



Combined Project Information Documents / Integrated Safeguards Datasheet (PID/ISDS)

Appraisal Stage | Date Prepared/Updated: 14-Aug-2018 | Report No: PIDISDSA19808



BASIC INFORMATION

A. Basic Project Data

Country China	Project ID P159883	Project Name China: GEF Efficient and Green Freight Transport Project	Parent Project ID (if any)
Region EAST ASIA AND PACIFIC	Estimated Appraisal Date 17-Aug-2018	Estimated Board Date 14-Sep-2018	Practice Area (Lead) Transport & Digital Development
Financing Instrument Investment Project Financing	Borrower(s) PEOPLE'S REPUBLIC OF CHINA	Implementing Agency Ministry of Transport	GEF Focal Area Climate change

Proposed Development Objective(s)

The development objective of the project is to (i) improve the Government of China’s institutional capacity to formulate and evaluate policies and strategies to promote green freight transport systems in China; (ii) pilot innovative carbon emission reduction measures in the freight transport sector in selected provinces, and (iii) generate lessons and experience from the project to disseminate widely within China and in the Bank client countries.

Components

1. National Level TA and Policy Development
2. Subnational Level TA and Pilot Projects
3. Capacity Building, Monitoring and Evaluation, and Project Management

PROJECT FINANCING DATA (US\$, Millions)

SUMMARY

Total Project Cost	13.67
Total Financing	13.67
of which IBRD/IDA	0.00
Financing Gap	0.00

DETAILS

Non-World Bank Group Financing



Counterpart Funding	5.42
Borrower	5.42
Trust Funds	8.25
Global Environment Facility (GEF)	8.25

Environmental Assessment Category

B-Partial Assessment

Decision

The review did authorize the team to appraise and negotiate

Other Decision (as needed)

B. Introduction and Context

1. China’s rapid economic growth over the last three decades has been accompanied by equally rapid growth in energy consumption and greenhouse gas (GHG) emissions. According to the International Energy Agency (IEA)¹ and Energy Data Year Book², China’s total energy consumption grew from 1246 Mtoe³ in 2002 to 3105 Mtoe in 2017, at an annual growth rate of 6.3 percent. China’s total Carbon Dioxide (CO₂) emissions also grew from 3540 Mt⁴ in 2002 to 9297 Mt in 2017, at an annual growth rate of 6.6 percent.

2. In response, the government of China has issued a series of policies, strategies and action plans in recent years to promote energy consumption saving and carbon emission reduction. At the United Nations Climate Change Conference held in Paris in 2015, China’s Intended Nationally Determined Contribution (INDC) targeted a 60 to 65 percent reduction in carbon intensity – defined as GHG emissions per unit of Gross Domestic Product (GDP) – by 2030, compared to the 2005 level. Although by 2013, approximately 28 percent reduction in carbon intensity has been achieved⁵, sustained efforts in all sectors are needed to achieve the ambitious INDC targets.

3. The transport sector is a major contributor of energy consumption and CO₂ emissions. In 2013, transport accounted for nearly 50 percent of total oil consumption and over 7 percent of CO₂ emissions in China. Although in recent years, CO₂ emission from all sectors in China has seen slight decrease, the share of emissions from the transport sector continues to increase. From 2011 to 2015, the share of transport related CO₂ emission increased from 6.01 percent to 7.27 percent. Its growth rate is the highest among all

¹ <http://www.iea.org/statistics/>

² <http://yearbook.enerdata.net/>

³ Mtoe: Million tons of oil equivalent

⁴ Mt: Million tons

⁵ China’s Policies and Actions on Climate Change (2014), the National Development and Reform Commission, November 2014



sectors⁶. Freight transport accounted for over 50 percent of the total transport CO₂ emissions, although freight vehicles only account for 16 percent of the total vehicles.

4. In the “New Normal” of economic development, China’s annual GDP growth is gradually shifting from high-speed (10 percent on average) to medium-to-high speed (6 to 7 percent on average); and the sources of growth is transforming from export-oriented manufacturing and infrastructure investment towards innovation-driven industries and domestic consumption. China is thus relocating new industries to inland regions, and consequently, freight is diversified across space and commodities. Such relocation has led to a different freight structure and logistics pattern which pose a challenge to the existing freight transport system and logistics services. Therefore, the efficiency of freight movements will become increasingly critical in supporting the sustained economic growth and in lowering China’s carbon footprint and meeting its global commitments to reduce GHG emissions, especially in the context of the new economic growth model.

5. **China’s economy is one of the most freight intensive economies in the world.** In 2016, total freight volume in China was 43 billion tons and 18 trillion ton-kilometers. Compared to the United States, China’s total freight volume is approximately 2.5 times in tonnage terms and 2 times in tonnage-kilometer terms. It is expected that China’s freight volume will continue to grow at an annual rate of 7 to 8 percent during the 13th Five-Year Plan period. Freight transport intensity, measured in ton-kilometer per GDP, is gradually decreasing in China. This is a result of the optimization of China’s economic structure, i.e., the Service Industry growing faster than the Primary and Secondary Industries. In 2015, China’s freight transport intensity was 1.7 ton-kilometer/US\$, a 35 percent decrease compared to 2006. Nonetheless, it is still substantially higher than the US (0.48 ton-kilometer/US\$) and the European Union (0.19 ton-kilometer/US\$)⁷.

6. **Intermodal freight transportation is underdeveloped.** Over the past decades, China has developed a large transport infrastructure network consisting of over 123,500 kilometers of expressway, 121,500 kilometers of railway and 127,000 kilometers of navigable inland waterway. Nonetheless, 76 percent of the freight in China are moved by road transport, which is more carbon intensive than railway and waterway. One major impediment in China’s freight transport sector is the underdeveloped intermodal transport nodes and hubs. Despite the good infrastructure network by mode, there is a missing link between the various transport modes, especially lack of efficient freight hubs to facilitate seamless intermodal transport between sea and rail, waterway and rail, and rail and road transport, etc. In addition, the transport units, equipment and operational rules and documentation varies by mode and are not standardized, making the interconnection between modes inefficient. Thirdly, there are institutional barriers between mode operators and lack of incentives for them to work across modes. Finally, information of intermodal transport is fragmented and not shared among various stakeholders such as cargo owners, freight forwarders, infrastructure operators and carriers. As a result, the transshipment cost between various modes accounts for one-third of total freight transport cost in China.

⁶ Shan et al. (2017) “China CO₂ emission accounts 1997-2015. *Scientific Data*”

⁷ EU Transport in Figures: http://ec.europa.eu/transport/facts-fundings/statistics/pocketbook-2016_en.htm



7. The government of China has recognized the key challenges and bottlenecks in intermodal freight transport. The 13th Five-Year Plan for Economic and Social Development (2016-2020) called for accelerated development in intermodal transport and construction of intermodal freight hubs. The Mid-to-Long Term Logistics Development Plan (2014-2020) issued by the State Council also emphasizes intermodal transport as one of the most critical area for logistics development in China. In response, local governments have accelerated the planning and investment of intermodal freight hubs and logistics parks. In 2015, the State Council and the Ministry of Transport (MOT) jointly launched a national intermodal pilot demonstration program, which provided policy support and financial incentives to 16 selected intermodal transport projects across the country.

8. **Emerging development corridors raised new requests for freight and logistics development.** With the adoption of new development strategies including “the Belt and Road Initiative (BRI)” and “Yangtze River Economic Belt (YREB)”, China has identified a number of national and international freight and logistics corridors to support the new trade routes and industrial development locations. However, the current corridor plan are very crude, and detailed development strategies and investment plans need to be developed based on a review of the existing infrastructure, detailed survey of commodity flows along various potential freight corridors, and a better understanding of the major impediments in policies, regulations, infrastructure and operations, in order to improve the efficiency and environmental sustainability of freight movement along these corridors. In particular, there is an urgent need for a national freight flow model to support data-informed policy analysis and decision making.

9. **Last mile urban distribution is inefficient.** With the expected growth in domestic consumption, urban freight demand is rapidly increasing. The booming of China’s e-commerce has led the country’s package-delivery business to grow at 30 percent a year. This growth has led to significant increase of parcel delivery trips in urban areas. In addition, last mile unit costs are usually higher than those in the intermediary stages of the freight transport sequence because of the decomposition cost and congestion. In fact, the unit cost of last-mile delivery is reported to be twice of that of long-haul transportation in China. For example, the last mile’s share over total parcel delivery cost for Yuan Tong, one of the major express delivery service companies in China, can reach up to 50 percent. According to OECD’s⁸ report on Delivering the Goods: 21st Century Challenges to Urban Goods Transport, urban freight accounts for 10 to 15 percent of total traffic in developed countries, while contributing to 40 to 50 percent of traffic-related pollution in the urban area. Many Chinese cities are already suffering from the negative externalities of urbanization such as air pollution, GHG emissions and traffic congestion. While cities have taken actions to promote public transport and manage travel demand for passenger transport, relatively little has been done to facilitate the essential flows of goods in urban areas and to reduce the adverse impacts of urban freight transport.

10. In order to improve the efficiency of urban distribution, coordinated efforts from both the public and private sectors are required. Firstly, consolidation is a key to achieving sustainable urban distribution. Some urban logistics companies in China are developing offsite consolidation centers for “joint distribution”, and lessons learned and supporting policies required may be summarized from these initiatives to promote its replication. Secondly, freight transport planning and management need to be

⁸ OECD: The Organization for Economic Co-operation and Development



integrated into the urban transport planning and traffic management process, which currently emphasizes passenger transport only. For instance, infrastructure capacity may be more efficiently used on a 24-hour basis; loading/unloading zones for goods need to be carefully planned and strictly enforced; designated delivery routes may be planned for freight distribution. Thirdly, the introduction of technological innovation can further support sustainable urban distribution. Finally, better integration of urban freight transport with long haul transport can not only improve the efficiency of urban distribution, but also facilitate urban-rural integrated distribution.

11. **Booming E-commerce has led to new logistics models in cities of all sizes.** China's already sizable online retail market is continuing to grow, driven by fast-moving consumer goods and groceries. China is now the largest eCommerce market in the world and growing. In 2017, online retail sales in China totaled 1.149 trillion, an increase of 32 percent from 869 billion in 2016⁹. Total parcels delivered in China is expected to more than double from 41.7 billion in 2017 to 92 billion in 2020. With increasing number of merchandise shipped in bulk to nationwide warehousing before being boxed to send to end-customers, there is expected to be rapid expansion in warehousing space at multiple layers, as well as higher demand for less-than-truckload trucking. The online retail giants Alibaba, JD and Tencent are already investing into logistics, including warehousing, trucking and last-mile delivery solutions. For example, Alibaba has slated \$16 billion for future logistics investment, both to increase its market reach and to improve the reliability and speed of delivery¹⁰. Also, the new eCommerce-led "line-haul + regional distribution center + last mile delivery" model is developing rapidly, and it will significantly impact the national line-haul and express providers, thus creating more demand for warehouse and last mile delivery services. We see new logistics evolving around speed, predictability and cost, which raise challenges to the existing transport system.

12. **The trucking industry have great potential to reduce CO₂ emissions.** Although heavy duty trucks account for 10 percent of the on-road vehicle fleet in China, they use about 50 percent of the on-road fuel because of higher annual per-vehicle fuel consumption. The trucking industry in China is of low concentration, there exist a large number of small size companies that own less than 10 trucks. Low market entry threshold is also an essential problem for China. Trucks with poor facilities and illegal modifications are not closely regulated. In addition, many aged trucks are still in operation and have become the major source of air pollutants and GHG emissions. Further, there are currently over 20,000 types of freight vehicles manufactured in China and less than 20 percent of them are containerized. In China, the aggregate market share of the top five manufacturers is about 50 percent, while the top five truck manufacturers account for 91 percent of market share in the EU, 70 percent in the U.S., and 93 percent in India¹¹. Lack of truck standardization of trucks in China negatively impact the efficiency of intermodal transport. Thus, more financial assistance and incentives are required to upgrade the existing truck fleet to larger, more efficient, and standardized trucks in order to reduce CO₂ emissions from freight trucks.

13. **Information and Communication Technology (ICT) could promote logistics efficiency and service quality.** New concepts such as "internet plus", "big data", "internet of things", and "blockchain" are gradually being introduced into the logistics services in China by the private sector. However, most of the

⁹ <https://www.eshopworld.com/news/2017-chinese-ecommerce-sales/>

¹⁰ McKinsey Article

¹¹ The International Council on Clean Transportation. MARKET ANALYSIS AND FUEL EFFICIENCY TECHNOLOGY POTENTIAL OF HEAVY-DUTY VEHICLES IN CHINA.



information are fragmented and owned by individual companies. The public sector therefore has an important role to play in creating an open platform with standardized protocols so that information may be shared among all stakeholders. In addition, once information is made available, a logistics credit system may be established for logistics companies, individuals and intermediaries. Moreover, with the massive logistics data available, data analysis could be a powerful tool to inform the public sector and support their decision making.

14. **The private sector will be closely involved in the proposed project.** Key market players have already introduced a lot of innovations to the logistics sector. For instance, many truck sourcing and service platforms have emerged (Truck Alliance, Huolala) to connect trucks and merchant stores and help both sides reduce cost and improve utilization rate. JD has established a fully automated warehouse in Shanghai and Cainiao's Guangdong warehouse has deployed the largest number of robots in China. The express delivery (SF Holdings, ZTO, Cainiao) and e-commerce players (JD, Suning) have invested in smart locker system or smart pick-up stations, which allows customers to pick-up their parcels at communal areas as an alternative to delivery to doorsteps. While the private sector is harnessing the latest technologies, the public sector could benefit from working with the private sector, based on the massive data available, to develop policies and strategies that facilitates more efficient flow of freight and make regulations that mitigate the externalities of freight transport. Under this Global Environmental Facility (GEF) project, the national component will include consultations with the supply chain management and logistics associations as well as other logistics stakeholders from the private sector in strategy development. The local component will work with several private logistics companies to pilot innovations in intermodal transport and urban distribution.

15. **MOT proposed to pilot innovations of freight transport in selected representative projects.** MOT called for proposals nationwide for projects that: (i) feature good practices in intermodal transport and urban distribution; and (ii) demonstrate potential in GHG emission reduction. MOT has selected the pilot projects based on careful evaluation of the financial and technical capacity of the implementing entities, in order to ensure the success of the pilots so that the innovations and best practices could be replicated throughout the country.

16. **Since 2011, the Bank has been engaged in improving China's logistics and freight transport sector.** Over the years, the Bank's engagement evolved from the initial small scale local demonstration project of energy efficiency technologies for trucks in coastal Guangdong Province¹², to large scale regional consolidation and distribution center project that serves urban centers in central China¹³, and to multimodal integrated freight and logistics center project on the Yangtze River that supports the economic development and industrial transformation of the central western region of the YREB¹⁴. Most recently, the Bank has approved a US\$ 150 million IBRD loan to support the Hubei Inland Waterway Improvement Project (P158717), with the objective to improve inland waterway transport capacity and reliability along the Han River - a major tributary of the Yangtze River - in support of low carbon development, and specifically to facilitate increased use of inland waterways for freight transport along the YREB.

¹² Guangdong Green Freight Demonstration Project (P119654)

¹³ Hubei Xiaogan Logistics Infrastructure Project (P132562)

¹⁴ Three Gorges Modern Logistics Center Infrastructure Project (P153473)



17. **The proposed GEF project will continue the Bank’s support of China’s commitment of improving freight transport efficiency and reducing carbon emission of the freight transport sector.** The proposed project will focus on improving planning and policy development of multimodal freight transport as well as piloting innovations at selected representative projects, including the Hubei Inland Waterway Improvement Project. The proposed project will include scope of detailed assessment of freight flows along YREB including Han River, and develop guidelines and standards to promote multimodal freight transport, particularly railway-waterway intermodal.

18. **Knowledge and experience gained from developing and implementing green freight transport policies, strategies, analytical tools, and pilot projects under the proposed GEF project will be disseminated within China and in Bank client countries through the China-World Bank Transport Transformation and Innovation Knowledge Platform (TransFORM)¹⁵.** Since 2012, TransFORM has been supporting systematic knowledge generation and sharing among practitioners and senior level decision makers within China and between China and the international community. As an established knowledge program and in its envisaged role as a major pillar of the proposed China-World Bank program for international development, TransFORM will ensure effective dissemination of the outputs, knowledge, and experience of the proposed GEF project.

C. Proposed Development Objective(s)

Development Objective(s) (From PAD)

19. The development objective of the project is to (i) improve the Government of China’s institutional capacity to formulate and evaluate policies and strategies to promote green freight transport systems in China; (ii) pilot innovative carbon emission reduction measures in the freight transport sector in selected provinces, and (iii) generate lessons and experience from the project to disseminate widely within China and in the Bank client countries.

20. The achievement of the PDO will be measured through the following key performance indicators:

- i. Indicator 1: Number of analytical tools adopted by MOT for implementation in national planning and policy development;
- ii. Indicator 2: Number of national plans adopted by MOT for implementation;
- iii. Indicator 3: Number of guidelines on improving urban freight transport issued by MOT for implementation;
- iv. Indicator 4: Net GHG emission reduced;
- v. Indicator 5: Number of international knowledge dissemination events.

D. Project Description

21. The proposed project will develop policy, strategy, analytical tools and technical standards at the national level to improve the efficiency and environmental sustainability of China’s freight transport sector, focusing on two priority areas, i.e., promotion of multimodal freight transportation system and optimization of urban freight distribution. The project will also pilot the key policy, strategy and analytical

¹⁵ TransFORM is a flagship knowledge exchange platform in China for disseminating the experiences of the Bank and its partners in the development of China’s transport sector to a broad audience in China and Bank client countries using knowledge sharing events, media outlets, and the TransFORM website (<http://www.transformcn.com/en/index.htm>).



tools at the local levels in five selected cities and provinces. Finally, the lessons learned and implementation experience of the pilots, policies, and analytical tools will be systematically documented and disseminated within China and in other Bank client countries seeking to develop green freight transport system.

22. **Component 1: National Technical Assistance (TA) and Policy Development** (US\$3.15 million GEF grant + US\$1.7 million counterpart funding)

23. **Component 1A: Development of Policy and Strategy for Low Carbon Multimodal Freight Transportation System.** This subcomponent will develop national policies, strategy and standards aimed at improving the efficiency and environmental sustainability of multimodal freight transportation system. It will work with the research institutes affiliated with the MOT to enhance China's capacity for policy research in the freight transport sector.

i. **Development of Structural Emission Reduction Strategy of China's Freight Transport Sector.** This proposed task aims to evaluate existing conditions of multimodal freight transport in China, identify impediments and propose solutions to promote multimodal freight transport for systematic emission reduction in the sector. The task also includes a large scope for capacity building in the development of a national freight model and its application in national and major corridor level strategic multimodal freight transport planning. Specifically, the task includes: (i) preparation of a medium-to-long term multimodal freight transport plan; (ii) development of unified technical standards supporting multimodal operation in the freight transport sector; (iii) development of a national freight model; and (iv) development of data standards for information sharing among various modes based on the existing national transport and logistics public information platform (LOGINK), which is a multimodal freight information platform.

ii. **Development of Action Plan for Efficient and Green Freight Corridors in China.** This proposed task is to: (i) identify infrastructure and operational bottlenecks of selected national and international freight corridors that include major multimodal freight transport hubs; and (ii) propose recommendations for improvements. Outputs of the task include: (i) action plan for infrastructure connectivity improvement for the BRI freight corridors; and (ii) operation and management plan for the BRI freight corridors.

iii. **Development of Guideline on Multimodal Freight Development for the YREB.** The proposed task includes a YREB freight flow survey that collects data such as commodity type, volume, value, transport mode, and origins and destinations. The national multimodal freight model developed under component 1A-(a) will be used to support this analysis. The task will develop guidelines for optimizing multimodal freight transport, particularly railway-waterway intermodal transport, on the YREB.

24. **Component 1B: Development of Policy and Guideline for Green Urban Freight Distribution.** This subcomponent is to develop national policies and guidelines aimed at improving the efficiency and environmental sustainability of urban freight system, as well as interconnection between long-distance



freight transport and urban freight distribution. It will work closely with the private sector to enhance China's capacity for data analytics in the freight transport sector.

- i. Development of Guideline for Green and Efficient Urban Freight Transport Development.** This proposed task is to support the issuance of national guideline and the identification of key actions for developing a green and efficient urban freight transport system. It will cover the following aspects: (i) improving traffic control and fleet management of urban freight vehicles; (ii) developing policies for the planning of multi-layer distribution network and integrating freight transport in urban transport planning; (iii) establishing a national performance monitoring and evaluation (M&E) system of urban freight transport; and (iv) promoting new energy vehicles for urban freight distribution.
 - ii. Development of E-commerce Based Urban Freight Distribution Solution.** The proposed task is to develop guidelines for improving efficiency of urban freight distribution by collaborating with e-commerce companies to improve information and resource sharing. The task will analyze various delivery modes and prepare technical guidelines for standardized vehicles (including electric vehicles for last-mile delivery) and distribution system (including the introduction of joint distribution systems and self-collect parcel lockers). In addition, this task will propose possible mechanisms for logistics companies to share information and resources.
- 25. Component 1C: Development of Abatement Cost Analytical Tool for Freight Transport Emission Reduction.** This subcomponent is to develop a tool to analyze the emission reduction potential and abatement cost of different physical, operational and policy interventions in the freight transport sector. In particular, it will (i) review and summarize various "avoid/shift/improve" interventions for freight transport emission reduction; (ii) develop the marginal abatement cost (MAC) curve for various interventions; and (iii) apply the MAC curve to develop the roadmap for emission reduction in key regions in China (e.g. Jing-Jin-Ji, Pearl River Delta).
- 26. Component 2: Subnational TA and Pilot Projects** (US\$3.05 million GEF grant + US\$150 million counterpart funding)
- 27. Component 2A: Bohai Gulf Highway-Waterway Multimodal Transport (Pilot), Yantai Municipality, Shandong Province.** The pilot project in Yantai is to promote multimodal transport of seaway and highway/railway across the Bohai Gulf, which links two major logistics corridors, i.e., Northeast Corridor and North-South Coastal Corridor. This 165km Yantai-Dalian sea ferry route could replace the 1,400km road route that circle the gulf, thus achieve carbon emission reduction. The local government is undertaking several initiatives to promote this sea ferry route, including investment in logistics hubs and facilities on both sides in Yantai and Dalian, establishment of a trucking association for drop-and-pull, inviting experienced third-party logistics companies to run the Bohai Gulf multimodal freight business, etc.
- 28.** The GEF project will provide TA for data analytics of intermodal transport across Bohai Gulf that (i) propose recommendations to the government on policies and incentives to attract more freight traffic to Yantai-Dalian waterway; (ii) evaluate the performance of the local logistics operators; (iii) develop



solutions to improve the efficiency of freight transport across Bohai Gulf; and (iv) monitor and evaluate the carbon emission reduction from the pilot project.

29. **Component 2B: Urban Freight Joint Distribution (Pilot), Weifang Municipality, Shandong Province.** The pilot project is to promote the efficiency of urban freight distribution in Weifang through introducing international best practices such as freight consolidation, off-peak delivery, and utilization of clean energy vehicles. The project will work with the major urban freight enterprises that have urban consolidation centers on the outskirts of the city and operate more than 80 percent of the urban delivery vehicles in Weifang. The GEF project will support (i) urban freight data collection (goods, transport cost, real-time Global Position System (GPS) data, etc.) from major logistics enterprises in Weifang and installation of emission monitoring sensors on sample trucks; (ii) data analytics to provide recommendations to improve the efficiency of urban freight distribution in Weifang; and (iii) trainings to the truck drivers and campaigns to promote green urban freight distribution schemes in Weifang.

30. **Component 2C: Sea-Rail Intermodal Transport (Pilot), Xiamen Municipality, Fujian Province.** The pilot project is to promote sea-rail intermodal transport for Xiamen Port. The project will work with the Xiamen Port Administrative Company to improve the efficiency of intermodal transport operations at Xiamen Port. The GEF project will support (i) development of the multimodal transport information platform for sea-rail-road orders at Xiamen Port, including hardware procurement and software development; and (ii) TA on the optimization plan to improve the efficiency of multimodal freight operations at Xiamen Port.

31. **Component 2D: Integrated Urban-Rural Distribution (Pilot), Guangdong Province.** The pilot project is to promote urban-rural integrated distribution in Guangdong Province through application of information technology to pair urban-to-rural and rural-to-urban freight flows. The project will work with Guangzhou Huaxin Group Ltd. to demonstrate urban-rural integrated distribution in Guangzhou and Qingyuan (Guangqing). The GEF project will support: (i) development of the transport organization plan for Guangdong urban-rural integrated distribution; (ii) development of the common module for integrated urban-rural distribution and application of the module in the existing logistics platform; (iii) M&E of the Guangqing pilot project; and (iv) trainings and promotion of urban-rural integrated distribution in Guangdong.

32. **Component 2E: Integrated Development of Han River Inland Waterway (Pilot), Hubei Province.** To further promote the utilization of inland waterway on Han River, the GEF project will support (i) TA on the strategic plan for improving the integrated development of Han River inland waterway; and (ii) the purchase and installation of solar-powered navigation lights along selected pilot segments of Han River. Specifically, the TA will support activities to: (i) study the logistics service value chain, identify cost drivers, and pinpoint constraints; (ii) help the public sector to engage the private sector and identify the missing links, for example, land, ports, financing, operational inefficiency, crew training, and inter-modal integration; and (iii) propose policy recommendations on coordinated port planning, development, vessel standardization, and management of an integrated multimodal transport network, in particular the integration of IWT.



33. **Component 3: Capacity Building, Monitoring and Evaluation, and Project Management** (US\$2.05 million GEF grant + US\$3.72 million counterpart funding)
34. **Component 3A: Capacity Building.** This component will include, among others, (i) technical support, stakeholder consultations, workshops and trainings to enhance the knowledge and capacity of government authorities and logistics practitioners for multimodal freight transport and urban freight distribution; (ii) dissemination through TransFORM, the knowledge partnership platform between the World Bank and MOT, to promote the project outputs and outcomes within China and in client countries; and (iii) delivery of eco-driving training course for truck drivers.
35. **Component 3B: Monitoring and Evaluation (M&E).** This component will provide support to the national and sub-national agencies to develop the M&E methodology, collect the data and evaluate the CO₂ emission reduction from the sub-national pilot projects.
36. **Component 3C: Project Management.** This component will support the incremental operating costs for project management.

E. Implementation

37. The project will be implemented by five executing agencies (EAs): the MOT at the national level and three provinces and one municipality at the local level, including Guangdong Province, Shandong Province (for Yantai and Weifang), Hubei Province and Xiamen Municipality.
38. **Project Steering Group (PSG).** A national PSG has been established for overseeing overall project preparation and implementation, and exercising high-level coordination among various stakeholders. The PSG is chaired by the Deputy Director General of MOT's Department of Comprehensive Planning and consisting senior officials from relevant departments of MOT, including Professional Qualification Authority, Department of Comprehensive Planning, Department of Transportation, Department of Technology, National Railway Bureau, Waterway Bureau; China Railway Corporation; as well as the Provincial Transport Departments of Guangdong, Fujian, Shandong and Hubei. The PSG will meet annually during project implementation, to discuss work progress, review annual work plan and budget plan, and to propose key changes to project implementation.

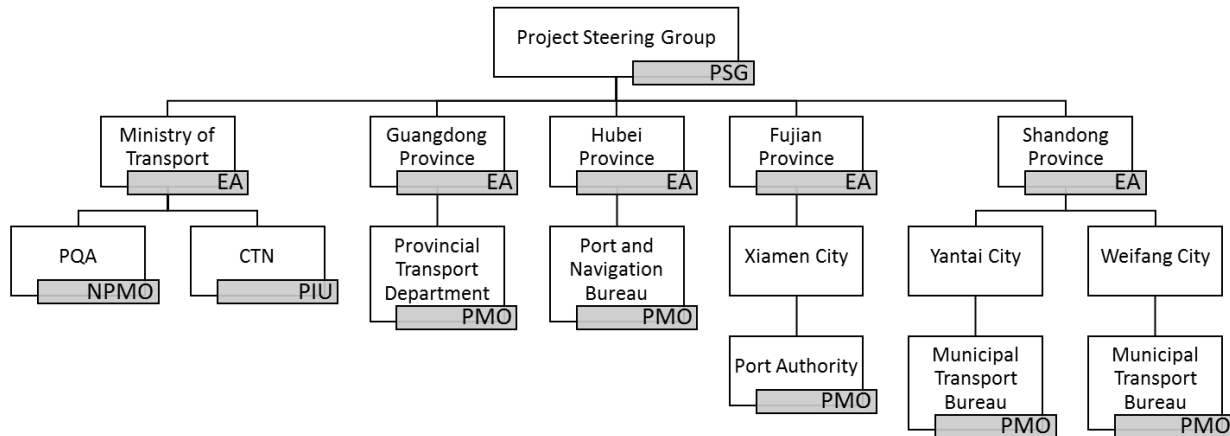


Figure 1 Framework of Institutional and Implementation Arrangements

39. **National Project Management Office (NPMO).** The NPMO is established under MOT’s Professional Qualification Authority (PQA), a public institution established under MOT, and the NPMO report directly to MOT’s Department of Comprehensive Planning. The NPMO is chaired by the Deputy Director General of PQA and consists full-time officials from PQA as well as part-time consultants hired to support project management and implementation. The NPMO will be responsible for the preparation and implementation of the national-level technical assistance and capacity building, overall project coordination, management, quality control, financial management, procurement, reporting and M&E. It will also provide guidance to the local PMOs.

40. **Project Implementing Unit (PIU).** Under the MOT, there is also one PIU, i.e., China Transport News (CTN). CTN is a state-owned newspaper organization affiliated with MOT. It includes media communication platforms including China Transport Newspaper, China Transportation News website and the Zhongjiao Media, and has been designated by MOT to maintain the TransFORM since 2014. Under this project, CTN will carry out activity (b) of Component 3A – dissemination through TransFORM. The detailed roles and responsibilities for CTN are defined through a separate Implementation Agreement between the MOT and the PIU.

41. **Local Project Management Offices (PMOs).** Five local PMOs are established under the respective transport agencies in Guangdong Province, Hubei Province, Xiamen Municipality, Yantai Municipality and Weifang Municipality (Table 1). These local PMOs will be responsible for the preparation and implementation of the respective local components in its province/city, including the technical aspects, project management, environmental and social safeguards, procurement and financial management.

Table 1 Local PMOs

Province/City	Where the local PMO is located
Guangdong	Provincial Transport Department
Hubei	Port and Navigation Bureau under Provincial Transport Department
Xiamen	Port Authority under Municipal Transport Bureau
Yantai	Municipal Transport Bureau



Weifang	Municipal Transport Bureau
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42. The Planning Division of MOT’s Department of Comprehensive Planning has many years of experience with the Bank projects and implemented the GEF City Cluster Eco-Transport Project and Large City Congestion and Carbon Reduction Project. However, the PQA is new to Bank projects and is unfamiliar with Bank’s fiduciary and safeguards policies. Two of the local PMOs in Guangdong and Hubei have extensive experience with Bank projects; the other three local PMOs in Xiamen, Yantai and Weifang are new to Bank projects. Therefore, extensive training in procurement, financial management and safeguards has been provided to the PMOs during preparation and will need to be continued on a need basis throughout implementation.

F. Project location and Salient physical characteristics relevant to the safeguard analysis (if known)

The project involves national level activities and 3 municipalities and 2 provinces, namely Guangdong Province, Hubei Province, Xiamen Municipality, Yantai Municipality, and Weifang Municipality. The project is primarily technical assistance. Central PMO will be the Ministry of Transport (MOT). There is no physical civil works involved in the project.

G. Environmental and Social Safeguards Specialists on the Team

Songling Yao, Social Safeguards Specialist
 Ning Yang, Environmental Safeguards Specialist

SAFEGUARD POLICIES THAT MIGHT APPLY

Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	The project is technical assistance that doesn’t involve physical works. According to project proposals, environmental screening has been conducted. In general, the project will bring about environmental benefits in terms of reduction of carbon emissions and air emissions from the transport sector. Other proposed activities will have environmental and social implications, hence OP4.01 is triggered. Given the potential environmental and social implications on the downstream activities due



		to the output of the TA studies, the project is classified as Category B.
Performance Standards for Private Sector Activities OP/BP 4.03	No	N/A
Natural Habitats OP/BP 4.04	Yes	Given the nature of the project and its national coverage, the policy is triggered for precautionary purpose. Considerations for protecting natural habitats will be incorporated into development of the ESMF for the Action Plan.
Forests OP/BP 4.36	No	The project doesn't involve any forests. The policy is not triggered.
Pest Management OP 4.09	No	The project doesn't involve procurement or use of pesticides. The policy is not triggered.
Physical Cultural Resources OP/BP 4.11	No	The project is not anticipated to involve any physical cultural resources. The policy is not triggered.
Indigenous Peoples OP/BP 4.10	Yes	Given the nature of the project and its national coverage, the policy is triggered for precautionary purpose. The TOR for each TA activity should reflect requirements in the OP 4.10 in line with the ESMF.
Involuntary Resettlement OP/BP 4.12	Yes	Given the nature of the project and its national coverage, the policy is triggered for precautionary purpose. The TOR for each TA activity should reflect requirements in the OP 4.12 in line with the ESMF.
Safety of Dams OP/BP 4.37	No	The project will not involve any dams. The policy is not triggered
Projects on International Waterways OP/BP 7.50	No	The project doesn't involve any international waterways. The policy is not triggered.
Projects in Disputed Areas OP/BP 7.60	No	The project doesn't involve any disputed areas. The policy is not triggered.

KEY SAFEGUARD POLICY ISSUES AND THEIR MANAGEMENT

A. Summary of Key Safeguard Issues

1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:

In this project, top-level planning for seamless intermodal transport, efficient and green urban freight transport, and freight transport environment management will be carried out. In addition, pilot projects will be launched in highly interrelated areas, in order to accumulate relevant experience. The project includes TA studies at the national level and 5 pilot TA activities at the local level. The project activities are all TA activities (studies, information system development, workshops, etc.) that do not directly involve civil works and have no land acquisition and resettlement impacts. The main social concerns are the potential downstream implications of the studies and action plan prepared under the project, which warrant thorough consideration during the development of such reports.



Given a national coverage project, the Bank policy OP4.10 may be triggered. In addition, some activities such as action plan for corridor improvement may pose potential downstream social impacts, e.g., in case specific infrastructure project is recommended, physical civil works may be involved. Therefore, the Bank policy OP4.12 is triggered. In accordance with the Bank Safeguards Policies, an Environmental and Social Management Framework (ESMF) has been prepared by the client and reviewed by the Bank.

2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area: The project TA studies may have output of policies, guidelines and action plans that could have indirect and long-term environmental and social implications in the project area, as well as potentially nationwide. Such potential implications will need to be identified during the TA studies and will be reflected in the output reports. This TA will provide support to the Yakou Inland Waterway Project, i.e. procurement of solar-powered navigation lights. The Yakou project is a World Bank-funded project, and relevant environmental and social safeguards documents have been prepared in line with World Bank policy requirements and approved by the World Bank.

3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.

4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.

An ESMF was prepared during the project preparation stage, which includes environmental and social screening on all the proposed activities and corresponding requirements for mitigation measures as follows:

Environmental measures. Based on screening, the TA activities under the project will include three types: (1) Development of national level freight transport emission reduction strategy and guidelines for green and efficient freight transport, and local level studies on urban/rural and port area freight distribution system mechanism and organization optimization. These studies are designed with inherent objective of environmental protection in terms of energy saving, pollution and GHG emission reduction. While, there are environmental and social implications for these activities. Therefore, for these TA activities, where relevant, environmental considerations will be incorporated into the scope of work in the TORs, and the study will have a section/chapter for assessment of potential environmental impacts ; (2) The studies such as Development of a national level Action Plan for Efficient and Green Freight Corridors may have the output of action plan be at strategic level and may include recommendations for future downstream investment. For such studies, environmental considerations will be built into the TORs of the study, and a section/chapter of environmental and social impact assessment at strategic level for the recommendations will be included in the study report. In case any specific infrastructure investment project is recommended in the output of the study, then an environmental and social impact assessment TORs for such investment project will be developed along with the study report; (3) IT-based computer software and system development and hardware procurement, and capacity training and promotion workshops. There is no environmental and social impacts envisaged for these types of activities, therefore, no further requirement is needed.

Social Measures. The TA is to finance six national-level TAs, and five local demonstration components focusing on the development of policies, strategies, analytical toolkits, and technical standards that promotes multimodal freight transportation system and urban logistics distribution. All these activities do not involve civil construction items or feasibility study, so will not directly impact the environment and society. However, given a national coverage project, the Bank policy OP4.10 will be triggered, and the TOR for each TA activity should reflect requirements in the OP 4.10. In addition, some activities, such as development of action plan for efficient and green freight corridors , may pose



potential downstream social impacts, in case specific infrastructure project is recommended, physical civil works may be involved, therefore the Bank policy OP4.12 is triggered. As such, the TOR for each TA activity should reflect requirements in the OP 4.12. Considering the national and local level studies and overall plan development activities may have indirect downstream social implications if the results or recommendations of such studies are put into implementation in the future, a TOR for social assessment is required as an output of the TA.

Specific social management measures cover the following ones. (1) On the activities including study, research, management plan, and guideline, the measure relies on including social consideration in the TORs for TA activities. In particular, the TORs clearly require that the research report should include a section/sections analyzing the potential downstream implications of multimodal transport standards and regulations (especially the potential impacts of multimodal transport standards and regulations to small freight companies and individuals) and providing measures to mitigate these impacts. Impacts of multimodal transport on laborers, vulnerable groups, and gender distribution should be analyzed based on the basic information about the intended beneficiaries of the project, and advice on mitigating the potential impacts should be provided. (2) As for the action plan, if the outputs provide detailed infrastructure construction project proposals, TORs for Resettlement Action Plan and Social Assessment should be prepared for the downstream project preparation based on the impacts identified. (3) For E-commerce Based Urban Freight Distribution Solution, public consultation and grievance redress mechanisms should be established in the solution development. Regarding the pilots, Integrated Urban-Rural Distribution Pilot includes development of joint distribution organization plan, development of the common software module, and M&E. The TOR clearly requires that the research report should include a section/sections analyzing the potential downstream impacts of joint distribution and providing measures to mitigate these impacts.

With regard to the current institutional arrangements, the national and local PMOs will strengthen their capacity building, so as to better fulfill their responsibilities. The cost of capacity building will be covered by the project grant or by the counterpart funding. Capacity building in environmental and social safeguard will include two aspects. Firstly, the PMOs will determine staffing requirements at different levels and additional staffing requirements. Secondly, the PMOs will train people engaged in environmental and social safeguard for this project.

5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.

At the preparation stage, consultations were mainly conducted with stakeholders at national and local government (MOT, local transport bureaus, port management authorities and other relevant departments of local governments), freight logistics enterprises and relevant research institutes for the preparation of the ESMF. The ESMF was disclosed locally and was disclosed in the Bank website.

Public Consultation and Grievance Redress. During project implementation, public consultation should be carried out in order to establish an effective grievance redress mechanism. Public consultation and the establishment of a grievance redress mechanism shall be explicitly listed in the TOR. In the research and implementation of the project components, information about the grievances and complaints of all stakeholders will be collected; and the relevant processes and results will be recorded in detail. Public opinions and advice should be taken into consideration when the relevant research is conducted, so that the outputs can reflect the results of public consultation. Public consultation and the establishment and operation of the GRM will be supervised regularly throughout the implementation of the project.



B. Disclosure Requirements

Environmental Assessment/Audit/Management Plan/Other

Date of receipt by the Bank	Date of submission for disclosure	For category A projects, date of distributing the Executive Summary of the EA to the Executive Directors
07-Mar-2018	07-Mar-2018	

"In country" Disclosure

China
22-Feb-2018

Comments

Resettlement Action Plan/Framework/Policy Process

Date of receipt by the Bank	Date of submission for disclosure
07-Mar-2018	07-Mar-2018

"In country" Disclosure

China
22-Feb-2018

Comments

Indigenous Peoples Development Plan/Framework

Date of receipt by the Bank	Date of submission for disclosure
07-Mar-2018	07-Mar-2018

"In country" Disclosure

China
22-Feb-2018

Comments



C. Compliance Monitoring Indicators at the Corporate Level (to be filled in when the ISDS is finalized by the project decision meeting)

OP/BP/GP 4.01 - Environment Assessment

Does the project require a stand-alone EA (including EMP) report?

No

OP/BP 4.04 - Natural Habitats

Would the project result in any significant conversion or degradation of critical natural habitats?

No

If the project would result in significant conversion or degradation of other (non-critical) natural habitats, does the project include mitigation measures acceptable to the Bank?

NA

OP/BP 4.10 - Indigenous Peoples

Has a separate Indigenous Peoples Plan/Planning Framework (as appropriate) been prepared in consultation with affected Indigenous Peoples?

No

OP/BP 4.12 - Involuntary Resettlement

Has a resettlement plan/abbreviated plan/policy framework/process framework (as appropriate) been prepared?

Yes

If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan?

Yes

The World Bank Policy on Disclosure of Information

Have relevant safeguard policies documents been sent to the World Bank for disclosure?

Yes

Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs?

Yes



All Safeguard Policies

Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies?

NA

Have costs related to safeguard policy measures been included in the project cost?

Yes

Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies?

Yes

Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents?

Yes

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