

China
Second Beijing Environment Project
Project Paper

East Asia and Pacific Region
Urban Development Sector Unit

Date: July 25, 2006	Team Leader: Raja Iyer
Country Director: David Dollar	Sector Director: Keshav Varma
Project ID: P042109	Sector(s): US-Urban Environment, VP-Pollution Control/Waste Management
Lending Instrument: Specific Investment Loan (SIL)	Theme(s): Environment; Urban
	Poverty Targeted Intervention: N

Project Financing Data	
<input checked="" type="checkbox"/> Loan	<input type="checkbox"/> Credit
<input checked="" type="checkbox"/> Grant	<input type="checkbox"/> Guarantee
<input type="checkbox"/> other (Specify)	
For Loans/Credits/Others:	
Amount (US\$m): \$322.49 + \$25 GEF grant	
Proposed Terms: Variable Spread & Rate Single Currency Loan (VSCL)	
Grace period (years): 5	Years to maturity: 20
Commitment fee: 0.75%	
Front end fee on Bank loan: 1.00%	

Financing Plan:	Source	Local	Foreign	Total
BORROWER		343.00	0.00	343.00
IBRD		00	322.49	322.49
GLOBAL ENVIRONMENT FACILITY		0.00	25.00	25.00
BENEFICIARIES		231.78	0.00	231.78
OTHER PRIVATE COMMERCIAL SOURCES		182.50	0.00	182.50
Total:		757.28	347.49	1104.77

Borrower: PEOPLE'S REPUBLIC OF CHINA
Responsible agency: BEIJING MUNICIPAL GOVERNMENT
World Bank and Asian Development Bank Loan Beijing Environment Project Office
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Estimated disbursements (Bank FY/US\$m)										
FY	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Annual	4.07	26.30	25.73	19.34	19.52	17.25	31.20	100.00	60.00	47.49
Cumulative	4.07	30.37	56.10	75.44	94.96	108.80	140.00	240.00	300.00	347.49
Project implementation period: 9 years					Expected closing date: 3/31/2009					
Effectiveness date: 10/15/2000										

PROJECT PAPER
CHINA: SECOND BEIJING ENVIRONMENT PROJECT (Ln. 4566-CHA, GEF TRUST FUND TF024121)

1. This Project Paper seeks the approval of the Executive Directors to introduce the following changes in the China Second Beijing Environment Project (Ln. 4566-CHA, GEF Trust Fund TF024121) and accompanying amendments to the project's legal documents: (a) adding seven new components to the project; (b) canceling \$26,512,600 of loan savings; (c) increasing the disbursement percentage to 75% for civil works of new components; (d) extending the loan closing date to March 31, 2009; and (e) reallocation of loan proceeds consistent with the above. The proposed changes will enable Beijing Municipal Government to utilize most of the substantial loan savings in the boiler conversion component of Part A, Air Pollution Control, and Part B, Wastewater Management, for priority additional activities which will improve water quality in Beijing. The additional components are consistent with the objectives of the project. They represent a substantially higher loan allocation to reduce water pollution and will contribute to enhanced water quality in the sections of the rivers covered by the additional components.

Background and Reasons for Restructuring

2. **Project Background.** The project was approved on June 20, 2000 and became effective on May 11, 2001. The objective of the project is to support visible and sustained alleviation of air and water pollution in Beijing by helping to: (a) convert scattered coal-fired boilers to natural gas boilers; (b) promote energy conservation in heating systems; (c) construct key wastewater trunk interceptors and associated treatment facilities; and (d) strengthen environmental management institutions in Beijing.

3. The original project comprises four parts:

- (a) **Part A**, Air pollution control, through (1) conversion or replacement of medium-sized coal fired boilers to or with gas fired boilers, (2) technical capacity and market development, (3) heating energy conservation, and (4) air quality monitoring and management.
- (b) **Part B**, Wastewater management, to improve water quality in the Liangshui and Qing River Basins through the construction of secondary wastewater treatment facilities, and collection networks.
- (c) **Part C**, Institutional strengthening in the wastewater sector.
- (d) **Part D**, Resettlement, addressing the resettlement and rehabilitation of affected persons in connection with the carrying out of Part B of the project.

4. The project is financed by an IBRD loan of \$349 million and a GEF Grant of \$25 million. The GEF Grant finances goods and consulting services under Parts A (2) and A (3) of the project.

5. **Implementation Status.** The project is achieving its development objectives and is being implemented in a satisfactory manner, as discussed below. Disbursement as of end-July 2006, was about \$109 million. Procurement has been carried out in accordance

with Bank Procurement Guidelines. A procurement post-review in June 2006 confirmed that procurement under the sampled contracts was carried out in a satisfactory manner. The Environmental Management Plan (EMP) is being implemented satisfactorily. The Resettlement Action Plan (RAP) implementation has been completed (see paragraph 11 below). Project accounts are being audited on a timely basis, and there are no outstanding issues relating to the audits. Audit reports from the project implementing agencies are also being received in the Bank on a timely basis; these audit reports do not indicate any significant issues.

6. *Part A, Air Pollution Control.* The loan funded Boiler Conversion component – Part A (1) – suffered long delays because of the start-up difficulties experienced by the new institutions established to manage the component. However, market forces (which the project helped to initiate and strengthen) have provided financing for conversion of coal burning boilers to cleaner fuels, and about 70% of the city's boilers have already been converted to cleaner fuels. About 70 million square meters of floor area in the center city area is still heated by small and medium coal fired boilers. Their conversion to cleaner fuels has been delayed by constraints to natural gas supply; however most of them are expected to be converted to cleaner fuels before the start of the Beijing Olympics in 2008, using market based arrangements, rather than loan funds. As a result, while the project objective of air pollution control through boiler conversion will be fully achieved, there is a substantial loan saving of almost \$150 million.

7. The *GEF Grant funded components* - Parts A (2) and A (3) - also suffered delays similar to the boiler conversion component. However, Grant implementation has gained momentum in the last two years, and progress is now satisfactory.

8. Implementation of the air quality management and monitoring component - Part A (4) - is nearing completion and has proceeded satisfactorily.

9. *Part B, Wastewater Management.* Implementation of the wastewater management component is essentially complete. The Xiaohongmen Wastewater Treatment Plant (WWTP), the last of the three project WWTPs (and, at 600,000 cubic meters per day, one of the largest in the country) was commissioned in late 2005. However, consistent with the experience of other China urban projects, the appraised cost estimates proved to be higher than the value of contracts awarded, and there is a loan saving of about \$50 million.

10. *Part C, Institutional Strengthening in the wastewater sector.* The technical assistance studies financed by the loan are at an advanced stage of completion and have been effective. Beijing Municipal Government is finalizing plans to bring water supply and wastewater activities under a Water Affairs Group, which would strengthen coordination between the two closely linked utilities. Beijing Drainage Company, the implementing agency for Part B, Wastewater Management, of the project, is a well run utility, and is able to operate and maintain the wastewater facilities in a satisfactory manner.

11. *Part D, Resettlement and Rehabilitation under the wastewater component.* All resettlement activities have been completed satisfactorily, as confirmed by the external monitoring report and by task team reviews of documents and through site visits.

12. **Reasons for Restructuring.** As indicated in paragraphs 6 and 9, the original project will have loan savings of about \$200 million. The success of the wastewater management components of the project, focusing on the Liangshui and the Qing River basins, has highlighted the remaining deficiencies of the Beijing river basins: considerable unaddressed pollution and risk of flooding. In the context of the high priority attached to improving the urban environment in Beijing (especially because of the upcoming Olympics) Beijing Municipal Government (BMG) has proposed and prepared additional components under Part B of the project to extend wastewater management and rehabilitate the river systems of Liangshui, Qing, and connected urban rivers, as well as related flood and ground water protection, and water re-use. The proposed investments will enhance achievement of the objective of improving water quality in the major river basins in Beijing by improving the water quality in the sections of rivers improved by the additional components by at least one level.

Proposed Changes

13. The proposed additional components include: (a) rehabilitation of selected sections of the Liangshui River; (b) rehabilitation of selected sections of the Qing River; (c) rehabilitation of selected sections of the Beihuan River system; (d) rehabilitation of selected sections of the Ba River, the Beixiao River, the Xiaotaihou River, and the Shuidui and the Honglingjin Lake areas in Chaoyang district; (e) rehabilitation of selected sections of the Xinfeng River in Daxing district; (f) construction of wastewater re-use facilities in the Beijing Economic Development Zone, and the distribution system for re-use water; and (g) protection of groundwater through the reconstruction of the Datun Solid Waste Transfer Station.

14. Other changes include: (a) extension of the closing date from December 31, 2006 to March 31, 2009 (see paragraph 19) to enable the new components to be completed; and (b) a higher disbursement percentage of 75% for the civil works category for the additional components, compared to 40% for the civil works category of the original components to reduce the pressures on counterpart funding (see paragraph 28).

15. **Implementation arrangements.** Additional components (a) to (c) will be carried out by the Beijing Water Affairs Bureau; additional component (d) will be carried out by Chaoyang District Water Affairs Bureau; additional component (e) will be carried out by Daxing District Water Affairs Bureau; additional component (f) will be carried out by the Beijing Economic and Technological Investment Development Corporation (BETIDC), a State owned enterprise; and additional component (g) will be carried out by the Beijing Siqing Environmental and Sanitation Group Company Limited (Siqing Group), a state owned limited liability company. These agencies will be able to implement the their respective components with assistance from consultants, and guidance from the existing Beijing Project Management Office, complemented by enhanced supervision by Beijing based members of the Bank task team.

16. **Revised Project Costs and Financing Plan.** Annex 1 shows the project cost and financing plan of the restructured project.
17. **Financial Management.** The Financial Management Specialist (FMS) conducted an assessment of the adequacy of the financial management system surrounding the new agencies of the restructured project, as per the guidelines issued by the Financial Management Sector Board on November 3, 2005. The FMS concluded that the financial management system of the restructured project, including the proposed additional components, meets minimum Bank financial management requirements, as stipulated in BP/OP 10.02. In the FMS' opinion, the restructured project, including the proposed new components, has in place an adequate project financial management system that can provide, with reasonable assurance, accurate and timely information on the status of the project in the reporting format agreed with the project and as required by the Bank.
18. **Procurement.** Procurement arrangements for the additional components and the procurement plan for these components have been reviewed by a Procurement Accredited Staff and have been found acceptable. The original procurement plan has been updated, incorporating the procurement plans for the additional components. The revised procurement plan is available in the project files.
19. **Implementation Schedule and Closing Date.** Project agencies have prepared detailed implementation schedules for each of the additional components. These have been appraised and found to be demanding; however, given the priority attached by Government to the project, it should be possible to complete the project in about two years. Accordingly it is proposed that the loan closing date be extended from the current date of December 31, 2006 to March 31, 2009.

Appraisal Summary

20. The feasibility studies, procurement plans, environmental and social reports, etc. prepared by the project agencies for the additional components were appraised using the same procedures as for the original project. The restructured project would have a positive impact overall, as a result of the additional reduction in water pollution.
21. **Environmental and Social Aspects.** The original project is Category A, and the restructured project will continue to be Category A. The project agencies prepared separate environmental assessments and environmental management plans (EAs and EMPs) for the additional components. These have been appraised and the final versions are consistent with Bank requirements.
22. Special efforts were made during the design of the additional components to minimize land acquisition and resettlement. Six sub-projects require land acquisition and resettlement, and resettlement action plans (RAPs) were prepared by the project agencies for each. These have been appraised and the final versions are consistent with Bank requirements.
23. All EAs/EMPs and RAPs have been disclosed as per Bank requirements.

24. **Policy Exceptions.** The restructured project will not require any policy exceptions.

Expected Outcomes

25. The development objectives of the restructured project will remain unchanged from those of the original project. As discussed earlier, the additional components will contribute to a further improvement of the urban environment in Beijing through a further reduction of water pollution in Beijing. Additional output indicators (length of interceptors installed, lengths of river banks rehabilitated, amount of treated effluent re-used, and utilization of transfer station capacity) and outcome indicators (water quality improvements in the sections of the rivers rehabilitated) have been established for the new components. These indicators will be monitored on the same basis as the indicators for the original project, i.e., through half yearly progress reports.

Risks

26. The major risk for the restructured project is the capacity of the implementing agencies of the additional components to complete the substantial amount of new work within a period of less than three years, especially as these agencies are new to working with the Bank. A further risk is the availability of the significant amount of counterpart funding required for the additional components.

27. The risk of weak capacity to implement large components of a Bank project for the first time will be mitigated through: (a) intensive training programs on Bank procedures; (b) involvement of the Beijing Project Management Office (which has successfully coordinated implementation of the current project) in providing on-going guidance and coordination support to the new implementing agencies; (c) support from project management consultants, who are being appointed in selected cases; and (d) guidance from the Beijing based members of the task team on an as required basis, and through quarterly supervision missions. In addition, in view of the upcoming Olympic Games, Beijing Municipal Government (BMG) leaders will take a strong interest in ensuring timely completion of the new components to high quality standards.

28. The risk of shortage of counterpart funds is mitigated by the fact that BMG, which is relatively strong financially, has committed to allocate adequate funds for environmental improvements to the city and in particular, has committed to providing the required counterpart funds for the project. In addition, in order to reduce the burden of counterpart funding for the additional components, the disbursement percentage for civil works for the additional components has been set at 75% (compared to 40% for the original components).

Estimated Project Costs

Project Cost By Component	Local (US\$ million)	Foreign (US\$ million)	Total (US\$ million)
AIR POLLUTION REDUCTION	31.02	46.12	77.14
A. Boiler Conversion	13.77	17.82	31.59
B. Gas Boiler Market and Technology Development (GEF)	8.94	14.00	22.94
C. Heating Energy Conservation (GEF)	7.15	11.00	18.15
D. Air Quality Monitoring and Decision Support	1.16	3.30	4.46
SEWERAGE	443.23	117.28	560.51
E. Liangshui River Sewers			554.91
F. Liangshui River Wastewater Treatment	443.23	111.68	0
G. Qing River Sewers			0
H. BDC Institutional Development		5.60	5.60
I. Land Acquisition and Resettlement		0	0
ADDITIONAL COMPONENTS	185.46	180.6	366.06
J. BMWAB River Rehabilitation	83.10	81.40	164.50
K. River Rehabilitation in Chaoyang District	76.93	62.98	139.91
L. Xinfeng River Rehabilitation of Daxing District	14.63	16.99	31.6
M. Datun Solid Waste Transfer Station Reconstruction	3.87	9.16	13.03
N. BDA Reclaimed Water Plant	6.93	10.07	17.00
Total Baseline Cost	659.71	344.00	1003.71
Physical Contingencies	63.40		63.4
Price Contingencies	34.16		34.16
Total Project Costs	757.27	344.00	1101.27
Front-end-fee		3.49	3.49
Total Financing Required	757.27	347.49	1104.76

Project Cost By Category	Local (US \$million)	Foreign (US \$million)	Total (US \$million)
Goods	60.90	135.72	196.62
Works	403.2	183.88	587.08
Services	16.36	24.40	40.76
Land Acquisition & Resettlement	276.82	0	276.82
Total Project Costs	757.28	344.00	1101.28
Front-end-fee		3.49	3.49
Total Financing Required	757.28	347.49	1104.77

Financing Plan: Source	Local	Foreign	Total
BORROWER	343.00	0.00	343.00
IBRD	00	322.49	322.49
GLOBAL ENVIRONMENT FACILITY	0.00	25.00	25.00
BENEFICIARIES	231.78	0.00	231.78
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