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Project Information Document (PID)

Concept Stage | Date Prepared/Updated: 15-Jun-2020 | Report No: PIDC29701



BASIC INFORMATION

A. Basic Project Data

Country China	Project ID P174267	Parent Project ID (if any)	Project Name China Plastic Waste Reduction Project (P174267)
Region EAST ASIA AND PACIFIC	Estimated Appraisal Date Apr 21, 2021	Estimated Board Date Jun 24, 2021	Practice Area (Lead) Urban, Resilience and Land
Financing Instrument Investment Project Financing	Borrower(s) People's Republic of China	Implementing Agency National Development and Reform Commission	

Proposed Development Objective(s)

To strengthen national and sub-national policies, institutions and operations towards reduced plastics pollution from municipal solid waste.

PROJECT FINANCING DATA (US\$, Millions)

SUMMARY

Total Project Cost	700.00
Total Financing	700.00
of which IBRD/IDA	400.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Bank for Reconstruction and Development (IBRD)	400.00
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Non-World Bank Group Financing

Counterpart Funding	300.00
Borrower/Recipient	300.00



Environmental and Social Risk Classification

High

Concept Review Decision

Track II-The review did authorize the preparation to continue

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Other Decision (as needed)

B. Introduction and Context

Country Context

- China's rapid economic ascendance has had severe consequences for environmental sustainability.** China was ranked 120th out of 180 countries for environmental performance across 24 environmental indicators in ten categories¹, including: air quality, water and sanitation, heavy metals, biodiversity and habitat, forests, fisheries, climate and energy, air pollution, water resources and agriculture. This is below that of other upper middle incomes countries such as Turkey, Brazil, Mexico and Russia. The cost of environmental degradation and resource depletion in China has been estimated at around 9 % of GDP, ten times higher than corresponding levels in Korea and Japan.^{2,3}
- Recognizing these challenges, China is embarking upon a transition to a more balanced and sustainable economic growth model.** This emphasizes sustainable resource management, environmental protection and ecological conservation. China's national 12th Five Year Plan (FYP, 2011-2015) highlighted the need for 'green development' and committed to establish a resource-saving and environmentally friendly society. China continued these commitments in key policy documents including the 13th FYP (2016-2020) and the 19th Party Congress Report (October 2017), by pursuing productivity and innovation-driven development; continuing to focus on consumption and services and further opening up the economy; improving equitable access to basic public services; and reversing environmental degradation. China also made a strong commitment to actively tackle climate change and gradually improve forecasting and disaster prevention systems in its Nationally Determined Contribution (NDC).⁴ Preparations for the 14th FYP were officially launched in November 2019 and are expected to continue this emphasis, with a focus on waste recycling and reuse, environmental monitoring and information systems, among others⁵.

¹ United Nations Environmental Performance Index (<https://epi.envirocenter.yale.edu/>)

² World Bank and State Environmental Protection Administration (2007). Cost of pollution in China.

³ WBG and DRC (2018). "China 2030: Building a Modern, Harmonious and Creative Society." The World Bank and Development Research Center of the State Council, the People's Republic of China.

⁴ China: Climate Policies, NDCs and Financial Needs.

⁵ The Beijing News (2019) The Ecology and Environmental Minister: 14th Ecology and Environmental FYP needs to take a strategic approach.



Sectoral and Institutional Context

3. **China is estimated to produce more than 400 million tons of MSW per year of which approximately 12 % is plastic⁶.** With urbanization and improvement of living standards waste generation is expected to increase. Single-use plastic is also increasing rapidly, most notably in the food delivery industry but also as part of other packaging. Going forward, as GDP per capita continues to rise and people consume more, the packaging and plastic content in the waste will continue to grow, even relative to the growth in overall waste volumes produced per capita. For East Asia as a whole, the increase is expected to be around 44% by 2050⁷.

4. **Urban China has near universal urban MSW collection and safe disposal but only half of the rural MSW is disposed safely⁸.** As with other municipal services, waste service levels tend to decrease geographically from the eastern coastal cities to the west; and rural areas lag significantly compared to their urban counterparts. In 2017, according to the China's Statistical Yearbook, 215 million tons of MSW were collected and transported from the 660 Chinese cities, of which 98% were treated and disposed of in facilities that meet Chinese national standards. For rural areas, official statistics are scarce since the collection, transportation and treatment services are not well established, and reliable data is not available. Estimates based on rural population and the average MSW generation rate⁹ indicate that China's rural domestic waste generation in 2017 was about 175 million tons, of which at least 70 million tons were illegally dumped or burnt. Overall, it was estimated that approximately 47% of rural waste is disposed according to national standards.¹⁰

5. **China is transitioning from disposing its waste in landfills to waste treatment through incineration and composting/anaerobic digestion.** Currently, landfilling and incineration remain the main waste disposal methods. There are a total of 1,013 treatment and disposal facilities with a total capacity of 680 thousand tons per day: 360 thousand tons for sanitary landfill, 300 thousand tons for incineration, and 20 thousand tons for others¹¹. Notably, incineration accounts for 40% of the total in 2018, which is double the share in 2011. Incineration has been adopted as the major solution for MSW management. According to the 13th National Five-Year Plan (FYP), the capacity of MSW for disposal will be increased from 758.3 thousand tons per day to 1.1049 million tons per day, while the capacity for incineration is to be more than 50% of the MSW disposal mix in cities of China and more than 60% in cities in the east of China. Incineration as a means of MSW treatment is therefore expected to continue to grow in the next few years.

6. **China is estimated to have a recycling rate of about 16%, mainly due to contribution by the informal sector¹².** The recycling rate is expected to increase as a result of the promotion of MSW source separation, with a target MSW recycling rate of 35% by 2020 in the cities where mandatory separation of MSW is implemented.¹³ This compares to 60% and 65% of municipal waste by weight recycling targets in the European Union by 2030 and 2035 respectively.

7. **Several ministries have responsibility for MSW management in China.** At the national level, MSW management is under the purview of the Ministry of Housing Urban and Rural Development (MOHURD), while material recycling management is overseen by the Ministry of Commerce (MOC). At the same time, the development of the circular economy and policies regarding it are administered by NDRC, while environmental monitoring and supervision of all waste management and material recycling facilities is the responsibility of the Ministry of Ecology and Environment

⁶ Urban and Rural Municipal Solid Waste in China and the Circular Economy, World Bank (2019)

⁷ Ibid

⁸ Ibid

⁹ Rural population estimated at 600 million and 0.8kg per capita per day generation rate.

¹⁰ China Association of Urban Environmental Sanitation, The China Municipal Waste Development Report (October 2017)

¹¹ National Bureau of Statistics of China, China Statistical Yearbook (October 2018)

¹² Ibid

¹³ NDRC and MOHURD, Implementation Plan of Municipal Solid Waste Separation System (March 2017)



(MEE). The data for MSW generation, collection, and disposal is recorded and released by MOHURD, while the data for recyclable waste collection and recycling is recorded and released by MOC. At the municipal level, the Urban Management Bureau (UMB) or Bureau of Housing and Urban-Rural Development are responsible for MSW collection, transportation, and disposal. UMB is also responsible for construction and operation of disposal facilities, including landfills and incineration plants.

8. **While efforts to improve MSW has generally been the responsibility of government agencies, historically waste recycling generally has been left to the informal sector for recyclables collection and the private sector for facilities to process these materials.** Combining these parallel systems –or even integrating material recycling into MSW management systems– is part of an ongoing institutional reform used to promote segregated collection of various MSW fractions (e.g. kitchen waste, mixed waste and recyclables such as paper, plastics and metals). Going forward, it is expected that the material recycling industry, including both the informal and formal sectors, will be regulated further and required to meet new requirements for environmental protection.

9. **A 2015 scientific study¹⁴ estimated that China is a significant contributor to ocean plastic debris and that its rivers are the main conduits of such debris reaching the ocean.** While there is a need for more research to identify contributing sources and volumes, given the low safe disposal rate for rural waste and prevalence of agricultural plastic that remains uncollected, it could be assumed that a significant volume of mishandled rural waste is a main source of plastics pollution. At the same time, it is also needed to better map the extent to which urban areas have adequate and universal services, particularly in fringe, peri-urban areas outside the city centers. Other sources of plastic waste leakages to waterways are from micro-plastics (tires, textile washing) and hotspots such as waste recycling sites and run-off from (old) waste disposal sites.

10. **The waste management sector and efforts towards circular economy in China are under transition and evolving very quickly.** Sector developments are driven by efforts to reduce pollution and transition to more sustainable practices. Since July 2017, China started to ban the import of various types of solid waste including waste plastics. Flakes and pellets are still allowed in the country, however, though judging from recently introduced changes in technical requirements for import material, future imports are expected to become increasingly restrictive. Other recent programs include (i) the *Waste-free City Initiative*¹⁵ (December 2018) where 10+ cities are expected to pilot comprehensive programs to improve the management of all types of solid wastes; (ii) the policy document *Further Strengthening Plastic Pollution Control*¹⁶ (January 2020) that envisages measures to ban the use of certain single-use plastic items, substitute many other single-use plastics with biodegradable materials, regulate better the use of agricultural plastic mulch, improve monitoring, reporting and supervision, and promote eco-design and material recycling; (iii) the new Law on Solid Wastes (April 2020) introducing sustainability measures, as well as a number of other current central Government reports¹⁷ that continue to prioritize waste as a key sector and subject to reform.

11. **Despite the significant progress and clear ambition to advance policies and implementation practices towards reduced pollution and plastic leakage, and increased recycling, a lot remains to be done.** Compared to virgin plastics, recycled post-consumer plastic remains a limited source material for plastic products and packaging materials and China remains the world’s largest producer, consumer and exporter of virgin plastics. There is institutional fragmentation in

¹⁴ Ibid

¹⁵ “Waste-free City” Initiative approved by the State Council (December 29, 2018)

¹⁶ “Further Strengthening Plastic Pollution Control” issued by NDRC and MEE (January 2020)

¹⁷ “Report on the implementation of the 2019 plan for national economic and social development and on the 2020 draft plan for national economic and social development”, Issued by NDRC (May 2020), “Report on the work of the government “ by the Premier of the State Council (May 2020), “Report on the execution of the central and local budgets for 2019 and on the draft central and local budgets for 2020”, Ministry of Finance (May 2020)



service planning and delivery and lack of well-articulated performance systems linked to actual waste volumes produced and handled. There are significant gaps in data availability, reliability and management covering rural areas. The specific policy implementation drivers, economic and financial incentives, as well as regulatory mechanisms that would underpin the reforms are not yet in place, especially for source separation, recycling and material circularity of plastics.

Relationship to CPF

12. **The proposed project is aligned with the World Bank’s Country Partnership Framework (FY2020-2025 Report No. 117875-CN) and the new phase of engagement.** As the China-World Bank Group (WBG) partnership embarks upon a new era after 40 years of collaboration, the CPF is focused on China’s remaining institutional gaps and the country’s contribution to global public goods. This shift is consistent with the country’s own development strategy as an upper middle-income country in pursuit of a rebalanced growth model and focused on the construction of an ecological civilization. The proposed project will support the implementation of measures envisaged under the policy note “Further Strengthening Plastic Pollution Control” issued by NDRC and MEE (January 2020) and the new Law on Solid Wastes (April 2020). The project will be closely aligned with NDRC’s upcoming “Plastics Reduction Pilot Program” and the on-going “Implementation Plan of Domestic Wastes Classification System (updated in 2019)”.

13. **The proposed project is fully aligned with the selectivity criteria, focusing on measures to help address China’s remaining gaps in policies and institutions and is expected to make significant contribution to global public goods.** It is particularly aligned with Engagement Area 2 sub-area 2.2 that aims to reduce air, soil, water, and marine plastic pollution through enhanced policies and regulatory instruments, strengthened institutions and improved waste management practices. The project will improve the capacities of provincial and local institutions towards pollution management, improved data collection and monitoring, improved planning of services. Through benchmarking with international policy frameworks and regulatory mechanisms it will promote environmentally sustainable waste management practices including upstream solutions towards eliminating unnecessary plastic use and using more recycled and recyclable materials.

C. Proposed Development Objective(s)

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To strengthen national and sub-national policies, institutions and operations towards reduced plastics pollution from municipal solid waste.

Key Results (From PCN)

14. Achievement of the PDO will be measured by the following indicators:
- Improved national policies and regulatory instruments for plastic management;
 - National sector-wide waste (incl. plastics) information and performance monitoring system established;
 - Strengthened local (provincial, cities, counties level) institutions for waste management;
 - Cities with improved livability, sustainability, and/or management;



- e. Reduced leakage of plastic waste to the environment and waterways.

D. Concept Description

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Legal Operational Policies	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

Summary of Screening of Environmental and Social Risks and Impacts

Note to Task Teams: This summary section is downloaded from the PCN data sheet and is editable. It should match the text provided by E&S specialist. If it is revised after the initial download the task team must manually update the summary in this section. *Please delete this note when finalizing the document.*

Currently, the project provinces/cities are unknown which will be selected in the next step of the project preparation. The typologies of the project activities have been preliminarily identified, based on which the project environmental and social (E&S) risk is deemed high. The environmental risk and impact is classified high, given that the project is complex, to the extent large, and high in spatial extent as it supports several schemes and targets directly several provinces, and through TA has national impact. The social risk is classified substantial primarily related to medium magnitude of resettlement impacts, potentially limited degree of conflicts over sitting particular large solid (plastic) waste infrastructure, and concerns on downstream social implications of TAs.

The project is expected, overall, to generate positive environmental outcomes in terms of improvement of people's health and safety, reduction of plastic wastes load into the environment and ecosystems, saving of energy and raw materials, and reduction of wastes generation.

Although the project will bring positive change, this project will cause diverse and significant environmental impacts at large magnitude. The potential environmental impacts of primary concern are related to operation of landfills (both municipal landfill and hazardous waste landfill), incineration facilities, facilities deriving fuel from refuse, and clean-up/remediation of contaminated sites, which are largely related to ESS2, ESS3, and ESS4. They could potentially generate a wide range of significant adverse risks and impacts on human populations and the environment. Flue gases containing heavy metals and dioxins from waste incineration facilities may cause severe health risk to human populations if not controlled adequately; the leachate from the landfills could pollute surface water and ground water, threatening the health of human populations and eco-system, if not collected and treated as required; the bio-gas from landfills can cause fire and explosion if not properly collected and treated, threatening the safety of workers and communities nearby; exposure to hazardous contaminants during the clean-up of contaminated sites may pose threats to health and safety of workers and local residents; leakage of hazardous/toxic wastes contained in storage facilities and landfills would cause



significant threat to the safety and health of people; fire and explosion risk need to be managed in the process of producing and storage of the fuel (normally methanol and diesel) in the facilities producing fuel from refuse. These potential impacts can be avoided, minimized or even mitigated by study of alternative site locations and adoption of the state-of-art technologies/good engineering design as a first step. If not properly controlled and managed, these impacts would cause long-term/permanent and irreversible impacts on human population and environment. In addition, this project will leverage private sector investments in the chain of the waste management. This often includes large incineration facilities and recycling facilities which could be considered as the associated facilities. TA activities potentially have downstream impact, which stems from magnitude of irreversible and reservable E&S risks and impacts that will be generated during the implementation of the various plans which will be the products/outcomes of TA.

The proposed project will produce notable social benefits to a broader society via system improvement to reduce plastic waste load to the environment and waterways. Implementing the national policy component and other TAs (under Component 1, 2 and 4) would have much broader social effects than physical investment activities. The social risks and impacts are mainly related to ESS2, ESS4, ESS5, and ESS10. The project will involve land acquisition and involuntary resettlement associated with the construction of relevant physical facilities. In the case of a recycling park or a landfill, there would be hundreds of people affected by land acquisition and resettlement. By contrast, the land acquisition for waste storage and transfer stations may affect fewer persons. The project will accumulatively involve many direct workers, contracted workers, and primary supply workers. Most of the introduced workers (usually from local areas) would be responsible for waste collection and waste sorting. Significant labor risks would be related to workplace OHS issues if it is not well managed. Other social risks such as child labor and forced labor, GBV issues, are deemed either negligible or low risk. The project will bring significant risks to community health and safety (both real and perceived) because of increased traffic volumes, inappropriate handling of hazardous wastes, disproportionate health impacts on affected communities and vulnerable groups by large treatment facilities. Various stakeholders will have an interest in and influence on solid plastic waste management projects. The vulnerable group would refer to waste pickers, the poor households, ethnic minorities (if any), migrant workers, among others. Especially, a magnitude of subprojects (especially landfills, recycling parks) located close to local communities may rise to a limited degree of social conflict over sitting waste treatment facilities, perceptions of community endangerment, and non-receipt of benefits. Meaningful and continuing stakeholder engagement at an early stage of the project preparation will help refine the project designs and formulate proactive measures to reduce significant social risks. The relevance of ESS7 will be further assessed when the project participating provinces/cities are determined during preparation.

Although some participating provinces/cities have implemented World Bank projects with tracked positive E&S performance, the project will be their first time to apply ESF. The borrower's internal structure concerning E&S risk management of solid waste complex, calling for coordination among different agencies to manage E&S risks properly. The institutional capacity of the PMOs/PIUs will be further assessed in the project preparation stage. A more targeted awareness campaign and robust commitment and capacity enhancement plan will be developed to bridge the capacity gaps.

Since subprojects cannot be identified at appraisal, the project will adopt a framework approach for project development. Before appraisal, the central PMO and each province/city PMO should develop respectively an Environmental and Social Management Framework (ESMF), a stakeholder engagement plan (SEP), and an environmental and social commitment plan (ESCP) consistent with the requirements of ESF. These E&S documents, to the satisfaction of World Bank, should be disclosed as early as possible before appraisal locally and at the World Bank website to seek views of stakeholders.

Note: To view the Environmental and Social Risks and Impacts, please refer to the Concept Stage ESRS Document.

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APPROVAL

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