Appraisal Environmental and Social Review Summary

Appraisal Stage

(ESRS Appraisal Stage)

Date Prepared/Updated: 08/29/2022 | Report No: ESRSA02259

BASIC INFORMATION

A. Basic Project Data

Country	Region	Project ID	Parent Project ID (if any)
China	EAST ASIA AND PACIFIC	P175561	
Project Name	Pathways for Decarbonizing Transport towards Carbon Neutrality in China		
Practice Area (Lead)	Financing Instrument	Estimated Appraisal Date	Estimated Board Date
Transport	Investment Project Financing	6/17/2022	10/28/2022
Borrower(s)	Implementing Agency(ies)		
People's Republic of China	Shandong PMO, Ministry of Transport, Henan PMO, Jiangsu PMO		

Proposed Development Objective

The Project aims to establish national and sub-national roadmaps, enhance the policy framework for innovation and scale-up of clean energy in transport, and pilot emerging technologies in selected provinces, to decarbonize transport towards carbon neutrality.

Financing (in USD Million)	Amount
Total Project Cost	10.09

B. Is the project being prepared in a Situation of Urgent Need of Assistance or Capacity Constraints, as per Bank IPF Policy, para. 12?

No

C. Summary Description of Proposed Project [including overview of Country, Sectoral & Institutional Contexts and Relationship to CPF]

Significant challenges remain for China's transport sector to lower its carbon emission and to contribute to the climate goal of the country – emission peaking in 2030 and carbon neutrality by 2060. At the national level, China has yet to develop a roadmap for decarbonizing transport in the context of rapid motorization and urbanization, as well as a coherent policy framework for mobilizing emerging technologies to achieve low- to zero-carbon mobility. At sub-national level, Chinese provinces and cities need to set out comprehensive long-term roadmaps for transport emission peaking and neutrality, rather than applying piecemeal policies and technology solutions. Emerging

technologies, that are being demonstrated in small-scale projects, need to be scaled mainstreamed and integrated in the broader strategy for decarbonization. In support of these endeavors, it is also critical to strengthen the institutional capacity and overall governance framework. In order to address these challenges, the proposed Project will include the following components.

Component 1: National Roadmap and Policy Framework towards Carbon Neutrality. The component includes (Sub-Component 1A): Develop a roadmap for transport decarbonization, based on emission modeling under various decarbonization scenarios, identifying a timebound policy reforms, investments and technology adoption; (Sub-Component 1B): Develop a national framework of policies and technical standards for decarbonizing transport, built upon the roadmap, further detail policies and technical standards/guidelines that need to be implemented in the near-term (until 2030); and (Sub-Component 1C): Develop accounting and evaluation framework for transport emissions. This sub-component will support the improvement of the carbon emission accounting and monitoring mechanism. This task would involve an assessment of the existing statistical system on transport demand, energy consumption, and carbon emissions, improvement of the accounting and monitoring mechanism, and designing of an institutional arrangement for data collection and monitoring between different levels of government..

Component 2: Pilot Implementation towards Transport Carbon Peaking and Neutrality in Selected Provinces. Below pilot provinces were selected jointly by the Bank and Ministry of Transport, from the review of proposals submitted to the MOT and based on their alignment with the project objective, potential contribution to the decarbonization goals, and replicability. The Ministry of Transport sought to select a set of provinces that: 1) have good track records in implementing low-carbon transport programs that can demonstrate a province's capability in piloting emerging decarbonization measures; 2) demonstrate strong commitment of the provincial and municipal governments; and 3) represent, collectively, diverse challenges in terms of economic development level, geography, and technical themes, so that the experiences gained from the Project can be replicated across the country

(Sub-Component 2A): Mobilizing emerging technologies and techniques for decarbonizing transport in Shandong Province; The sub-component would support the following: a. Development of a roadmap and strategy for transport decarbonization in support of carbon peaking for Shandong Province, identifying key policy measures, investment areas, technology adoption, and their implementation timelines. Based on the roadmap, the sub-component would support the subsequent activities. b. Development and demonstration of near zero-emission strategy for Shandong Ports, including identification of financially viable clean energy sources, new technologies and policy measures for operation and maintenance of near zero-carbon port operations and ground transport, in line with the broader decarbonization strategy at the provincial level. Some high priority investments identified in the strategy would be taken up by enterprises. c. Demonstration of energy efficiency improvement and clean energy use for inland waterway vessels. The sub-component supports electrification of inland waterway vessels, through technical assistance for deployment research and development of portable power units for electric vessels, assessment of technical and economic performance evaluation of power units and electric vessels, and recommendations for relevant policies, technical standards, and technology improvements to support efficient operation and maintenance of electric vessels. The R&D TA findings are expected to be followed by investments by enterprises in manufacturing and operation of electric vessels. d. Development of technical guides on hydrogen fuel cell electric vehicle (FCEV) buses, through a comprehensive evaluation of the economic, technical, operational, and environmental impacts of the ongoing FCEV bus pilot in the e. province, to identify policies to address barriers to long-term technical and financial viability of the FCEV technology and associated infrastructure development and to develop technical and operational guidelines for FCEV buses. Shandong Provincial Department of

Transport (DOT) intends to apply the developed guidelines for future FCEV projects, which will accelerate the adoption of FCEV in Shandong. The study findings will also inform relevant national policies and technical standards/guidelines.

(Sub-Component 2B): Developing solutions for decarbonizing integrated rural-urban transport services in Henan Province; The sub-component would support the following: a. Development of a roadmap and strategy for transport decarbonization in support of carbon peaking for Henan Province, identifying key policy measures and investments and their implementation timelines. Based on the roadmap, the sub-component would support the subsequent activities. b. Demonstration of deep decarbonization of rural-urban mobility and logistics services, by integrating electric transport, across passenger, freight, and logistics services. The sub-component supports several technical assistances, including preparation of a feasibility study, development of operating and maintenance plans, and development of an architecture design and system requirements of a mobile platform for integrated rural-urban passenger and freight services to maximize utilization of electric buses for such services. Based on the TA outputs, Yongcheng, Xin and Xun Counties would allocate budget for development of mobile platform, in collaboration with private logistics companies, and upgrading of a few selected terminals. The public/private bus operators in the three counties would also upgrade their e-bus fleet to support zero carbon passenger and freight services. c. Demonstration of near-zero emission bus depots and terminals in Xin County. This sup-component will support a technical study on the development of near-zero emission depots, terminals, and interchanges, covering energy conservation building design, green and recyclable construction materials, and renewable energy usage and storage. Xin Country will use the findings and recommendations to inform the design, construction, and operation, and maintenance of its bus depots, terminals, and interchanges.

(Sub-Component 2C): Establishing a green mobility platform and piloting zero-emission port in Jiangsu Province. The sub-component would support the following:

a. Development of a roadmap and strategy for transport decarbonization in support of carbon peaking for Jiangsu Province, identifying key policy measures and investments and their implementation timelines. The roadmap would also include research on a province-wide transport carbon emission accounting and monitoring system comprising a thorough database on key enterprises, carbon emission reporting and accounting mechanism. Based on the roadmap, the sub-component would support the subsequent activities.

b. Technical assistance for establishment of a green mobility platform, including development of a green mobility indicators, a data monitoring system for green urban transportation in the entire province, Mobility-as-a-Service (MaaS) framework, green mobility credit, and technical assistance to 1-to-2 cities for their pilot application of MaaS. Jiangsu Provincial DOT has committed to leading the process of selecting pilot cities and supporting their MaaS pilot application.

c. Development and demonstration of near-zero emission strategy at Yancheng Port, including renewable energy integration and storage as well as integrated hydrogen generation and refueling. Based on the TA outputs, the local government and enterprises would make necessary investments to demonstrate near zero-emission port operation and maintenance.

Component 3: Capacity Building. This component will finance technical support for, inter alia: (i) knowledge exchange and capacity building on transport innovations for decarbonization, (ii) dissemination activities, and (iii) knowledge management activities. Under the Project, knowledge on decarbonization strategies, policies, and technologies, as

well as a prototype MRV system at national and pilot province levels, will be created from technical assistance (TA) and pilot implementation.

Component 4: Monitoring & Evaluation. This component will support one national Project Management Office (PMO) and four local PMOs, to be set up in each pilot province/city, to monitor and evaluate (M&E) the different parts of the Project, including M&E of GHG emission reduction of pilot projects, and produce regular monitoring reports, Mid-Term Review (MTR) review report, and Implementation Completion and Results (ICR) report at the end of the project.

The Project is aligned with the World Bank Group's Country Partnership Framework for China (FY2020-2025), the engagement area "Promoting Greener Development". It would help achieving Objective 2.5, "promoting low-carbon transport and cities" and contribute to Objective 2.2, "reducing air, soil, water and marine plastic pollution". The project also supports the World Bank's global agenda on transport, which aims to decarbonize and reduce adverse environmental impacts of transport, while ensuring safe and inclusive mobility solutions for all and supporting connectivity and economic growth.

D. Environmental and Social Overview

D.1. Detailed project location(s) and salient physical characteristics relevant to the E&S assessment [geographic, environmental, social]

The increasing urbanization and industrialization of China has resulted in a sharp rise in emission of greenhouse gases (GHG) and other pollutants. The transport sector is one of the major contributors of energy consumption and GHG emissions in China, and most of GHG emissions are expected to happen at the metropolitan and city cluster level.

The project consists of technical assistance (TA) activities at national level and in three pilot provinces (Shandong, Henan and Jiangsu), which include:

- Type 1 Supporting the preparation of future investment projects: a) preparation of a feasibility study, operating plans, an architecture design and system requirements of a mobile platform for integrated rural-urban passenger and freight service in selected counties of Henan province. The outputs from this TA will support establishment and operation of mobile platforms for "supply-demand" match. b) research and development (R&D) of prototype portable power units for electric vessels, which is likely to be carried out by an existing vessel power unit manufacturer.
- Type 2 Supporting the formulation of policies, programs, plans, strategies or legal frameworks: a) transport decarbonization roadmaps development for China and three pilot provinces. b) studies on national policy framework and technical standards for transport decarbonization, and transport emissions monitoring, accounting, and evaluation framework. c) technical evaluation and guidelines development for Shandong province's ongoing hydrogen fuel cell electric bus pilot. d) study on near zero emission strategy for Shandong Ports and Yancheng Port operation, including identification of financially viable clean energy sources, new technologies and policy measures for near zero-carbon ground and waterborne transport. e) technical studies on a green mobility platform in Jiangsu province, including green mobility indicators, a data monitoring system, province-wide Monitoring, Reporting and Verification (MRV) system, framework for Mobility-as-a-Service (MaaS), and green mobility credit. f) technical study on near-zero emission depots, terminals and interchanges in Xin County of Henan Province. Based on the study outputs from these type 2 TAs, specific policies, priority investments and technology development would be identified, as well as their implementation timeline, which would then inform the government's 15th Five-Year Plan and other longer-term strategies. The project will not support the implementation of the study recommendations.

- Type 3 Strengthening borrower capacity: capacity building and project management and monitoring supports.

As the TA activities of the project will be implemented nationwide and in different regions, thus the environmental and social (E&S) contexts will differ with regards to landscape, climate, natural and socio-economic conditions. Regarding landscape, there are extensive alluvial plains in the east, broad grasslands in the northern Mongolian plateau, hills and low mountain ranges in the south and the deltas of China's two major rivers (Yellow River and Yangtze River) in the central-east region. Given highly complex topography, the climate and natural conditions in China differ from region to region, monsoon climate in the east, temperate continental climate the northwest, and alpine climate for the Qinghai Tibet Plateau. In terms of socio-economic conditions, China's central and eastern provinces (including the three pilot municipality/provinces) are generally more advanced in terms of economic development and are more densely populated compared with the northern and western provinces. Most of the central and eastern provinces are Han Chinese dominated, whilst northern and western provinces have a comparably higher population of ethnic minority groups. The TA work will include analysis of these variables and address key aspects of social inclusion, consideration of issues relating to ethnic minorities and other vulnerable groups as well as systems to ensure data is secure and that personal data is not retained or used for other than approved purposes .

The three pilot provinces were selected to build upon their earlier decarbonization initiatives, and to demonstrate strong capability and commitment in advancing the decarbonization agenda. The provinces differ from each other with regards to E&S baselines and critical challenges in the transport sector where opportunities exist for low carbon mobility. These baseline information would feed into the design and implementation of TA activities.

D. 2. Borrower's Institutional Capacity

The Ministry of Transport (MOT) is the executing agency of this project. The national Project Management Office (PMO) established under MOT's Professional Qualification Authority (PQA) for the GEF Efficient and Green Freight Transport Project (P159883) continues to be the national PMO for this project, which will oversee day-to-day project management, including liaison with the Bank and coordination of the pilot provinces, as well as the technical preparation, quality control of project outputs, procurement management, financial management, E&S risk monitoring and project monitoring and evaluation (M&E) of the national components. A Project Steering Committee (PSC) will be established at the national level to provide overall guidance and inter-agency coordination. Three provincial PMOs have been established respectively by the Provincial Transport Bureaus of Jiangsu, Henan, and Shandong provinces, which will oversee the day-to-day management of their respective parts of the project.

MOT has thus far implemented three GEF projects, is familiar with the Bank's policies and procedures, and has a satisfactory track record of safeguards management in previous Bank projects. Although this project will be the first for the national PMO and the three provincial PMOs to prepare and implement a project under the new Environmental and Social Framework (ESF), national and provincial borrowers in general have the technical capacity to implement the project to meet the objectives of the Environmental and Social Standards (ESSs), including good international industry practice (GIIP). Capacity and awareness of GIIP at local level (e.g., cities and counties) is comparatively weaker, and thus E&S trainings during early project implementation will target more on the local PMOs and TA contractors.

During preparation, the national PMO prepared the E&S documents including Environmental and Social Management Framework (ESMF), Stakeholder Engagement Framework (SEF) and Environmental and Social Commitment Plan (ESCP). A time-bound capacity development plan has been prepared in the ESMF and key actions committed under the ESCP, through which the capacity of the national PMO, the provincial PMOs, and the TA contractors will be

strengthened with regards to ESF implementation. It was agreed that the national PMO will recruit one environmental and one social specialist for managing the whole project's E&S work, including i) implementing the procedures and requirements in the ESMF, SEF, and ESCP; ii) excluding ineligible TAs, and conducting E&S screening and assessment of TAs; iii) providing technical supports and reviews of the Terms of References (TOR) for TAs, and E&S chapter of TA output reports in accordance with the ESF; and iv) track and record the E&S management performance in the progress reports submitted to the Bank. Each provincial PMO will assign an E&S focal point to coordinate and assist the E&S work. Based on the capacity demand, external E&S consultants can be appointed by the national and provincial PMOs to assist the E&S work. Meanwhile, the TA contractors will seek inputs from E&S specialists to conduct E&S impact assessment and stakeholder engagement and prepare corresponding E&S chapters/documents. During implementation, the Bank's task team will provide training to enhance the awareness and capacity of PMOs and relevant participating entities to ensure the project is implemented consistent with the ESF requirements.

II. SUMMARY OF ENVIRONMENTAL AND SOCIAL (ES) RISKS AND IMPACTS

A. Environmental and Social Risk Classification (ESRC) — Substantial

Environmental Risk Rating — Substantial

The project consists of TA activities at national, provincial, or county level, and for specific ports. R&D of prototype portable power units for electric vessels in Shandong Province is likely to be carried out by an existing manufacturer. Environmental audit will identify potential risks with historical compliance with regard to operational pollution control and OHS management of candidate manufacturer, and the project will not select manufacturer that has outstanding E&S legacy issues or material E&S non-compliance that cannot be remedied within a reasonable timeframe to the satisfaction of the Bank. The environmental risk could be moderate to substantial depending on the scale of manufacturing and the audit results. The study outputs from type 2 TAs will identify policies, priority investments and technology development and inform the government's longer-term strategies, and the project will not support the implementation of the study recommendations. Implementation of type 2 TAs will not cause any direct adverse environmental impacts except moderate occupational health and safety (OHS) risk to field workers. The TAs, however, will involve significant stakeholder engagement and will have downstream environmental impacts during the implementation of the products/outcomes of TAs. For example, following the transport decarbonization roadmap recommendations, there could be nationwide new construction or upgrading of transport, logistics, renewable energy and hydrogen generation, refueling, storage and transmission facilities, and manufacturing of clean energy vehicle and vessels. The significance of the environmental risks and impacts will vary by the type, location, and scale of the downstream activities. Although the majority of the impacts are predictable, reversible, localized, and readily avoided/mitigated, the spatial extent is large, and there could be cumulative impacts from collectively significant downstream activities taking place over a period of time in a region. The environmental risk of type 2 TAs vary from low to substantial. The capacity building activities will be held either virtually or in existing buildings following domestic COVID-19 guidelines, thus will not have direct physical footprints on a certain geographic location. The environmental risk of these activities is therefore low. MOT has demonstrated satisfactory performance to manage E&S risks under the safeguards policies during previous Bank project implementation. For this project, MOT has established a national PMO and each pilot province has established a provincial PMO, which are all committed to effectively carrying out environmental management. The overall environmental risk is rated substantial.

Social Risk Rating — Substantial

The project consists of TA activities at national, provincial, or county level, and for specific ports. Comprising only of TA activities, the project would generate only limited material social risk during implementation. The "Type 1" TA activities will support the preparation of future investment projects (research and development of vessel power units) and "Type 2" TA activities will support the formulation of policies, programs, plans, strategies or legal frameworks (transport decarbonization roadmaps; studies on national policy framework and technical standards for transport decarbonization, and transport emissions monitoring; technical evaluation and guidelines development relating to hydrogen fuel cell electric bus pilot; study on decarbonizing strategy for Shandong Ports and Yancheng Port operation; technical studies on a green mobility platform in Jiangsu province). The study outputs from type 2 TAs will identify policies, priority investments and technology development and inform the government's longer-term strategies, and the project will not support the implementation of the recommendations. Overall, the project by promoting clean and low-carbon development and improving the efficiency of transport operation is anticipated to create social benefits. The proposed project consists of TA activities at both national and regional level. Implementation of TA studies will not cause any direct adverse social impacts but will involve significant stakeholder engagement and potentially have potential downstream impacts during the implementation of the products/outcomes of TA. As a result of TA recommended strategies or plans, there could be increased infrastructure investments, such as road or bridge rehabilitation, construction of renewable energy generation, storage and transmission facilities, construction or upgrading of logistic centres, bus depots, charging piles, etc. The downstream social impacts of the potential infrastructure construction and operation would need to be considered and assessed via social assessments included in the TA studies, including comprehensive stakeholder analysis and engagement as well as focus on aspects to promote inclusion, pricing and access to affordable transport and issues which may be relevant to particular social groups such as ethnic minorities, the elderly, women and the poor and otherwise vulnerable etc. This will be supported by building the counterpart capacity for integrating environmental and social objectives into their work, and the TORs for this TA work will be reviewed and cleared by the Bank team to ensure that the relevant ESSs of the ESF are complied with.

B. Environment and Social Standards (ESSs) that Apply to the Activities Being Considered

B.1. General Assessment

ESS1 Assessment and Management of Environmental and Social Risks and Impacts

Overview of the relevance of the Standard for the Project:

E&S due diligence review was conducted by the Bank task team on the draft project proposals, the Project Appraisal Document (PAD), as well as the ESMF, SEF and ESCP prepared by the national PMO. The project has overall E&S benefits of promoting clean and carbon neutral development and improving the efficiency of transport operation in China and the pilot provinces, and therefore reducing GHG emission, improving air quality, and contributing to climate change mitigation. By undertaking targeted TA work in identifying low carbon transport options, the project will allow specific social development and inclusion aspects also to be fully considered which will in turn improve the social outcomes from subsequent transport and financing proposals.

The project consists of TA activities at national, provincial or county level, and for specific ports, which include: a) transport decarbonization roadmaps development for China and three pilot provinces; b) studies on national policy framework and technical standards for transport decarbonization, and transport emissions evaluation framework; c) technical evaluation and guidelines development for Shandong province's ongoing hydrogen fuel cell electric bus

pilot, and R&D of prototype portable power units for electric vessels; d) study on establishing Jiangsu province's green mobility platform; e) study on a mobile platform for integrated rural-urban passenger and freight service and study on near-zero emission depots, terminals and interchanges in selected counties of Henan province; f) study on near zero emission strategy for Shandong Ports and Yancheng Port operation; g) related capacity building and project management and monitoring supports.

R&D of prototype portable power units for electric vessels in Shandong Province is likely to be carried out by an existing manufacturer. E&S audit will identify potential risks with historical compliance with regard to operational pollution control and OHS management of candidate manufacturer, and the project will not select manufacturer that has outstanding E&S legacy issues or material E&S non-compliance that cannot be remedied within a reasonable timeframe to the satisfaction of the Bank. TA in selected counties of Henan province will support establishment and operation of mobile platforms for "supply-demand" match, the E&S impacts of which are negligible.

The roadmap, policy, strategy, and technical studies at national and local levels will identify policies, priority investments and technology development, and inform the government's longer-term strategies, and the project will not support the implementation of the recommendations. Implementation of this type of TA activities will not cause any direct adverse E&S impacts except moderate OHS risk to workers conducting field investigations. The TAs, however, will involve significant stakeholder engagement and have downstream E&S impacts during the implementation of the products/outcomes of TAs. For example, following the transport decarbonization roadmap recommendations, there could be nationwide new construction or upgrading of transport and logistics terminals, charging piles, distributed renewable energy facilities, hydrogen generation and refueling stations, energy storage and transmission facilities, manufacturing of clean energy vehicle and vessels. The significance of the E&S risks and impacts will vary by the type, location, and scale of the downstream activities. Although the majority of the impacts are predictable, reversible, localized, and readily avoided/mitigated, the spatial extent is large, and there could be cumulative impacts from collectively significant downstream activities taking place over a period of time in a region.

The capacity building activities (type 3 TAs) will be held either virtually or in existing buildings following domestic COVID-19 guidelines, thus will not have direct physical footprints on a certain geographic location requiring E&S assessment of the intended activities.

Given the above E&S assessment results, the national PMO has prepared an ESMF to set out the principles, procedures, and requirements for managing the underlying E&S risks and impacts of the project. The ESMF (i) reviewed the high-level E&S baselines of the country and three pilot provinces; (ii) compared the domestic regulatory framework and the ESF and proposed gap-filling measures; (iii) screened and assessed the potential E&S risks and impacts of the TAs; and (iv) set out E&S management and monitoring procedures and measures for the TAs.

The ESMF and ESCP have formulated relevant actions and measures to ensure that the implementation of the TAs shall adequately consider E&S risks and impacts, and the SEF will guide the TAs implementation with meaningful, inclusive and culturally appropriate stakeholder engagement and public consultation. All TA contractors shall prepare a Stakeholder Engagement Plan (SEP) as part of the TA work plan before conducting the specific TA activity. An exclusion list was developed in the ESMF to exclude the types of TAs which is linked to existing or ongoing projects, facilities or activities with outstanding E&S legacy issues or material E&S non-compliance that cannot be remedied within a reasonable timeframe to the satisfaction of the Bank; which will have high-risk social ramifications inherent

in the downstream application of its direct output(s); and which will include recommendations that may cause long term, permanent and/or irreversible adverse impacts, or have high probability of causing serious adverse effects to human health and/or the environment, or have adverse impacts on cultural heritage. The TORs for type 2 TAs will require TA contractors to have E&S specialists' input on screening and analysis of any downstream direct, indirect and cumulative E&S implications (and elements of strategic E&S analysis especially focusing on alternative analysis for roadmap studies) with regards to each relevant ESS, and the study outputs will have specific chapter on the E&S assessment results and recommendations for mitigation. With regard to moderate OHS risk for field workers, the ESMF and ESCP require that the TORs will set out provisions to require TA contractors (and their subcontractors) to protect workers' rights, health, and safety. If during implementation the project will include new type 1 TAs supporting feasibility study or technical design of physical investments, the TORs for these type 1 TAs will require alternative analysis on the placement location and design, and ensure that relevant E&S issues are taken into account in conducting the feasibility study and technical design in a manner that is consistent with the ESF, applicable Bank's EHSGs and GIIP. Where TA supports technical design of physical investments, a suite of Bank policy-compliant E&S instruments (e.g. Environmental and Social Audit, Environmental and Social Impacts Assessment (ESIA), Environmental and Social Management Plan (ESMP)) will be prepared, consulted and disclosed by TA contractors for the eventual investments. The TORs and outputs of all TAs will be prior reviewed by the Bank's task team to ensure that relevant ESSs of the ESF are complied with.

During the implementation, the national PMO agreed to recruit one environmental and one social specialist, with adequate experience and qualification, to be responsible for the implementation of ESMF, ESCP and SEF for the whole project covering both national and pilot provincial components. Additional support may be sought from external environmental and social consultants to assist the E&S management work. The national PMO and provincial PMOs will monitor the implementation of the ESMF, ESCP and SEF, and provide semi-annual progress reports to the Bank's task team on the implementation performance.

The draft E&S documents (including ESMF, ESCP and SEF) were locally disclosed on April 29, 2022, and captured the comments and recommendations received accordingly. The final E&S package has been re-disclosed locally on August 25, 2022.

ESS10 Stakeholder Engagement and Information Disclosure

As the project predominately supports TAs, including national and provincial policy and strategies studies and capacity building, stakeholder engagement and information disclosure is a central pillar to promote transparency and inclusive planning, and ensure wide public participation, acceptance and equal access of vulnerable groups.

The national PMO has developed a SEF, which identified key stakeholders including project-affected parties, other interested parties, and disadvantaged and vulnerable groups. The affected parties would be primarily associated with the downstream application of TA outputs, such as enterprises, workers, and government authorities in the energy, transport and logistics sector, drivers and commuters, and local communities. Other interested parties would include other national and regional line ministries and departments, academic institutions, private companies, Non-governmental Organizations (NGOs) and Civil Society Organizations (CSOs) involved in energy, transport, logistics, and environmental research, the media and the wide public. Disadvantaged and vulnerable groups would include ethnic minorities, the disabled, the elderly, women, the laidoff workers, and the poor. The SEF assessed the impacts to and

influence by these various stakeholders, formulated differentiated approaches and strategies for engaging with them, and set out operational guidance and templates for TAs, which outline the general principles and a collaborative strategy to identify stakeholders and plan for an engagement process per ESS10, with particular consideration to the influential authorities/parties, the affected persons/groups, disabled and vulnerable groups, and the evolving context of COVID-19. The SEF also specified the roles and responsibilities for national PMO, provincial PMOs and TA contractors regarding effective stakeholder engagement throughout the implementation of TAs.

The TORs for TAs will define the provisions for detailed stakeholder analysis, and an SEP will be prepared by TA contractors as part of the TA work plan, which will detail the arrangement for information disclosure and meaningful consultation with various stakeholders involved in the TA study itself and those potentially affected by downstream impacts through TA outputs application. The SEP will include the description of an accessible and effective grievance redress mechanism (GRM) to respond to any potential concerns related to the TA subproject. The project-level GRM as in the SEF will be operational no later than one month after project effectiveness, and the TA activity level GRM will be operational before any TA activities that require the GRM coverage are implemented.

It is committed in the ESCP that the national PMO, provincial PMOs, and TA contractors shall put in place culturally appropriate actions and measures to enable ongoing meaningful consultation with representative stakeholders throughout the whole process of project implementation. The TA outputs shall document how stakeholder engagement informs the formulation of relevant policy recommendations in the identification and mitigation of E&S risks and impacts. During implementation, national PMO, provincial PMOs and TA contractors will monitor the performance of stakeholder engagement and report to the Bank on a semi-annual basis.

B.2. Specific Risks and Impacts

A brief description of the potential environmental and social risks and impacts relevant to the Project.

ESS2 Labor and Working Conditions

This standard is relevant. According to ESF definition, PMO staff are not considered as “direct workers”, and they are managed as government civil servants, fully complying with national labor management regulations. ESS2 is not applied for such government civil servant except for the provisions on OHS. The contracted workers for the TA activities are mostly white-collar knowledge workers (e.g. consultants, trainers or monitors recruited by the TA contractors or its sub-contractors), and as such, effectively protected by existing legal system. The labor management system and practice of MOT and provincial transport bureaus was evaluated in Annex 6 of ESMF, results of which conclude that MOT and provincial transport bureaus have established a sound human resource (HR) management system, and relevant policies and procedures, and the labor risk associated with the staff of TA contractors is moderate. The TOR for a specific TA will set out relevant provisions to require TA contractors (and their subcontractors) to protect workers’ rights, health and safety (including the particular health and safety issues posed by COVID-19) for contracted workers and have a mechanism in place to respond to their grievances, of which all workers are made aware.

The type 2 TAs could have potential downstream impacts on labor and working conditions. The ESMF carried out a preliminary screening of potential downstream labor and working conditions risks from TA studies, which include OHS risks to construction and operation workers associated with downstream infrastructure investments following

TA outputs and recommendations. Therefore, the TA studies should include assessment of labor-related risks and impacts and consider integrating mitigation into policy and standards design and development. The ESMF has set out the procedure to include the E&S aspects in the study and design, including labor aspects. The TA output would recommend appropriate labor management procedures (LMP) to manage any potential downstream labor risks identified in the relevant studies.

For R&D of prototype portable power units for electric vessels in Shandong Province, the labor related issues, including working conditions and OHS management will be reviewed as part of the audit carried out for the candidate vessel power units manufacturer. If during implementation the project will include new type 1 TAs supporting feasibility study or technical design of physical investments, the TORs for type 1 TAs will require that labor issues are taken into account in conducting the feasibility study and technical design in a manner that is consistent with ESS2. Where TA supports technical design of physical investments, appropriate LMP will be developed as part of ESIA or ESMP prepared for the eventual investments.

The ESCP committed that during project implementation, national and provincial PMOs will report any incidents and/or accidents (e.g., health and safety incidents in the workplace) involving project workers to the Bank on a timely basis through the monitoring and reporting mechanisms established for the project.

ESS3 Resource Efficiency and Pollution Prevention and Management

This standard is considered relevant.

The TAs involve policy and roadmap studies on how to achieve carbon peaking and neutrality in the transport sector, as well as studies on technical standards, evaluation framework and application of emerging technologies of distributed renewable energy, battery energy storage system (BESS), and hydrogen fuel. Recommendations from TA studies will have downstream implications on promoting renewable energy and hydrogen penetration in the transport sector, and therefore reducing the release of air pollutants and GHG. The TORs for the type 2 TA studies will require consideration of ESS3 related issues, including proper disposal of used batteries and other hazardous wastes, options for recycling and repurposing battery components, increasing battery life through advanced battery management systems, and comparing energy efficiency and GHG emissions with available national and international benchmarking data and standards (including GIIP and the applicable EHSGs of the World Bank Group). The TA outputs will be reviewed by the Bank's task team to ensure that implementation of the TA outputs will comply with ESS3 requirements for sustainable resource utilisation and pollutants minimization.

The R&D of prototype portable power units for electric vessels in Shandong Province will be carried out by an existing manufacturer. The ESMF requires that an environmental audit shall be conducted for the candidate vessel power units manufacturer following the template in Annex 4 of the ESMF to assess its baseline/historical pollution status of air emissions, wastewater, solid wastes and hazardous wastes, as well as the compliance with the applicable national standards and Bank's General EHSGs and GIIP. The project will not select manufacturer that has outstanding E&S legacy issues or material E&S non-compliance that cannot be remedied within a reasonable timeframe to the satisfaction of the Bank. If during implementation the project will include new type 1 TAs supporting feasibility study or technical design of physical investments, the TORs for these type 1 TAs will require that the ESS3 related issues such as hazardous waste management are taken into account in conducting the feasibility study and technical design

in a manner that is consistent with ESS3, Bank's EHSGs and GIIP (General EHSGs, EHSGs for Waste Management Facilities). Where TA activities support technical design of physical investments (e.g. BESS), a Waste Management Plan (WMP) will be developed, as part of ESIA or ESMP, to manage hazardous and non-hazardous wastes, consistent with ESS3.

ESS4 Community Health and Safety

This standard is relevant.

The TA studies may involve quite a number of meetings, workshops and trainings with stakeholders, and travel by project workers to the field, in which case there is possibility of the transmission of communicable diseases such as COVID-19. Therefore, preventative measures need to be built into project design and operating procedures to minimize the risk of person-person transmission. Existing domestic, World Bank and WHO guidance on COVID-19 will be drawn to prevent or minimize the spread of COVID-19 in the workplace or communities. The Borrower will monitor the situation and prepare emergency response plan for COVID-19 spread when it is necessary.

R&D of prototype portable power units for electric vessels in Shandong Province is likely to be carried out by an existing manufacturer. Vessel power units manufacturing could bring community health and safety impacts such as noise, air emissions, wastewater and waste, the management performance of which will be audited before the manufacturer is selected during project implementation. If during implementation the project will include new type 1 TAs supporting feasibility study or technical design of physical investments, the TORs for these type 1 TAs will require that the community health and safety issues are taken into account in conducting the feasibility study and technical design in a manner that is consistent with ESS4. Where TA activities support technical design for physical investments (e.g. BESS and hydrogen facilities), the risks and impacts to community health and safety will be assessed, including relevant Hazard or Risk Assessment (HRA). If there are significant risks and impacts to community health and safety, an Emergency Response Plan (ERP) will be prepared, as part of the ESIA and/or ESMP, consistent with ESS4.

The TORs for the type 2 TA studies will require consideration of ESS4 related issues, including community health and safety risks caused by downstream investments of hydrogen facilities and BESS. The TA outputs will be reviewed by the Bank's task team to ensure that implementation of the TA outputs will comply with ESS4 requirements to protect community health and safety.

ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

ESS5 is considered relevant. Although the project comprises only of technical studies, resettlement impacts are likely to be associated with the downstream application of the project outputs to varying degrees including related to land acquisition and/or livelihoods/livelihood systems. Accordingly, the TA work will include the preparation of resettlement planning instruments proportionate to the identified risks and scale of acquisition such as resettlement policy frameworks (RPFs) and/or resettlement action plans (RAPs) consistent with ESS5. Screening guidance for this work – and to inform future TAs – has been included in the ESMF. Future TORs for this work will be cleared by the Bank team prior to any work for the TA work being procured/commencing.

ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources

This standard is considered relevant.

The project will not directly support any new physical investments. The manufacturer for R&D of protocol vessel power units in Shandong Province is anticipated to locate in an industrial zone away from any critical or natural habitats. If during implementation the project will include new type 1 TAs supporting feasibility study or technical design of physical investments, the TORs for these feasibility and technical studies will require alternative analysis on the location to avoid any negative impacts on critical or natural habitats, and improve the design to avoid or mitigate impacts to habitats and species. Where TA activities support technical design for physical investments, the risks and impacts to biodiversity and habitats will be assessed. If there are significant risks and impacts to biodiversity, a Biodiversity Management Plan (BMP) will be developed as part of ESIA or ESMP, consistent with ESS6.

The TORs for the type 2 TA studies will require consideration of ESS6 related issues, including risks and impacts to biodiversity and natural resources utilisation caused by downstream investments. The TA outputs will be reviewed by the Bank's task team to ensure that implementation of the TA outputs will comply with ESS6 requirements.

ESS7 Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities

ESS7 is deemed relevant due to the national level TA work. Some western and northwestern regions (such as Gansu, Qinghai, Inner Mongolia, Shanxi, etc.) have a higher composition of ethnic minority groups. The TA activities will include specific social assessment and screening aspects relevant social risks to ethnic minorities. Applying the advice in the study outputs (downstream impacts) may induce potential social implications to ethnic minorities, such as land acquisition, labor and working conditions, community safety, etc. This TA work will include a preliminary scoping to analyze the impacts and impacts on ethnic minorities.

The ESMF and Stakeholder Engagement Framework (SEF) have included elements consistent with ESS7 to ensure any risks which may be experienced by ethnic minority communities are fully addressed in the TA work during the project. This guidance will include process for determining whether separate ethnic minority development plans (EMDPs) may be required for subsequent downstream investments.

ESS8 Cultural Heritage

This standard is considered not relevant.

The project itself will not support any construction or rehabilitation activities that would involve the movement of earth, thereby potentially having an impact on tangible cultural heritage. Also, the project will neither have a material impact on intangible cultural heritage nor use such cultural heritage for commercial purposes.

The manufacturer for R&D of protocol vessel power units in Shandong Province is anticipated to locate in an industrial zone away from any legally protected cultural heritage. If during implementation the project will include new type 1 TAs supporting feasibility study or technical design of physical investments, the TORs for these feasibility

and technical studies will require alternative analysis on the location to avoid any negative impacts on cultural heritage.

An exclusion list was developed in the ESMF to exclude the types of TAs which will include recommendations that may involve adverse impacts on cultural heritage.

ESS9 Financial Intermediaries

This standard is not relevant as the project will not involve any financial intermediaries.

B.3 Other Relevant Project Risks

Not currently anticipated.

C. Legal Operational Policies that Apply

OP 7.50 Projects on International Waterways	No
OP 7.60 Projects in Disputed Areas	No

B.3. Reliance on Borrower's policy, legal and institutional framework, relevant to the Project risks and impacts

Is this project being prepared for use of Borrower Framework?	No

Areas where "Use of Borrower Framework" is being considered:

Although China has a comprehensive E&S Framework, its use for the project is not recommended due to the limited experience of the implementing agencies in implementing and applying ESF and its associated environmental and social standards. Also, a comprehensive assessment of the borrower framework has not been completed.

IV. CONTACT POINTS

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Borrower/Client/Recipient

Borrower: People's Republic of China

Implementing Agency(ies)

Implementing Agency: Shandong PMO

Implementing Agency: Ministry of Transport

Implementing Agency: Henan PMO

Implementing Agency: Jiangsu PMO

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VI. APPROVAL

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