



The World Bank

Ningbo Municipal Solid Waste Minimization and Recycling Project (P123323)

REPORT NO.: RES36072

DOCUMENT OF THE WORLD BANK

RESTRUCTURING PAPER
ON A
PROPOSED PROJECT RESTRUCTURING
OF
NINGBO MUNICIPAL SOLID WASTE MINIMIZATION AND RECYCLING PROJECT
APPROVED ON MAY 31, 2013
TO
PEOPLE'S REPUBLIC OF CHINA

SOCIAL, URBAN, RURAL AND RESILIENCE GLOBAL PRACTICE

EAST ASIA AND PACIFIC

Regional Vice President:	Victoria Kwakwa
Country Director:	Bert Hofman
Senior Global Practice Director:	Ede Jorge Ijjasz-Vasquez
Practice Manager/Manager:	Francis Ghesquiere
Task Team Leader:	Frank Van Woerden



I. BASIC DATA

Product Information

Project ID P123323	Financing Instrument Investment Project Financing
Original EA Category Partial Assessment (B)	Current EA Category Partial Assessment (B)
Approval Date 31-May-2013	Current Closing Date 31-Mar-2019

Organizations

Borrower People's Republic of China	Responsible Agency Ningbo Municipal PMO, Ningbo Capital Kitchen Waste Treatment Co., Ltd.
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Project Development Objective (PDO)

Original PDO

The project development objective (PDO) is to assist selected districts in Ningbo Municipality to increase the volume and proportion of municipal solid waste recycled with processes for waste separation at source and recycling.

Summary Status of Financing

Ln/Cr/Tf	Approval	Signing	Effectiveness	Closing	Net		
					Commitment	Disbursed	Undisbursed
IBRD-82500	31-May-2013	04-Jul-2013	03-Sep-2013	31-Mar-2019	80.00	65.34	14.66

Policy Waiver(s)

Does this restructuring trigger the need for any policy waiver(s)?

No

I. SUMMARY OF PROJECT STATUS AND PROPOSED CHANGES



CURRENT PROJECT STATUS

The project has been developed to increase the volume and proportion of municipal solid waste recycled with waste separation at source and recycling in the city of Ningbo. Roll-out of segregated waste collection is to reach 650,000 households (more than 2,000,000 people) with infrastructure investments under the project to collect, transfer and treat the separate waste streams (mixed waste, kitchen waste, recyclables and hazardous waste). Main investments are six waste transfer stations (TSs) of which one includes a sorting facility for recyclables and a kitchen waste treatment plant (KWTP) based on anaerobic digestion. The program of introducing waste segregation at household level is supported by intensive public education campaigns, development and adoption of new waste regulations and an output-based incentive payment (OBIP) scheme. The KWTP has been developed as a PPP arrangement where funding from the Loan has been used for investment financing and equity share by the municipal government of Ningbo and a private investor responsible for operations took a 60% of the shares in the established special purpose vehicle (SPV) to develop and operate the KWTP.

The project is on track to meet its PDO. Roll-out of segregated waste collection has surpassed the target and all transfer stations have been built and are operational or in the commissioning stage. Also the KWTP is under commissioning and is near full-scale operations (March 2019). The complex PPP arrangements required a project restructuring in 2017 (the SPV became a PMO under the project) and with all preparations is now completed roughly 2 years later than initially projected. This is also one of the main reasons that quantities of segregated and treated kitchen waste and recyclables have remained behind targets, the project needs the outlet and the pull-effect of an operational KWTP to bring the volumes of these waste streams to the target levels and it is expected that this can be achieved in the coming 6-12 months.

As part of ongoing promotion activities for waste separation, between June and October 2018, over 980 activities were organized by both municipal and district level governments. In addition, more than 1270 trainings were held reaching over 70,000 people. The awareness rate of residential waste separation has now reached 91% with a resident satisfaction level of 83.4%.

Following early agreed measures to increase and simplify payments and streamline the procedure for determining eligibility, the Output Based Incentive Payments (OBIP) scheme has now managed to achieve a consistent level of OBIP to participating communities that perform well. Still challenges remain. Payment levels have cumulatively reached RMB 5.3 million but require extra efforts to fully disburse the allocated RMB 22 million for this scheme. These efforts are part of the action plan agreed with the client.

Highly important is the Ningbo Municipal Solid Waste Separation Management Regulations that have been reviewed by the Ningbo People's Congress for the first round. The city government will submit the draft regulations for a second round review after revision and they are expected to become effective in early 2019. Together with the district level waste operation plans that are being prepared for 2019, these regulations and planning will underpin the adaptation of the segregated waste collection system, integrating the new TSs and transferring all kitchen waste to the new KWTP. Having such regulations in place would constitute a major step forward toward improving solid waste management in Ningbo.

Replacement housing for 47 households mainly related to the land acquisition for the KWTP is under construction as part of the Xuanpei New Village with 1584 apartments in 38 residential buildings and 5 lower buildings for non-residential use. The contract completion date for the resettlement works is estimated at December 22, 2019 and hand-over of keys to the affected households by December 31, 2019.



Monitoring and evaluation (M&E). A struggle has been to measure the volume of recyclables (paper, plastics, glass, metals) that are separated by households and other generators in the project area but are collected by waste workers and cleaners and are channeled mainly to the recycling centers of the Municipal Supply and Marketing Cooperative (MSMC). It was concluded that there is no possibility to 'online' monitor these diffuse waste streams. Therefore a methodology has been adopted to determine the recyclables volumes based on analysis and expert judgment of (i) metered volumes of recyclables that is collected through the Helping Hand collection points; (ii) monitoring data or estimates of recyclables that are separately collected from other sources such as schools, parks, public places and institutions; and (iii) limited surveys to be conducted starting June 2019 for individual households with questionnaires in participating communities to investigate behavior change and improvement in separation of recyclables. These data sources will be complemented with data analysis of recent years trends of recyclables through the MSMC and data from existing sorting tests of waste to compare recyclables in mixed waste from participating communities with waste from communities that do not participate in the project. This revised methodology will be used in the next ISR.

PROJECT STATUS PER COMPONENT:

- Component 1 Infrastructure for collection and transfer of separated waste: four of the six TSs are fully operational, the remaining two will be in the next 2-3 months. At present, the TFs are underutilized until integration into the districts' waste collection programs in June 2019. From this date, the 6 TSs will run at 70-80% of design capacity as projected. The remaining capacity is to absorb future increases in waste volumes.
- Component 2 KWTP - the KWTP is now reaching the end of the test period and operates at 80 ton/day. Operations will reach full capacity at 400 ton/day by May 2019.
- Component 3 Project implementation support - the OBIP scheme at current disbursement levels is expected to reach \$2.5 million which is around \$800,000 below the project's budget. The next mission (May or June 2019) will discuss options for using this funding for promotional activities under OBIP. The Ningbo Municipal Solid Waste Separation Management Regulations have been reviewed by the Ningbo People's Congress for the first round. The city government will submit the draft regulations for a second round review after revision and they are expected to become effective in before June 2019. Together with the district level waste operation plans that become active in June 2019, these regulations and planning will underpin the adaptation of the segregated waste collection system, integrating the new TSs and transferring all kitchen waste to the new KWTP.
- Component 4 Capacity building and project management support: project implementation capacity and performance of the main agencies (city level PMO for fiduciary tasks and technical project PMO) are adequate. There are no pending issues.

Procurement: There is one contract remaining that is currently under procurement for the purchase of goods (32 collection and transportation vehicles for kitchen waste, 59 other waste collection and transportation vehicles, 6 renewable energy vehicles, 3 bulk washing vehicles and supporting facilities). The contract is expected to be signed in May 2019.

There are no outstanding project audits and previous audits were acceptable by the IBRD.

PROPOSED CHANGES - ONE YEAR EXTENSION OF PROJECT CLOSING DATE

The project's current closing date is March 31, 2019 and another 12 months is needed to fully achieve the project objectives and improve solid waste management in Ningbo. MOF has sent the Bank a request letter for a one year project extension. The extension would allow extra time (a) for the newly completed KWTP to get up to full operation



and tweak any problems that might arise; (b) to fully operationalize the 6 new transfer stations and the recyclables sorting plant and together with the KWTP create an integrated system for segregated waste management; (c) to achieve targets for quantities of separately collected kitchen waste and recyclables; (d) to procure additional solid waste collection vehicles, now that the KWTP will soon be fully operational; (e) to further optimize the output-based incentive program; (f) to get the draft solid waste regulations in place; and (g) to complete resettlement housing. Making strides in all these areas will allow Ningbo to increase the volume and proportion of waste recycled to the target levels and improve its solid waste management generally.

II. DETAILED CHANGES

LOAN CLOSING DATE(S)

Ln/Cr/Tf	Status	Original Closing	Revised Closing(s)	Proposed Closing	Proposed Deadline for Withdrawal Applications
IBRD-82500	Effective	31-Mar-2019		31-Mar-2020	31-Jul-2020