

China : Liaoning Green Smart Public Transport Demonstration Project

1. Project Information

Project ID:	P000406	Instrument ID:	L0406A
Member:	China	Region:	Eastern Asia
Sector:	Transport	Sub-sector:	Urban transport
Instrument type:	<input checked="" type="checkbox"/> Loan:130.00 Euro million <input type="checkbox"/> Guarantee	Lead Co-financier(s):	
ES category:	B	Borrowing Entity:	Ministry of Finance, China
Implementing Entity:	People's Government of Liaoning Province		
Project Team Leader:	Hongliang Yang		
Responsible DG:	Gregory Liu		
Responsible Department:	INF2		
Project Team Members:	Jingjing Zhao, Team Member; Suzanne Shaw, Economist; Christopher Damandl, Project Counsel; Liu Yang, Alternate Counsel; Yogesh Malla, OSD - Financial Management Specialist; Guoping Yu, OSD - Procurement Specialist; Chongwu Sun, OSD - Environment & Social Development Specialist; Bo Shi, OSD - Procurement Specialist; Jingjing Zhao, Back-up PTL; Siyang Wang, Project admin		
Completed Site Visits by AIIB:	May, 2022 Virtual meetings Nov, 2022 Virtual meetings Feb, 2023 Physical meetings		
Planned Site Visits by AIIB:	Aug, 2023 Physical		
Current Red Flags Assigned:	0		
Current Monitoring Regime:	Regular Monitoring		
Previous Red Flags Assigned:	0		
Previous Red Flags Assigned Date:	2022/12		

2. Project Summary and Objectives

The objective of the Project is to improve the quality and efficiency of public transport service and urban environment by replacing conventional fossil-fueled buses with battery electric buses (BEBs) and applying digital technology to public transport management systems in five small and medium cities of Liaoning Province.

The Project will, above all, substitute modern BEBs for existing diesel-fueled or gas-fueled buses in five small and/or medium cities in Liaoning, including Fuxin City, Hu'ludao City, Jinzhou City, Panjin City, and Yingkou City (together Project cities). Also, public transport management systems in the Project cities will be upgraded using smart

digitalized platforms. The Project will demonstrate that: (i) BEBs are viable options to zero-emission public transport systems in Liaoning; and (ii) smart public transport management system can enhance the efficiency of public transport, provide better services, and attract more passengers to use public transport in the Project cities.

Key Project activities include:

(i)

procurement of approximately 1,285 BEBs.

(ii)

construction of approximately 286 new bus chargers.

(iii)

installation of smart public transport management systems and supporting software and equipment in the Project cities, which include smart operations and management platform, automated fare collection terminals, automatic vehicle location system, real-time driving assistance and safety systems, passenger information systems, depot management system, bus stop management system, control center upgrade, and data analytic and cloud infrastructure, etc.

(iv)

construction of the Liaodong Bay Intercity Bus Service Center in Panjin.

(v)

construction of the New Green Bus Maintenance Workshop in Fuxin.

(vi)

technical support and capacity building to the five bus companies on BEBs and smart public transport technology. A team of project management consultants will be engaged, covering technical, financial management, procurement, and environmental and social matters. The consultants will provide technical assistance to the bus companies and help PMO collect data, monitor progress, and verify the implementation results. Trainings will be provided to strengthen PMO's and bus companies' knowledge and understanding on the use of BEBs and smart public transport technology. Good practices and lessons learned during the Project implementation will also be summarized and shared with the wider audience.

3. Key Dates

Approval:	Nov. 11, 2021	Signing:	Dec. 27, 2021
Effective:	Mar. 14, 2022	Restructured (if any):	
Orig. Closing:	May. 31, 2026	Rev. Closing (if any):	

4. Disbursement Summary (EUR million)

Contract Awarded:		Cancellation (if any):	0.00
Disbursed:	86.83	Most recent disbursement (amount/date):	27.00/Jun. 01, 2023
Undisbursed:	43.18	Disbursement Ratio	66.79

		(%) ¹ :	
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5. Project Implementation Update

The Project has been implemented well. By the end of the reporting period, ten contracts have been awarded, including 7 goods contracts and 3 consulting service contracts; and about 852 BEBs have been received and put into use.

During the reporting period, there is no civil work conducted, and no environmental and social issues have been reported and recorded so far. Regarding procurement, some contract amounts exceeded their estimated values due to the factors like exchange rate changes and rising battery prices. The procurement plan has been updated by the client and reviewed by the Bank to reflect the current status to avoid insufficient funds. No contracts have been signed during the reporting period. The Procurement Notices for contracts of FX-G05A and HLD-G05A for procurement and installation of on-board smart devices have been issued, which are subject to post review by the Bank. The Tender Document for the post review contract FX/HLD-G04 of intelligent upgrading of hardware and software in the dispatch command center. Procurement and installation of smart public transport platform (including both Fuxin and Huludao) has been finalized and will be issued at the beginning of July 2023.

Components	Physical Progress	Environmental & Social Compliance	Procurement
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Financial Management:

The project audited financial statement for the year ending Dec 31, 2022 has been received timely on June 30, 2023. The next Interim Unaudited Financial Report (IUFR) for the period ending June 30, 2023 is due on Aug 15, 2023.

6. Status of the Grievance Redress Mechanism (GRM)

GRM has been established and is functional. The details are disclosed on its corporate websites and official WeChat accounts. As of now, no complaint was recorded as per the project management office.

7. Results Monitoring (please refer to the full RMF, which can be found on the last page of this PIMR)

With the arrival and operation of BEBs, the project has gradually achieved its designed capacity of carbon emissions reduction and air pollution reduction. According to the number of BEBs purchased in 2022, the following figures (on energy savings and emission reduction) have been achieved, as shown in the table below.

Remarks:

¹ Disbursement Ratio is defined as the volume (e.g. the dollar amount) of total disbursed amount as a percentage of the net committed volume.

Project Objective Indicators	Indicator level	Unit of Measure	Cumulative Target Values																		Frequency	Responsibility	Comments	
			Baseline		2019		2020		2021		2022		2023		2024		2025		End Target					
			Year	Value	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Year	Target				Actual
CO2 emissions reduced per year	Project	Tons	2019	0	0				0	0	10,544	10,544	17,816	13,825	20,960		20,960			20,960		Annual	PMO	
CO emissions reduced per year	Project	Tons	2019	0	0				0	0	1,193	1,193	1,848	1,434	2,154		2,154			2,154		Annual	PMO	
NOx emissions reduced per year	Project	Tons	2019	0	0				0	0	142	142	176	137	200		200			200		Annual	PMO	
SO2 emissions reduced per year	Project	Tons	2019	0	0				0	0	71	71	80	62	89		89			89		Annual	PMO	
PM reduced per year	Project	Tons	2019	0	0				0	0	1.74	1.74	1.93	1.50	2.16		2.16			2.16		Annual	PMO	
Public transport punctuality increased	Project	%	2019	43	43				48	48	55	55	63	55	68		70			70		Annual	PMO/PIUs	
Passenger satisfaction ratio increased	Project	%	2019	76	76				79	79	82	82	85	85	87		88			88		Annual	PMO/PIUs	
Bus real-time information sharing ratio	Project	%	2019	71	71				75	75	94	94	98	100	100		100			100		Annual	PMO/PIUs	

Project Intermediate Indicators	Indicator level	Unit of Measure	Cumulative Target Values																		Frequency	Responsibility	Comments	
			Baseline		2019		2020		2021		2022		2023		2024		2025		End Target					
			Year	Value	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Year	Target				Actual
Electric buses procured and put in operation	Project	No. of Vehicles	2019	0	0				107	107	758	758	1098	852	1285		1285			1285		Semi-annual	PMO/PIUs	
Electric chargers installed	Project	Number	2019	0	0				60	60	172	172	252	289	286		286			286		Semi-annual	PMO/PIUs	