

[13] Schroders PLC and JPMorgan Chase & Co. hold shares of Sound Global Ltd. as nominee shareholders on behalf of individual investors.

business model and technology for rural wastewater management based on international best practice. Building on the rotating biological contactor (RBC) technology mainly used in Europe and the United States for industrial wastewater treatment, Sound Global Ltd. developed SMART technology. The RBC is being used for an integrated rural wastewater treatment process for the first time worldwide. The PRC National Intellectual Property Bureau awarded SMART six patents for its various components. The SMART solution is a small-scale wastewater treatment system with several distinguishing features suited for rural wastewater treatment: (i) an automated system requiring a minimum of on-site operations staff; (ii) a centralized control system integrating multiple small plants and improving operating efficiency and monitoring effectiveness; and (iii) small-scale standardized modular equipment (capacity of 300–500 tons/day for each module); additional units can be installed to cope with increased wastewater resulting from future expansion.

12. Each SMART module comprises a multipurpose pretreatment tank for primary treatment, a high-efficiency RBC for secondary treatment, and a double filtration tank for tertiary treatment. After the pretreatment process with the multipurpose treatment tank, the wastewater will be lifted to the high-efficiency RBC for the removal of organic pollutants, ammonia nitrogen, total nitrogen, and total phosphorus. A series of closely packed discs are mounted on a rotating shaft, supported just above the surface of the wastewater (i.e., around 40%–45% of the disc media are constantly being submerged in the wastewater and the rest are exposed to the air). The rotational motion provides a chain of reactions that involve oxidation, adsorption, and decomposition of organic pollutants presented in the incoming wastewater. Then the double filtration tank removes the remaining suspended solids, lowering the total phosphorus before effluent discharge. The double filtration tank comprises a filtration tank and a rotating microfilter made up of microfiber cloths capable of filtering fine particles through different pore sizes. Each unit of the SMART module can be designed for the specific treatment needs at each wastewater treatment plant. The local environmental protection bureaus will monitor the quality of the treated wastewater using a continuous emission monitoring system.

13. Sound Global Ltd. is responsible for identifying, evaluating, selecting, negotiating, implementing, and administering the project companies.

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B. Development Impact, Outcome, and Outputs

14. The project impact includes enhanced environment and mitigated pollution in the PRC's rural areas, particularly in townships currently without wastewater treatment facilities. The project is expected to be an important catalyst for private sector participation in wastewater management, and thereby expedite the achievement of government targets and reduce threats to public health. By establishing better sanitation management, the project will contribute to Millennium Development Goal 7.[14] The outcome is improved private sector wastewater management in rural areas. The outputs include the installation of rural wastewater treatment facilities with capacity of up to 240,000 tons/day and associated trunk sewage pipeline networks that comply with ADB safeguard standards and technical and financial eligibility criteria. The project helps the local economy and community by providing employment and through the local purchase of goods and services.

[14] Millennium Development Goal 7: Ensure environmental sustainability (Indicator: Proportion of population with access to improved sanitation, urban and rural (United Nations Children's Fund–World Health Organization).

C. Alignment with ADB Strategy and Operations

1. Consistency with Midterm Review of Strategy 2020

15. The project is consistent with ADB's Midterm Review of Strategy 2020, which identifies infrastructure and environment as two of the four strategic priorities to sharpen ADB's operational focus.[15] Regarding infrastructure, the project is in line with Midterm Review of Strategy 2020's focus on inclusive growth, as well as with its emphasis on PPP. Regarding the environment, the project mitigates water pollution and health threats, and promotes environmentally sustainable growth.

2. Consistency with Country Strategy

16. By supporting inclusive growth and environmental sustainability, the project directly addresses two of the three development goals of ADB's country partnership strategy, 2011–2015 for the PRC and aligns with the strategy's sector priority of rural environment protection, water management, and pollution control.[16] It strongly complements current ADB initiatives in wastewater treatment and water pollution control in urban areas.

3. Consistency with Sector Strategy

17. The project aligns with ADB's Water Policy, which recognizes the crucial importance of water to the rural poor and the critical impacts of water scarcity, pollution, and degradation of watersheds; and highlights the importance of water resource management.[17] ADB's Water Operational Plan, 2011–2020 identifies the need for concerted efforts to seek innovative ways to involve the private sector in rural water management.[18]

D. Project Cost and Financing Plan

18. Sound Global Ltd.'s investment plan indicates a total investment of $400 million equivalent, including civil works, equipment and materials, and other local procurement in rural areas for FY2015–FY2017.

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[15] ADB. 2014. *Midterm Review of Strategy 2020: Meeting the Challenges of a Transforming Asia and Pacific*. Manila.
[16] ADB. 2012. *Country Partnership Strategy: People's Republic of China, 2011–2015.* Manila.
[17] ADB. 2003. *Water for All.* Manila.
[18] ADB. 2011. *Water Operational Plan, 2011–2020.* Manila.

E. Implementation Arrangements

19. Table 2 summarizes the implementation arrangements.[19]

Table 2: Summary of Implementation Arrangements

Aspects	Arrangements
Regulatory framework	Each subproject will enter into concession agreements with city or county governments for a mother plant and a cluster of daughter plants in the surrounding townships and villages under build–operate–transfer arrangements. Each plant will be implemented in accordance with granted approvals, and during construction and operation will be subject to government inspections on various aspects, including environment, safety, quality, and sanitation. Influent and effluent will be metered with minimum offtake quantities in all the plants. Wastewater tariffs will be governed by the cost–plus regulations set by the central government and paid by the city or county governments based on the concession agreements. Sound Global Ltd. will construct the trunk sewage pipeline networks to link the plants based on a build–transfer arrangement.
Management	Sound Global Ltd. will centrally control all project development, procurement, and financing arrangements across its operations. Sound Global Ltd. will assign a seconded experienced general manager to the each plant. Cash is centrally managed through the cash management system.
Implementation period	January 2015–December 2017
Construction arrangement	SMART application will be sourced by Sound Global Ltd. Other goods and services will be procured from Asian Development Bank members in a transparent manner. Sound Global Ltd. will centrally manage engineering, procurement, and construction contracts with subcontractors.
Operation arrangements	
Revenue structure	Build–operate–transfer plants generate construction revenue, operating income, and interest income. Trunk sewage pipelines under build–transfer contracts contribute construction revenue.
Major cost structure	The major operating costs comprise electricity, chemicals, and payroll and maintenance expense.
Operation and maintenance	Daughter plants do not need skilled staff on site for operations. Seconded staff from Sound Global Ltd. will handle most operation and maintenance work of the mother plant with support from locally recruited staff.
Performance monitoring	The mother plant will monitor each daughter plant. Sound Global Ltd. will report data on key performance indicators, including output and outcome indicators, and compliance with ADB's safeguard requirements.

SMART = small multiple modular automatic rapid technologies.
Source: Asian Development Bank.

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F. Projected Financial and Economic Performance

20. Initial financial projections indicate the project would yield a minimum financial internal rate of return is 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%.

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[19] Details of Implementation Arrangements (accessible from the list of linked documents in Appendix 2).

III. THE PROPOSED ADB ASSISTANCE

A. The Assistance

21. ADB's proposed assistance to Sound Global Ltd. and BSEE comprises (i) an A-loan of up to $100 million in dollars and yuan, and (ii) a complementary loan of up to $200 million equivalent in dollars and yuan. ADB will fund the A-loan from its ordinary capital resources; the complementary loan will be funded by participating banks with ADB acting as lender of record. The proposed A-loan will have a maturity of up to 10 years from the date of the first disbursement. The complementary loan will have a maturity equal to or shorter than that of the A-loan.

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B. Value Added by ADB Assistance

22. The project will bring urgently needed infrastructure into rural areas. Access to finance is identified as one of the key bottlenecks to better sector performance. City commercial banks are less active in rural areas. Rural credit cooperatives and village and township banks are the main official banking institutions servicing borrowers outside of cities. Each branch office cannot operate beyond its designated township or village. Their loans are mainly provided to township and village enterprises, which are managed by township and village governments. ADB support is crucial to encourage private sector participation in rural environmental infrastructure, where commercial finance is still scarce.

23. ADB's value addition is to link the private sector-led rural infrastructure projects with the wider financing community, including international banks by aggregating small-scale subprojects and providing in-depth technical and safeguard due diligence. ADB's assistance is designed to lower transaction costs by adopting a portfolio approach to finance multiple wastewater treatment subprojects, which are often too small and time-consuming for international banks to finance on a stand-alone basis.

C. Risks

24. **Revenue risk.** Sound Global Ltd. still derives a majority of its revenue from construction services, which has only short-term revenue visibility and is dependent on a steady stream of engineering procurement construction contract wins. However, greater emphasis on environmental protection in the PRC should result in higher demand for engineering procurement construction services and Sound Global Ltd. can leverage its in-house research capabilities to secure more contracts. In the BOT segment, Sound Global Ltd.'s subprojects operate under standardized concession arrangements with guarantee minimum offtake and regulated cost–plus tariffs. Further mitigating this risk are (i) large latent demand for rural wastewater treatment and (ii) strong policy pressure for tariff reform to achieve full cost-recovery.

25. **Offtake counterparty risk.** Wastewater treatment fees are publicly announced and reliably collected from end-users through bundling with water distribution fees and backstopped by host governments under concession agreement obligations. Sound Global Ltd. practices comprehensive financial analysis of government counterparties. The project benefits from its portfolio approach to diversify offtake risk among subprojects.

26. **Financial risk.** Sound Global Ltd.'s new business strategy to shift to more BOT and build–transfer projects will require large up-front capital costs. Each BOT concession will need to be debt financed through long-term project loans, which will increase Sound Global Ltd.'s financial leverage. At the same time, free cash flow at the project level will remain negative for the first few years of operation. The risk is partially mitigated by (i) Sound Global Ltd.'s strong liquidity position with sufficient cash on hand and revenue growth from its cash-generating construction business, (ii) more stable and predictable operating cash flows from its expanding portfolio of BOT projects, and (iii) strengthened equity base after recent full conversion of convertible notes.

27. **Completion and operating risk.** Sound Global Ltd. has a proven technical and management track record in construction, and operation and maintenance. The risk is mitigated by the homogeneous nature of the subprojects, and the modularized and standardized nature of the SMART technology, as well as low number of staff required for plant operation.

28. **Associated infrastructure risk.** The success of a wastewater treatment subproject relies not only on the construction and operation of the plant, but also on the readiness and reliability of the associated infrastructure, especially the pipelines and pump stations. Traditionally, this infrastructure is constructed and owned by municipal governments. This risk is partly mitigated by Sound Global Ltd.'s business model to take over the construction of trunk sewage pipelines under a build–transfer arrangement.

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IV. POLICY COMPLIANCE

A. Safeguards and Social Dimensions

29. **Safeguards.** The project is classified category B for environment as potential adverse environmental impacts of future subprojects are negligible if the water treatment system functions properly. Detailed facility location, design, and operation plans will be determined by the concession agreements, and an initial environmental examination will be prepared for the project according to ADB's Safeguard Policy Statement (2009), after subprojects are identified. The initial environmental examination will include an environmental management plan, which will manage possible environmental adverse impacts during construction and operation.

30. At this stage, ADB proceeds are not allocated for implementing specific subprojects. Therefore, this loan is classified as general corporate finance, defined in ADB's Safeguard Policy Statement. Sound Global Ltd. commissioned qualified external experts to conduct a corporate audit of its current environmental and social management system (ESMS) and the company's past and current performance against the objectives, principles, and requirements of ADB's Safeguard Policy Statement. The experts prepared corrective action plans for the current ESMS to address gaps identified between the current ESMS and ADB's Safeguard Policy Statement requirements. The company has committed to incorporate the corrective action plans into its ESMS. ADB will confirm the company's revised ESMS before the first disbursement.

31. The project is classified category B for involuntary resettlement and category C for indigenous peoples. The audit finds that the land acquisition is expected to be located in sparsely populated rural areas near or surrounding the townships, which reduces impacts on local residents. As the area is generally nonresidential, house demolition in the buffer zone can be avoided. Land acquisition is not expected to be significant and is normally carried out by the local governments before awarding the concession. The audit also finds that the client needs to

improve its ESMS performance and staffing issues. Sound Global Ltd. will follow its revised ESMS prior to the disbursement for the first subproject and hire capable staff to ensure that the ESMS is implemented. The ESMS will include resettlement policy principles and procedures to make sure that subprojects using ADB funds are screened. If the subprojects entail physical and economic displacement, resettlement plans will be prepared following national laws of the PRC and in accordance with ADB's Safeguard Policy Statement, Requirement 2 on Involuntary Resettlement. The audit also notes that the project will not impact ethnic minorities.

32. **Other social dimensions.** The project is categorized as no gender elements. Sound Global Ltd. upholds gender equality, and provides equal benefits and training opportunities for both men and women. Priorities are provided to women if the jobs are more appropriate for female staff, such as in the finance and human resource departments, and laboratories. Sound Global Ltd. is committed to undertaking the following measures: (i) support the engagement of women in construction activities by contractors, and (ii) regularly reach out to concerns of residents including women, through consultations with resident welfare associations. Sound Global Ltd. will comply with ADB's Social Protection Strategy and report regularly to ADB on measures taken to ensure compliance (including that of contractors) with national labor laws and adherence to internationally recognized core labor standards.[20]

B. Anticorruption Policy

33. Sound Global Ltd. 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

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

D. Assurances

35. Consistent with the Agreement Establishing the Asian Development Bank (the Charter),[21] the government's no objection to the proposed assistance to Sound Global Ltd. and BSEE will be obtained. 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

36. I am satisfied that the proposed loan facility would comply with the Articles of Agreement of the Asian Development Bank (ADB) and, acting in the absence of the President, under the provisions of Article 35.1 of the Articles of Agreement of ADB, I recommend that the Board approve the loan facility of up to $300,000,000 equivalent in dollars and yuan to Sound Global

[20] ADB. 2001. *Social Protection Strategy.* Manila.
[21] ADB. 1966. *Agreement Establishing the Asian Development Bank.* Manila.

Ltd. and Beijing Sound Environmental Engineering Co., Ltd. for the Rural Smart Wastewater Treatment Project in the People's Republic of China, comprising

(i) an A-loan of up to $100,000,000 equivalent in dollars and yuan from ADB's ordinary capital resources; and
(ii) a complementary loan of up to $200,000,000 equivalent in dollars and yuan to be funded by commercial banks,

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.

Bindu N. Lohani
Vice-President

30 June 2014

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
Impact Enhanced rural environment and mitigated pollution in the PRC Greater private sector investment in wastewater management in the PRC	75% of wastewater in PRC counties and 40% in townships treated by 2024 (baseline 2010: 60.1% in counties and less than 20% in townships)[a,b] Share of private investment in PRC wastewater projects improves to at least 50% in 2024 (baseline 2010: 40%)[c]	ADB estimates and PRC State Council 5-year plans[a] Ministry of Housing and Urban–Rural Development China Urban Wastewater Treatment Situation Report[c] and ADB estimates	**Assumption** Government remains committed to wastewater management. Commercially viable projects attract greater private investment in waste water treatment in rural areas. **Risk** Increase of wastewater generation exceeds forecasts and outpaces the development of rural wastewater treatment infrastructure.
Outcome Improved private sector wastewater management in rural areas	By 2021, 78 million tons of wastewater[d] treated annually to national standards[e] An additional 330 full-time equivalent local workers employed during operations[f] Goods and services purchased locally during operations amount to CNY37 million ($5.9 million) during 2019–2021 Contributions to government revenues are CNY34 million ($5.4 million) during 2019–2021 By 2020, 700,000 households benefit from the project[g]	Operations reports; project monitoring and development effectiveness monitoring reports Company's human resource records; project monitoring and development effectiveness monitoring reports Audited financial statements and company's annual reports Audited financial statements and company's annual reports Operations reports; project monitoring, and development effectiveness monitoring reports	**Assumptions** The local environment protection bureaus verify that wastewater treatment standards are being met. Concession authorities honor the concession agreements. **Risk** Local governments delay payment of tariffs.
Outputs Rural wastewater	By 2017, 12 subprojects	Engineering reports	**Assumptions** Project sponsor

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
treatment facilities and associated trunk sewage pipeline networks developed	with cumulative capacity of 240,000 tons/day constructed[h] By 2017, 1,200 kilometers of trunk sewage pipeline networks constructed[i] By 2017, goods and services purchased locally during construction amount to CNY1.6 billion ($251 million) Additional 420 full-time equivalent local employment provided during construction[j] Corporate environmental and social management system revised based on ADB audit by the fourth quarter of 2014 and operating by 2015	Operations reports, project monitoring and development effectiveness monitoring reports Audited financial statements and company's annual reports Company's human resource records; project monitoring and development effectiveness monitoring reports Environmental and social monitoring reports	maintains technical and operating capacity to complete projects and implement services; municipalities install branch pipelines. Government allocates sufficient resources for branch pipeline network to households. **Risks** Unforeseen delays slow project development. Delay by municipalities in granting concession rights to private sector result from unforeseen regulation changes.

Activities with Milestones	**Inputs**
1. Signing of loan agreements by the third quarter of 2014 2. Financial closure by the third quarter of 2014 3. Clearance of all loan drawdown conditions by the third quarter of 2014 4. Construction work in progress, as scheduled 5. Full commissioning of subprojects plants by 2018	**ADB:** Up to $100 million equivalent A-loan in dual currency; Up to $200 million equivalent complementary loan in dual currency **Sound Global Ltd.:** Equity to meet debt–equity ratio

ADB = Asian Development Bank; PRC = People's Republic of China.

[a] Government of the People's Republic of China, State Council. 2012. *The 12th Five-Year Plan on National Urban Wastewater Treatment and Reuse Infrastructure Construction*. Beijing.

[b] By establishing better sanitation management, the project will also contribute to Millennium Development Goal 7: Ensure environmental sustainability (Indicator: Proportion of population with access to improved sanitation, urban and rural (United Nations Children's Fund–World Health Organization).

[c] Government of the People's Republic of China, Ministry of Housing and Urban–Rural Development. 2012. *China Urban Wastewater Treatment Situation Report, 2006–2010.* Beijing.

[d] 240,000 tons of wastewater x 90% utilization rate x 365 days = about 78 million tons of wastewater.

[e] Government of the People's Republic of China, Ministry of Environmental Protection. 2002. *Discharge Standard of Pollutants for Municipal Wastewater Treatment Plant (GB18918-2002).* Beijing.

[f] 2.8 full-time equivalent employed per wastewater plant with 2,000 tons wastewater treatment capacity x 120 wastewater plants = 330 full-time equivalent employed during operation. Number of wastewater plants is calculated as 240,000 tons wastewater treatment total capacity/2,000 tons wastewater treatment capacity per plant.

[g] 240,000 tons of wastewater treatment capacity per day/0.09 tons per capita per day wastewater generation (Government of the People's Republic of China, Ministry of Environmental Protection. 2012. *Guideline on Project Construction and Investment for Rural Sewage Treatment.* Beijing.) x 80% accounting for utilization rate of the plant and other factors = about 2.1 million people. Assuming average household size of 3 people, 700,000 households will benefit from the project.

[h] 120 township plants x 2,000 tons of wastewater treated daily capacity = 240,000 tons wastewater treated daily capacity.

[l] 10 kilometers trunk sewage pipeline per plant x 120 plants = 1,200 kilometers trunk sewage pipeline networks.

[j] 3.5 full-time equivalent employed per wastewater plant with 2,000 tons wastewater treatment capacity x 120 wastewater plants = 420 full-time equivalent employed during construction. Number of wastewater plants is calculated as 240,000 tons wastewater treatment total capacity/2,000 tons wastewater treatment capacity per plant.

Source: Asian Development Bank.