GROUPED COMMERCIAL ELECTRIC VEHICLES PROJECT OF INTELLIGENT LINK

Document Prepared by Search Co2(Shanghai) Environmental Science & Technology Co. Ltd

Project Title	Grouped Commercial Electric Vehicles Project of Intelligent Link
Version	1.0
Date of Issue	30-March-2023
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1 PROJECT DETAILS

1.1 Summary Description of the Project

The grouped project activity is carried out by Zhejiang Green Intelligent Link (hereafter Green Intelligent Link or Intelligent Link), which is a platform supplying environmental transport capacity and smart vehicle networking, to provide rental services of electric delivery vehicles in China.

In China, commercial vehicles sold out 3 million in 2022, including 2.893 million trucks. Most commercial vehicles burn fossil fuels. As one kind of commercials vehicles, the sales of pickup trucks were 519,000. By fuel, the sales of gasoline pickup trucks and diesel ones were 120,000 and 397,000 respectively[1]. The new energy vehicles used for distribution in urban accounted for 8% of all new energy vehicles till 2020[2]. 168,000 new energy vehicles were sold in 2021, with a penetration rate of 3.5%[3]. Due to problem like lack of supporting infrastructure, and high price of power batteries, the fuel vehicles were commonly used in commercial transportation services.

In this project, project vehicles of the proponent, Intelligent Link, are divided into 2 categories, truck and van. They are all electric vehicles (hereafter EVs). EVs are driven by pure electric provided by energy stored in batteries. The project scenario is EVs instead of fuel-driven vehicles delivering goods in urban area of China. As an EV runs on electricity instead of fossil fuel (diesel and gasoline), the vehicle emits no exhaust from a tailpipe, which leads to lower GHG emissions per distance driven.

For the start, the grouped project consists of two project activity instances. All electric trucks of Intelligent Link are regarded as one project activity instance, named truck project, meanwhile, the second project activity instance consists of all electric vans, named van project.

The annual estimated emission reductions for the first batch (number of electric vehicles) are 34,147 tCO_2e. The total emission reductions for the first batch of electric vehicles over the period of 10 years of crediting years are 375,615 tCO_2e.

The project contributes in a significant manner to sustainable development, which are below:

[1] http://www.caam.org.cn/chn/4/cate_39/con_5236639.html

[2]https://view.officeapps.live.com/op/view.aspx?src=http%3A%2F%2Fwww.gov.cn%2Fzhengce%2Fzhengceku%2F2021-11%2F18%2F5651656%2Ffiles%2F5ed9e2cdf80042fdb26535314dc62ffb.doc&wdOrigin=BROWSELINK

[3] http://file.caam.org.cn/2022/07/165830225448205430 2.pdf

- Project activity is generating employment for local drivers;
- Project reduces the per capita negative environmental impact of cities within project area, especially the air quality improvement due to reduced vehicle exhaust emission;
- Project reduces GHG emission reduction due to implementation of EVs and reducing fossil fuel-based vehicles.

For the project the validation date and the specific date of the first monitoring period of this project has not been determined, and will be supplemented in the latest PD.

Audit Type	Period	Program	VVB Name	Number of years
Validation	1-June-2023	VCS	CTI	N/A

1.2 Sectoral Scope and Project Type

The project is categorized as sectoral scope 7 “Transport” under VERRA as justified in section 1.3, although the AMS-III.C. methodology is approved under sectoral scope of CDM.

The project is a grouped project.

1.3 Project Eligibility

This project activities undertaken are supported by the approved CDM methodology AMS-III.C., Emission reductions by electric and hybrid vehicles version 16.0. VCS standard version 4.4 accepted all active CDM methodology therefore project activities are eligible for registration under VCS standard version 4.4.

1.4 Project Design

☐ The project includes a single location or installation only

☐ The project includes multiple locations or project activity instances, but is not being developed as a grouped project

☒ The project is a grouped project

This project has been designed to be a grouped project and is structured to allow the expansion of multiple project activities after project validation.

Eligibility Criteria

The eligibility criteria for new project instances to be introduced in project year to grouped projects will comprise:

- Meet the applicability conditions set out in AMS-III.C. applied to the project.
- Use the technologies or measures specified in the project description.
- Apply the technologies or measures in the same manner specified in the project description.
- Are subject to the baseline scenario determined in the project description for the specified project activity and geographic area. New project locations must be within the country referenced in section 1.12 (if new countries are being added, a PD deviation shall be submitted).
- Have characteristics with respect to additionality that are consistent with the initial instances for the specified project activity and geographic area. The new project activity instances have technical parameter consistent with the initial instances, and face the same technical and management barriers as the initial instances.

1.5 Project Proponent

Organization name	Zhejiang Green Intelligent Link Co., Ltd.
Contact person	Hao Chen
Title	Manager
Address	Floor 24th, Guotai Technology Building, No.479 Minhe Road, Xiaoshan District, Hangzhou City, Zhejiang Province, China
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Zhejiang Green Intelligent Link Co., Ltd. (hereafter Green Intelligent Link or Intelligent Link), headquartered in Hangzhou, Zhejiang Province, is an environmental transport-sharing platform invested by Zhejiang Geely Holding Group (commercial vehicles) and Transfer Zhilian. With the vehicle and intelligent logistics platform, and cored with scene customization, Green Intelligent Link provides customers with full life cycle operation and management services of new energy vehicles such as car rental of Intelligent Link, car service of Intelligent Link and smart control of Intelligent Link.

1.6 Other Entities Involved in the Project

Organization name	Search Co2(Shanghai) Environmental Science & Technology Co. Ltd
Role in the project	Consultant
Contact person	Vicky
Title	Business Manager
Address	4F, No.2815 Longteng Avenue, Xuhui District, Shanghai, China
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Search Co2(Shanghai) Environmental Science & Technology Co. Ltd (hereinafter referred to as Search Co2) is founded in 2018 with a registered capital of 5 million and 20 full-time employees. Search Co2 has developed more than 200 offset projects in China, ranging from wind, solar and forestry, under various standards including VCS, Gold Standard and CCER.

1.7 Ownership

Project vehicles belong to Intelligent Link. Customers can rent electric vehicles from Intelligent Link, which also supply electricity charging, operation and maintenance services. Experienced with operation and management, Intelligent Link have supplied vehicle digital intelligent management for many operation and logistics industries. Besides, Intelligent Link has supplied lease management, asset management and active risk control for many vehicle renters. Due to the satisfying service of the platform, the franchisees and the drivers promised that all the carbon rights generated by vehicle operation shall belong to Intelligent Link.

1.8 Project Start Date

According to VCS standard (V4.4), the project start date of a non-AFOLU project is the date on which the project began generating GHG emission reductions or removals. For this project, following the requirements of the applied AMS-III.C. methodology, the calculation of emission reductions starts on the date when the electric vehicles put into use and begins their services to the logistics transportation through the Intelligent Control Platform of Intelligent Link. The operation start of each project activity instance is 01-October-2021. Therefore, the project start date is 01-October-2021.

1.9 Project Crediting Period

A 10-year fixed crediting period is selected for the project activity. Therefore, the crediting period for the project will be 10 years, from 01-October-2021 to 30-September-2031.

1.10 Project Scale and Estimated GHG Emission Reductions or Removals

The estimated annual GHG emission reductions/removals of the project are:

☐ <20,000 tCO_2e/year

☒ 20,000 – 100,000 tCO_2e/year

☐ 100,001 – 1,000,000 tCO_2e/year

☐ >1,000,000 tCO_2e/year

Project Scale	
Project	√
Large project	

Year	Estimated GHG emission reductions or removals (tCO_2e)
2021(01-October-2021 to 31-December-2021)	659
2022(01-January-2022 to 31-December-2022)	43,104
2023(01-January-2023 to 31-December-2023)	41,842
2024(01-January-2024 to 31-December-2024)	40,811
2025(01-January-2025 to 31-December-2025)	39,791
2026(01-January-2026 to 31-December-2026)	38,780
2027(01-January-2027 to 31-December-2027)	37,780
2028(01-January-2028 to 31-December-2028)	36,790

2029(01-January-2029 to 31-December-2029)	35,810
2030(01-January-2030 to 31-December-2030)	34,839
2031(01-January-2031 to 30-September-2031)	25,409
Total estimated ERs	375,615
Total number of crediting years	10
Average annual ERs	34,147

1.11 Description of the Project Activity

As a platform supplying environmental transport capacity and smart vehicle networking, Intelligent Link provides rental services of electric delivery vehicles in the area of urban of China. According to different business scenarios, Intelligent Link has developed six functions, such as asset management, lease management and financial management. Car renters can not only check the condition of vehicles in real time, but also better monitor vehicle assets. At the same time, online business can also help them timely grasp the sales progress, revenue, profit receivable and other key financial indicators, and adjust the business strategy according to market conditions.

Figure 1-1 The diagram of lifecycle operation management service

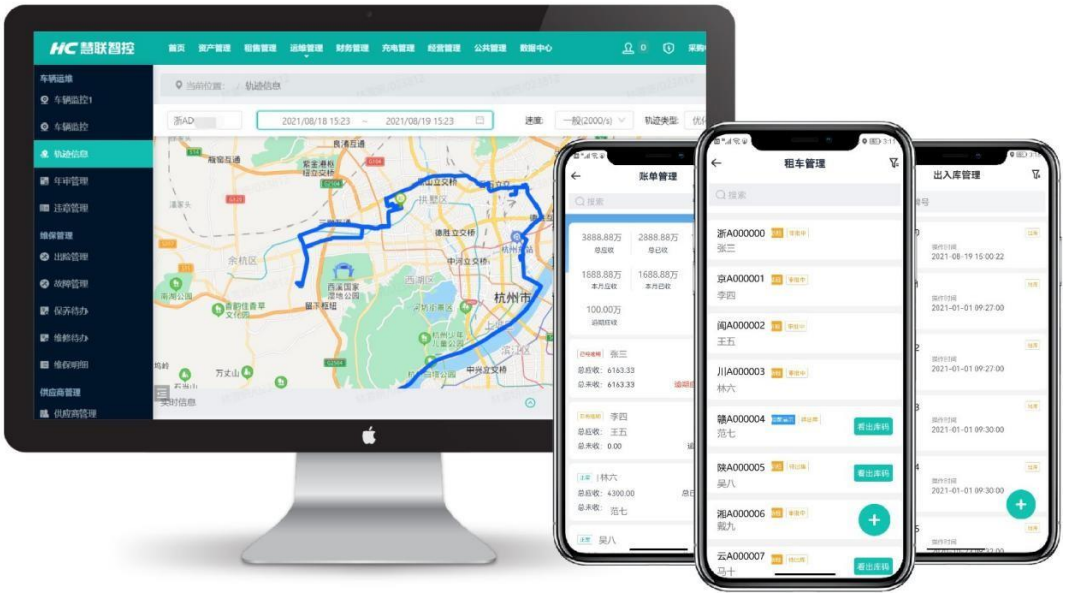

Figure 1-2 The intelligent control platform of Intelligent Link

In 2020, the sales of automobiles were 25.311 million, where commercial vehicles sold 5.133 million[4]. Meanwhile, the sales of new energy vehicles in 2020 is 1.367 million (both passenger cars and commercial vehicles)[5]. In the baseline scenario, commercial vehicles, especially logistic vehicles, powered by fossil fuels, run in the urban of China, which will emit a large amount of greenhouse gases.

Intelligent Link is implementing electric logistic vehicles instead of fossil fuel powered vehicles. Project activity is replacing fossil fuel (petrol and diesel) powered cars in China. In the project scenario, fewer carbon emissions will be generated because the power used has been changed into electricity. The usage of electricity powered vehicles instead of fossil fuel powered ones leads to lower GHG emissions per distance driven.

The grouped project activity will be submitted following CDM Methodology AMS-III.C., Emission reductions by electric and hybrid vehicles version 16.0, which describes the requirements for EV charging systems to issue credits across a range of potential charging systems and their applicable fleets. Based on emission reduction calculation of applicable CDM methodology AMS-III.C. “Emission reductions by electric and hybrid vehicles”, overall emission reduction of project activity will not increase from 60,000 tCO_2e/year.

Electric vehicles involved in the first instances includes two categories, trucks and vans. The main parameters of electric vehicles in each project activity instance i.e., the max gross mass, maximum design total mass, maximum speed, battery capacity, rated power distance per charge and lifetime of battery are below:

[4] http://en.caam.org.cn/Index/show/catid/31/id/50.html

[5] http://en.caam.org.cn/Index/show/catid/34/id/140.html

Project activity instance	Truck project	Van project
Max gross mass (kg)	1,415	1,380
Maximum design total mass (kg)	4,495	3,495
Maximum speed (km/h)	100	100
Rated power (kW)	40 to 65	30 to 50
Battery capacity (kWh)	54 to 82	41
Distance per charge (km)	194 to 210	235 to 260
Depth of discharge	70%	95%
Battery cycles	2,000	2,000
Warranty lifetime of battery (year)[6]	6	6

(a) (b)

Figure 1-3 Project vehicle categories: (a) truck, (b) van.

The milestone for implementing the project are as follows:

Date	Milestone (s) in the project's development and implementation
3-August-2021	Zhejiang Green Intelligent Link Co., Ltd. held a general meeting of their stockholders and they decided to develop this project as a carbon trading project.
10-August-2021	The stakeholder meeting was held in Intelligent Link's meeting room.
01-October-2021	The first electric vehicle was launched, which means the project activity was started.

[6] After 6 years, these batteries will be remanufactured, and the life of the vehicle will be extended for up to 14 years.

30-March-2023	The draft PD was completed.

1.12 Project Location

Intelligent Link has set regional operation centres in more than 40 core cities across the country, suppling services in more than 150 cities, which has formed a national network layout[7]. In addition to Hong Kong, Macao and Taiwan, EVs owned by Intelligent Link run in the rest of whole China. So, both two project activity instances, truck project and van project, are located in China. The geographical coordinates of China is between 73°29’59.79" and 135°2'30" east longitude and between 3°31'00" and 53°33'00"north latitude.

Figure 1-4 The map of project zone

1.13 Conditions Prior to Project Initiation

The scenario existing prior to the start of implementation of the project activity is the same as the baseline scenario as illustrated in section 3.4, i.e. the operation of the comparable fossil fuel vehicles to provide the same transportation service as the project activity.

1.14 Compliance with Laws, Statutes and Other Regulatory Frameworks

[7] https://www.hellogil.com/web/#/mediaDetail?drumbeatingid=5639

There is no mandatory law by the government to operate the electric vehicles in the project area, whilst nonetheless the project conforms to the requirements of Chinese laws and regulations. The current Chinese government and local government policies related to new energy vehicles are included but not limited to the following:

- The Notice on the Issuance of the New Energy Vehicle Industry Development Plan (2021-2035) (General Office of the State Council [2020] No.39)
- The Notice on the Issuance of Zhejiang Province Intelligent Vehicle Innovation and Development Plan (2020-2025) (Zhejiang Development and Reform Commission [2019] No.449)
- The Notice on the Issuance of the 14th Five-year Plan of Zhejiang Province New Energy Vehicle Industry Development (Zhejiang Development and Reform Commission [2021] No.107)

The project vehicles are electric vehicles. As an EV runs on electricity instead of fossil fuels, lower GHG emission per distance driven will achieved. By developing electric vehicles, this project activity complies with The Notice on the Issuance of the New Energy Vehicle Industry Development Plan (2021-2035) to cope with climate change and promote sustainable development. Those electric vehicles supply logistic services in urban areas, which provided and development by the proponent, Zhejiang Green Intelligent Link Co., Ltd. So, this project also complies with the Zhejiang Province Intelligent Vehicle Innovation and Development Plan, where it mentioned more demanded electric vehicles and intelligent control system in logistic transportation system. During the crediting period, more electric vehicles will be added in this project, therefore more fuel-powered vehicles in logistics transportation will be replaced by EVs. This project also complies with the 14th Five-year Plan of Zhejiang Province New Energy Vehicle Industry Development, which intends to improve energy-saving and new energy vehicles high-end industrial chain by supporting the transformation and upgrading of fuel-powered vehicles, actively developing new-energy vehicles, and expanding the power battery industry.

In conclusion, the project conforms to the requirements of Chinese laws and regulations and belong to the industries and projects encouraged for development.

1.15 Participation under Other GHG Programs

1.15.1 Projects Registered (or seeking registration) under Other GHG Program(s)

The project has not been registered or is seeking registration under any other GHG programs.

1.15.2 Projects Rejected by Other GHG Programs

The project has not been rejected by any other GHG programs.

1.16 Other Forms of Credit

1.16.1 Emissions Trading Programs and Other Binding Limits

Does the project reduce GHG emissions from activities that are included in an emissions trading program or any other mechanism that includes GHG allowance trading?

☐ Yes ☒ No

The GHG emissions reduction of this project does not include any activities that included in an emissions trading program or any other mechanism that includes GHG allowance trading.

According to China's national emissions trading scheme, only the high-emission industries are included, covering thermal power generation, petrochemical, chemical, building materials, iron and steel, non-ferrous, paper, aviation, and other key emission industries that emitted at least 26,000 tCO_2e in any one year from 2013 to 2016, without renewable project. Moreover, the project proponent, including this project activity, is except for a mandatory emission control scheme[8]. Therefore, this project will not and cannot be double-counted.

The project proponent declared and promised that this project is not involved in an emission trading program or any other mechanism that includes GHG allowance trading and has not been rejected by other GHG programs. Besides, GHG emission reductions and removals generated by the project during this monitoring period will not be used for compliance under any programs or mechanisms[9].

1.16.2 Other Forms of Environmental Credit

Has the project sought or received another form of GHG-related credit, including renewable energy certificates?

☐ Yes ☒ No

The project has not sought or received another form of GHG-related credit, including renewable energy certificates.

Supply Chain (Scope 3) Emissions

This project is under the scope 7: transport, so this section is not applicable.

[8] https://www.mee.gov.cn/xxgk2018/xxgk/xxgk03/202012/t20201230_815546.html

[9] The project proponent has made a Declaration of no double counting of the project.

1.17 Sustainable Development Contributions

The project provides many benefits that will help achieve China's Sustainable Development Goals, a set of 17 universal goals covering the thematic areas of environmental, economic and social development. As following:

- Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

  The employment of local people with the necessary technical qualifications for the required post is prioritised and enhanced by all project activities during the vehicles' operation. As a result, increased job opportunities and project business activities partially eliminate local poverty and unemployment. Moreover, in the scope of the project activity, there will be a series of training organised on electric vehicles that include project staff.

  The project implemented the policy of *"The 14th Five-Year Plan for Promoting Employment"* [10] which contribute to the sustainable development priority of employment. The number of lease contract will be used to monitor and report the Goal.

- Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable

  The project promotes and supports the transition to electric vehicles thereby reducing consumption of gas and encouraging electric vehicles. As a result, this project supports in making human settlements inclusive, safe, resilient and sustainable.

  The project implemented the policy of *" Opinions on Promoting Sustainable Development of Urban and Rural Construction"*[11] which contribute to the sustainable development priority of urban construction. The number and proportion of electric vehicles each year will be used to monitor and report the Goal.

- Goal 13: Climate Action

  The project activity is to operate electric vehicles to provide transportation services, which can reduce greenhouse gas emissions by using electric vehicles instead of fuel vehicles. The project's emission reduction logic is that when fuel vehicles are running, the combustion of fossil fuel generates greenhouse gases. In contrast, the carbon emissions of electric cars mainly come from electricity of the national grid, and the electric vehicles carbon emissions at the fuel use end are zero, making the emissions of electric vehicles significantly fewer than that of fuel vehicles.

[10] http://www.gov.cn/zhengce/content/2021-08/27/content_5633714.htm

[11] http://www.gov.cn/zhengce/2021-10/21/content_5644083.htm

The project implemented the policy of *"National Climate Change Plan"*[12] which contribute to the sustainable development priority of mitigating climate change. The calculation results of annual GHG emission reductions will be used to monitor and report the Goal.

1.18 Additional Information Relevant to the Project

Leakage Management

According to applied methodology: AMS-III.C. Emission reductions by electric and hybrid vehicles, no leakage calculation is required. So, leakage does not need to be considered.

Commercially Sensitive Information

None of the project documents will be considered as commercially sensitive information, and all the documentation is available to any stakeholders.

Further Information

There is no further information that may have a bearing on the eligibility of the project, the net GHG emission reductions or removals, or the quantification of the project's net GHG emission reductions or removals.

2 SAFEGUARDS

2.1 No Net Harm

Although the project is a carbon emission reduction project, there might exist potential negative impacts on environment and socio-economy, so the project takes proactive measures to deal with them. The specific impacts and mitigation are summarized in the following tables:

Environmental		Socio-Economic	
Potential Negative Impacts	Actions	Potential Negative Impacts	Actions
Potential environmental risks of electric vehicle operation	The management team has established a more comprehensive maintenance system, emergency response	Due to the limited distance per charge and the limited configuration of charging piles,	Intelligent Link provides platform charging services for logistics and other industries to

[12] http://www.gov.cn/zhengce/2021-10/27/content_5646697.htm

	system and technical support to reduce the vehicle operation risk by cooperating with vehicle manufacturers and franchise operators.	charging stations and other facilities in cities, logistics companies or individuals are reluctant to rent electric cars.	improve the driving range of Intelligent Link vehicles in urban logistics distribution services
Potential environmental risks of disposal of discarded batteries.	The disposal risk of discarded batteries is also solved through the perfection of service system done by manufacturers and distributors. In addition, car manufacturers can assume the responsibility of power battery recycling according to the Interim Measures for the Management of New Energy Vehicle Power Battery Recycling. Regulating [13] recycling solves the battery disposal problem. Specifically, the project proponent will replace the vehicle batteries as energy storage devices when they have been out of life in electric vehicles according to the Automobile Product Producer Responsibility[14].		

[13] http://www.gov.cn/xinwen/2018-02/26/content_5268875.htm

[14] http://www.gov.cn/zhengce/zhengceku/2021-06/10/content_5616601.htm

2.2 Local Stakeholder Consultation

Identified the stakeholder groups

The local stakeholders involved in this project include vehicle renters and Intelligent Link. Each stakeholder shall assume their own responsibilities and obligations and cooperate closely in the implementation of the project to replace fuel vehicles with electric vehicles for logistic transportation, so that the project can be conducted quickly.

The procedures and methods used for engaging local stakeholders

Stakeholder consultation included an ex-ante survey and stakeholder meetings, where stakeholders were asked to put forward their opinions and willingness to participate in the project design.

Before the project started, Intelligent Link conducted stakeholder meetings to ask their willingness of participation. Intelligent Link and Search Co2 organized a team of people to interview the car drivers, and distribute the questionnaires to gather car drivers' opinions. In the stakeholder meeting, all the possible risks, costs and benefits of the project to the local stakeholders were discussed and all the stakeholders indicated that they have understood and accepted it. All stakeholder participants agreed to develop an electric online vehicles emission reduction project in China. During the crediting period, based on the planning scheme already provided by the project proponent, the stakeholders will fully consider the any comments on the project implementation and decided to whether or not change the project design.

The mechanism for on-going communication with local stakeholders

In the early stage of the project, the project proponent, Intelligent Link, was committed to building an efficient training system by strengthening the management of the instructor training team and providing a series of technical training and lectures to the drivers of local passenger transportation companies. The intelligent control platform, a computerized numerical control platform of Intelligent Link, provides online-hiring, online car control and online billing services. During the project period, any problems occurred will be documented on the intelligent control platform or reported by the car drivers through after-sales service system.

2.3 Environmental Impact

The environmental impacts, both positive and negative, generated during the construction and operation of the Intelligent Link project activity, and the mitigation of negative impacts, are summarized as follows:

Stages	Positive impact	Negative impact	Mitigation of negative impact
Operation period	High energy efficiency and diversification: The energy efficiency of electric vehicles have exceeded that of gasoline engine cars, especially in urban operation, where fuel cars can't run at a high speed, while electric cars are more suitable. Besides, electric cars do not consume electricity when they stop, and the electric motor can be automatically converted into a generator to realize the reuse of energy during braking deceleration. Compared with conventional fuel vehicles, electric vehicles greatly reduce noise pollution, which is one of the environmental pollutions. Instead of using fuel as the energy to drive the car, pure electric vehicles use electric energy, so no car exhaust is emitted during the driving process, and thus no	High cost of power supply use and short driving range: The driving force of pure electric vehicles relies on electrical energy, and there are no products equipped with a large amount of sufficient electrical energy in the current market. Moreover, the number of charging stations dedicated to charging pure electric vehicles remains relatively small, so the driving range of electric vehicles is much shorter than that of traditional models.	The lithium iron phosphate battery used in this project is superior in performance and has been able to meet the requirements of urban logistics transportation. Compared with immovable charging stations, electric vehicle chargers are portable. Now, Intelligent Link has been aggregated more than 600 thousand domestics main stream EV charger resources to provide convenient charging services, so that to extend driving range.

	pollution to the environment. The advantages of zero emissions make pure electric vehicles more adaptable to future technology development		
Recycling period	The recycling reduces reliance on raw materials like cobalt and lithium. It also reduces carbon footprint of electric vehicles, which accelerates the abatement plans.	The heavy metal elements in waste batteries may cause severe damage to water, soil if not properly handled.	In this project activity, all project electric vehicles use power batteries made of ternary lithium material, which have sufficient power, accelerate very fast, and can be satisfactory in terms of travel distance. The project proponent should conduct environmental performance audit and assessment in a timely manner and adjust according to the audit results. In addition, car manufacturers should assume the responsibility of power battery recycling according to the Interim Measures for the Management of New Energy Vehicle Power Battery Recycling. GAC has established a power battery recycling

			system, which can achieve 100% recycling of power batteries, steel and aluminium alloys, steel and aluminium alloy, and set up recycling points for the whole vehicle recycling15.

2.4 Public Comments

The project will be submitted for comments once VCS lists the project on VERRA registry. The public comments period will be updated after the project is announced.

2.5 AFOLU-Specific Safeguards

Not applicable, the project is not an AFOLU project.

3 APPLICATION OF METHODOLOGY

3.1 Title and Reference of Methodology

The small-scale methodology AMS-III.C.: Emission reductions by electric and hybrid vehicles version 16.0 is used. Also, the project proponent shall apply the “General guidelines for SSC CDM methodologies version 23.1”.

In addition, sample vehicles shall be randomly chosen in accordance with “Standard for sampling and surveys for CDM project activities and programme of activities version 9.0” and “Guidelines for sampling and surveys for CDM project activities and programme of activities version 4.0” to determine the sample size.

The TOOL 21 “Demonstration of Additionality of Small-scale Project Activities version 13.1” is used to demonstrate the additionality. And the TOOL 05 “Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation version3.0” is used in the project.

3.2 Applicability of Methodology

The baseline and monitoring small-scale methodology AMS-III.C. version 16.0 is applicable to the proposed project, because the project meets all the applicability criteria for operation of electric vehicles for providing transportation services stated in the methodology as illustrated below.

No.	Methodology Applicability Criteria	Conditions of the project
1	This methodology applies to project activities introducing new electric and/or hybrid vehicles that displace the use of fossil fuel vehicles in passenger and freight transportation.	The project activity introduced new electric vehicles that displace the use of fossil fuel vehicles in freight transportation.
2	The methodology is not applicable for project activities that involve a switch from fossil fuels to biofuels in transportation; those project activities shall consider using another Type III methodology (e.g., "AMS-III.T.: Plant oil production and use for transport applications" and "AMS-III.AK.: Biodiesel production and use for transport applications").	The project activity is a switch from fossil fuels to electricity.
3	In cases where the project vehicles use a replaceable, chargeable battery there must be documented measures in place to ensure that vehicle owners have access to replacement batteries of comparable quality.	The project vehicles use replaceable and chargeable batteries. All vehicle owners have access to replacement batteries of comparable quality, i.e. the original battery provided by Intelligent Link. Intelligent Link promises to provide original battery and parts of replacement to all users within the whole life of the vehicle. Batteries out of life will be recycled to other industries as energy storage equipment.
4	The project design document (PDD) shall explain the proposed approach for introducing/distributing the electric/hybrid vehicles, which shall allow for tracking of the project vehicles. It shall also explain how the proposed project activity will:	The intelligent control platform of Intelligent Link documented all the vehicle information about vehicle category, licenses, vehicle identification number (VIN), usage, etc. Vehicles will be identified and

	(a) Demonstrate that the baseline vehicles being displaced are those consuming fossil fuels. This can be done, for example, through documentation of the market share per fuel type per vehicle category in the project region (e.g., based on representative sample surveys or official data or peer reviewed literature); (b) Ensure compliance with prevailing regulations pertaining to battery use and disposal.	tracked by the licenses and VIN as the project vehicles. (a) The baseline vehicles being displaced are those consuming fossil fuels. In the baseline scenario, there were 395 million vehicles in China in 2021, and 7.84 million electric vehicles. The market share of electric vehicles is 2.60%[15]. Hence, based on the market data, the baseline vehicles being displaced by the project are those consuming fossil fuel vehicles in the region. (b) China has regulations in place for battery use and disposal, which are applicable and enforced and controlled by the proposed project activity. The project electric vehicle manufacturers have a complete battery use and disposal and have a whole warranty system and specific measures for battery recycling to ensure that the project electric vehicles are not affected in use. During the vehicle operation stage, when the new energy vehicle is repaired and maintained at the after-sales service outlets, information of the vehicle and the owner shall be verified. When repairing and replacing the power battery pack, the information of the one will be recorded in time, and uploaded. And the replaced waste battery pack will be

[15] http://www.gov.cn/xinwen/2022-01/12/content_5667715.htm

		transferred to the recycling service network.
5	The PDD shall include minimum performance specifications for the batteries to be used such as: depth of discharge, battery cycles, distance travelled per charge, lifetime.	The depth of discharge is 70%. The battery cycles are all 2000 times. The distance travelled per charge is 194 kilometres. the warranty lifetime of batteries is 6 years.
6	The project proponent shall demonstrate that double counting of emission reductions will not occur e.g. via a contractual agreement with the end-user(s), maintenance of comprehensive inventory of project vehicles or unique identification of the vehicles owned by end-user(s). The steps undertaken to avoid double counting shall be documented in the PDD.	Double counting of emission reductions will not occur. A comprehensive inventory of project vehicles with unique identification numbers is maintained and made available by the project proponent.
7	In cases where renewable energy source is used for charging the electric vehicles through a dedicated transmission/distribution line, the methodology should be combined with "AMS-I.F.: Renewable electricity generation for captive use and mini-grid" to claim emission reductions for the amount of electricity supplied from renewable electricity source to the charging station.	In the project scenario, there is no renewable energy used for charging the electric vehicles through a dedicated transmission/distribution line.
8	In cases where this methodology is combined with "AMS-I.F.: Renewable electricity generation for captive use and mini-grid", the project proponent shall separately demonstrate the additionality of each of the component (i.e. supply of renewable energy to charging station (Type I) and use of electric vehicles (Type III)). Furthermore, while combining the two components applicable requirements on start date and prior clean development	Not applicable as the project does not combine with the methodology AMS-I.F.

	mechanism (CDM) consideration shall be met in accordance with the CDM project standard and CDM project cycle procedures.	
9	Types of hybrid/electric vehicles to be introduced include but are not limited to cars, buses, trucks, jeepneys, commuter vans, taxis, motorcycles and tricycles.	Types of electric vehicles to be introduced are truck and van.
10	Project participants shall demonstrate that the project and baseline vehicles are comparable, using the following means: (a) Project and baseline vehicles belong to the same vehicle category, e.g. motorcycle, bus, taxi, truck, tricycle; (b) Project and baseline vehicle categories have comparable passenger/load capacity and power rating with a variation of no more than 20 per cent (comparing the baseline vehicle with the respective project vehicle of same category).	The project vehicles are separated into 2 categories, truck and van according to the maximum design total mass. The truck project and baseline vehicle belong to the same vehicle category, the truck. The van project and baseline vehicle belong to the same vehicle category, the van. Project and baseline vehicle categories have comparable passenger/load capacity and power rating with a variation of no more than 20 percent, the specific load capacity is in section 3.4.
11	Measures are limited to those that result in emission reductions of less than or equal to 60 ktCO2 equivalent annually.	The estimated annual emission reductions of the project are less than or equal to 60 $ktCO_2e$. If the emission reductions monitored during the verification excesses the threshold, the project proponent will only claim gap of 60,000 tons according to the Applicability of small-scale methodology.

3.3 Project Boundary

In accordance with the applied methodology, the project boundary is comprised of:

(a) The vehicles of the project;

(b) The geographic boundaries where the project activity vehicles are operated;

(c) The providers of the charging service to the project activity vehicles, including the charging equipment and stations of the project activities vehicle, electric supply sources (e.g. a grid and/or renewable energy generation source connected by a dedicated line to the charging stations) and other ancillary facilities.

The project boundary includes the electric vehicles and the charging equipment and stations. This is a grouped project and involves the instances in which the electric vehicles running in all over China. The electricity will be supplied from the national grid.

Source		Gas	Included?	Justification/Explanation
Baseline	Fossil fuel combustion of vehicles displaced by project activities	CO_2	Yes	Main emission source
		CH_4	No	Excluded for simplification
		N_2O	No	Excluded for simplification
Project	Electricity consumption of electric vehicles	CO_2	Yes	Main emission source
		CH_4	No	Excluded for simplification
		N_2O	No	Excluded for simplification

Diagram of flows of energy is given below:

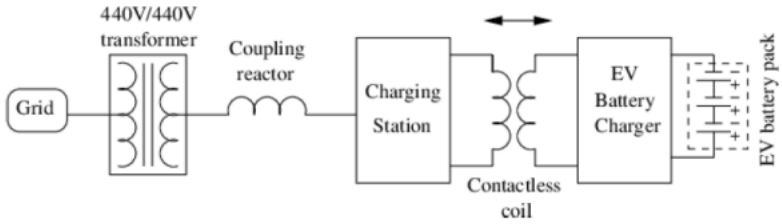

Figure 3-1 Flows of energy

3.4 Baseline Scenario

As per the methodology, AMS-III.C. - The baseline scenario in the case of the operation of electric vehicles is the operation of the comparable vehicles that would have been used to provide the same transportation service.

The project and baseline vehicles are comparable, using the following means:

(a) Project and baseline vehicles belong to the same vehicle category, e.g. truck;

(b) Project and baseline vehicle categories have comparable passenger/load capacity and power rating with a variation of no more than 20 per cent (comparing the baseline vehicle with the respective project vehicle of the same category).

The project and baseline fuel vehicles belong to the same vehicle category, the commercial vehicles. The load capacity of project vehicles ranges from 1,315 to 1,415kg, while the load capacity of baseline vehicle ranges from 1,550 to 1,625 kg. The variation between they is 14.84% to 17.87%, which is no more than 20 per cent. So the project and baseline vehicles are comparable. They can provide same transportation service.

3.5 Additionality

According to the methodology AMS-III.C., the methodology determines two options how to demonstrate additionality:

Option 1:

Demonstrate that the project activity would otherwise not be implemented due to the existence of one or more barrier(s) listed in TOOL21. The barrier(s) can be demonstrated for buyers/users and/or charging service providers of the electric vehicles even if the manufacturer or retailer of the electric vehicles is implementing the project.

Option 2:

Demonstrate ex ante that the market penetration of project electric/hybrid vehicles is equal to or smaller than 2.5 per cent of the annual sales of the vehicles of the same category (e.g. if project vehicles are electric scooters, market penetration of electric two wheelers is equal to or smaller than 2.5 per cent of all motorized two wheelers, irrespective of the manufacturer) in the region. To determine the market penetration, the most recent three years' data available at the time of submission of the CDM-PDD or CDM-CPA-DD for validation/inclusion shall be used. This period is considered necessary to capture variations of the sales data from year to year. Exceptionally, historical sales data covering less than three years, but a minimum of one year may be used with due justifications (e.g. demonstrated unavailability of data despite the efforts made).

In this project, the additional analysis should be based on the Tool 21 "Demonstration of additionality of small-scale project activities" version 13.1. In reference to the Tool 21, project participants shall provide an explanation to show that the project activity would not have occurred anyway due to at least one of the following barriers:

(a) Investment barrier: a financially more viable alternative to the project activity would have led to higher emissions;

(b) Technological barrier: a less technologically advanced alternative to the project activity involves lower risks due to the performance uncertainty or low market share of the new technology adopted for the project activity and so would have led to higher emissions;

(c) Barrier due to prevailing practice: prevailing practice or existing regulatory or policy requirements would have led to implementation of a technology with higher emissions;

(d) Other barriers: without the project activity, for another specific reason identified by the project participant, such as institutional barriers or limited information, managerial resources, organizational capacity, financial resources, or capacity to absorb new technologies, emissions would have been higher.

As the PP, Intelligent Link faces these difficulties especially on technical barriers, investment barriers lack of management capabilities, etc. which has created barriers to replacing fuel vehicles with new energy vehicles. The main obstacles are as follows.

Technological barrier and investment barrier:

In terms of power battery, research and development of high ratio energy battery, high safety battery, long life battery is still needed. In terms of motor system, the key technologies of high efficiency and high-density driving motor system in China still lag behind the international advanced level. In terms of key parts, automotive chips, high-speed bearings, millimetre-wave radar needed for intelligent vehicles, our country also lags behind the international advanced level at present. Those technical weaknesses are all new energy automobile industries are confronting, including Intelligent Link.

In China, the market share of new energy vehicles is relatively small, and it is mainly passenger electric vehicles. The project vehicles are commercial vehicles, and there are some problems in production, such as small market space, big investment risk, long period of technology research and development, and slow return on investment, leading to capital reluctance to invest.

Other barriers:

This requests the platform to have an eligible management system to have necessary background checks on the drivers and vehicles; provide sufficient trainings to the drivers and maintain regular check on the vehicles. Therefore, a reputable platform system shall have stable operation with technical supports and managing supports to provide a safety logistics transportation service in urban.

By seriously considering VCS carbon project before the start of the project, the project proponent believes the carbon revenues from the project will be used for following purposes in order to alleviate the barriers associated with the project faces.

To set up a technical and management team: Set up a cross-sectoral, multi-disciplinary technical and management team based on characteristics of intelligent control platform services. Team members will mainly come from technical engineering, electric vehicle technician, data analyst, etc.; To develop technical solutions in platform system including but not limited in the management or administration system; apps design for Android and OS operating system; To conduct statistic data analysis to further improve and optimize the technologies and platform operations.

After a serious consideration, the project proponent fully realized the carbon project is a crucial factor for alleviating the barrier and made a company decision on the VCS project. In fact, the additional VCS benefits will not only provide carbon revenues to alleviate the specific barriers, the strict methodological standards and monitoring plan set for the project will also help secure the operation and QA/QC management to avoid risks during the project operation. Therefore, the project proponent decided to invest the project though it faces such barriers due to the support of VCS.

3.6 Methodology Deviations

There are no deviations from the methodology.

4 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

4.1 Baseline Emissions

Baseline emissions should be calculated using one of the two approaches described below:

Approach 1: Using distance travelled by project vehicles

The baseline emissions are calculated based on the unit of service provided by the project vehicles (travelled distance) times the emission factor for the baseline vehicle to provide the same unit of service as per the equation below:

$$BE_y = \sum_i EF_{BL,km,i} \times DD_{i,y} \times N_{i,y} \times 10^{-6} \quad (1)$$

Where:

BE_y	=	Total baseline emissions in year *y* (t CO_2)
$EF_{BL,km,i}$	=	Emission factor for baseline vehicle category *i* (g CO_2/km)
$DD_{i,y}$	=	Annual average distance travelled by project vehicle category i in the year *y* (km)
$N_{i,y}$	=	Number of operational project vehicles in category *i* in year *y*

Approach 2: Using the electricity used to charge the vehicles

The baseline emissions are calculated as per the equation below by transforming the electricity charged to the vehicles at the charging stations/points into travelled distance and the emission factor for fossil fuels used by the baseline vehicles to travel the same distance.

$$BE_y = \sum_i EF_{BL,km,i} \times \frac{EC_{PJ,i,y}}{SEC_{PJ,km,i,y}} \times 10^{-6} \quad (2)$$

Where:

BE_y = Total baseline emissions in year *y* (t CO_2)

$EC_{PJ,i,y}$ = The electricity consumed for charging project vehicles category i at the charging stations/points in year y (kWh)

$EF_{BL,km,i}$ = Emission factor for baseline vehicle category i (g CO2/km)

$SEC_{PJ,km,i,y}$ = Specific electricity consumption per km per project vehicle category i in year y (kWh/km)

The emission factor for baseline vehicle category ($EF_{BL,km,i}$) shall be determined as follows:

$$EF_{BL,km,i} = SFC_i \times NCV_{BL,i} \times EF_{BL,i} \times IR^t \quad (3)$$

Where:

SFC_i = Specific fuel consumption of baseline vehicle category i (g/km)

$NCV_{BL,i}$ = Net calorific value of fossil fuel consumed by baseline vehicle category I (J/g)

$EF_{BL,i}$ = Emission factor of fossil fuel consumed by baseline vehicle category i (g CO_2/J)

IR^t = Technology improvement factor for baseline vehicle in year t. The improvement rate is applied to each calendar year. The default value of the technology improvement factor for all baseline vehicle categories is 0.99

T = Year counter for the annual improvement (dependent on age of data per vehicle category)

“Approach 1: Using distance travelled by project vehicles” in the methodology is used to calculate the baseline emissions.

As per the methodology, Option 5 Existing host country statistics is taken to determine the specific fuel consumption for baseline vehicle category i (SFC_i).

4.2 Project Emissions

Project emissions include the electricity and fossil fuel consumption associated with the operation of project vehicles and shall be calculated as follows:

Approach 1: Using distance travelled by project vehicles

$$PE_y = \sum_i EF_{PJ,km,i,y} \times DD_{i,y} \times N_{i,y} \quad (4)$$

Where:

PE_y = Total project emissions in year *y* (t CO_2)

$EF_{PJ,km,i,y}$ = Emission factor per kilometre travelled by the project vehicle type *i* (t CO_2/km)

$DD_{i,y}$ = Annual average distance travelled by project vehicle category *i* in the year *y* (km)

$N_{i,y}$ = Number of operational project vehicles in category *i* in year *y*

Approach 2: Using the electricity used to charge the vehicles

$$PE_y = \sum_i EF_{PJ,km,i} \times \frac{EC_{PJ,i,y}}{SEC_{PJ,km,i,y}} \quad (5)$$

Where:

$EC_{PJ,i,y}$ = Electricity consumed by the project vehicles of type i in year y (kWh)

$SEC_{PJ,km,i,y}$ = Specific electricity consumption by project vehicle category i per km in year y in urban conditions (kWh/km)

i = Vehicle types of project activities

The emission factor of the project vehicles shall be determined as follows:

$$EF_{PJ,km,i,y} = \sum_i SEC_{PJ,km,i,y} \times EF_{elect,y}/(1 - TDL_y) \times 10^{-3} + \sum_i SFC_{PJ,km,i,y} \times NCV_{PJ,i} \times EF_{PJ,i} \times 10^{-6} \quad (6)$$

Where:

$SEC_{PJ,km,i,y}$ = Specific electricity consumption by project vehicle category *i* per km in year *y* in urban conditions (kWh/km)

$EF_{elect,y}$ = CO_2 emission factor of electricity consumed by project vehicle category *i* in year *y* (kg CO_2/kWh)

$SFC_{PJ,km,i,y}$ = Specific fossil fuel[16] consumption by project vehicle category *i* per km in year *y* in urban conditions (g/km)

$EF_{PJ,i}$ = CO_2 emission factor of fossil fuel consumed by project vehicle category *i* in year *y* (g CO_2/J)

$NCV_{PJ,i}$ = Net calorific value of the fossil fuel consumed by project vehicle category *i* in year *y* (J/g)

TDL_y = Average technical transmission and distribution losses for providing electricity in the year *y*

"Approach 1: Using distance travelled by project vehicles" in the methodology is used to calculate the project emissions.

4.3 Leakage

No leakage calculation is required for this methodology.

4.4 Net GHG Emission Reductions and Removals

Emission reductions are calculated as follows:

$$ER_y = BE_y - PE_y - LE_y \quad (7)$$

Where:

ER_y = Emission reductions in year *y* (t CO_2e)

BE_y = Baseline emissions in year *y* (t CO_2e)

PE_y = Project emissions in year *y* (t CO_2e)

LE_y = Leakage emissions in year *y* (t CO_2e)

Year	Estimated baseline emissions or removals (tCO_2e)	Estimated project emissions or removals (tCO_2e)	Estimated leakage emissions (tCO_2e)	Estimated net GHG emission reductions or removals (tCO_2e)
2021(01-October-2021 to 31-	1,667	1,008	0	659

[16] For electric vehicle the value is 0

December-2021)				
2022(01-January-2022 to 31-December-2022)	103,132	60,028	0	43,104
2023(01-January-2023 to 31-December-2023)	103,084	61,242	0	41,842
2024(01-January-2024 to 31-December-2024)	102,053	61,242	0	40,811
2025(01-January-2025 to 31-December-2025)	101,033	61,242	0	39,791
2026(01-January-2026 to 31-December-2026)	100,022	61,242	0	38,780
2027(01-January-2027 to 31-December-2027)	99,022	61,242	0	37,780
2028(01-January-2028 to 31-December-2028)	98,032	61,242	0	36,790
2029(01-January-2029 to 31-December-2029)	97,052	61,242	0	35,810
2030(01-January-2030 to 31-	96,081	61,242	0	34,839

December-2030)				
2031(01-January-2031 to 30-September-2031)	71,340	45,931	0	25,409
Total	972,518	596,903	0	375,615

5 MONITORING

5.1 Data and Parameters Monitored at Validation

Data / Parameter	SFC_i
Data unit	g/km
Description	Specific fuel consumption of baseline vehicle category *i*
Source of data	Host country statistics
Value applied	See nested table below
Justification of choice of data or description of measurement methods and procedures applied	Existing host country statistics is taken to determine the specific fuel consumption for baseline vehicle
Purpose of Data	Calculation of baseline emissions
Comments	N/A

Project activity instance	Vehicle categories	Value
Truck project	Light truck	90.85
	Mini truck	99.36
Van project	Light van	75.84
	Minivan	82.80

Data / Parameter	$NCV_{BL,i}$

Data unit	GJ/Ton
Description	Net calorific value of fuel *i*
Source of data	IPCC 2019 Volume 2 Energy, table 1.2
Value applied	

Project activity instance	Vehicle categories	Value
Truck project	Light truck	43.0
	Mini truck	44.3
Van project	Light van	43.0
	Minivan	44.3

Justification of choice of data or description of measurement methods and procedures applied	IPCC default value
Purpose of Data	Calculation of baseline emissions
Comments	$NCV_{BL,i}$ is only used for the baseline and is thus not an annually monitored value but one which is known at the time of validation

Data / Parameter	$EF_{BL,i}$
Data unit	kg CO_2/TJ
Description	CO_2 emission factor of fuel used by vehicles categories i
Source of data	IPCC 2019 Volume 2 Energy, table 1.4
Value applied	

Project activity instance	Vehicle categories	Value
Truck project	Light truck	74,100
	Mini truck	69,300
Van project	Light van	74,100
	Minivan	69,300

Justification of choice of data or description of measurement	IPCC default value

methods and procedures applied	
Purpose of Data	Calculation of baseline emissions
Comments	$EF_{BL,i}$ is only used for the baseline and is thus not an annually monitored value but one which is known at the time of validation

Data / Parameter	IR^t
Data unit	N/A
Description	Technology improvement factor for baseline vehicle in year t. The improvement rate is applied to each calendar year
Source of data	As per the methodology AMS-III.C. version16.0
Value applied	0.99
Justification of choice of data or description of measurement methods and procedures applied	As per the methodology AMS-III.C. version 16.0
Purpose of Data	Calculation of baseline emissions
Comments	N/A

5.2 Data and Parameters Monitored

Data / Parameter	$DD_{i,y}$
Data unit	km
Description	Annual average distance travelled by project vehicle category *i* in the year *y* (km)
Source of data	Intelligent Control Platform of Intelligent Link
Description of measurement methods and procedures to be applied	All project vehicles are GPS enabled therefore Intelligent Link can monitor actual running kilometer of vehicles

Frequency of monitoring/recording	Annually
Value applied	<table><tr><th>Project activity instance</th><th>Vehicle categories</th><th>Value</th></tr><tr><td rowspan="2">Truck project</td><td>Light truck</td><td>32,268</td></tr><tr><td>Mini truck</td><td>23,973</td></tr><tr><td rowspan="2">Van project</td><td>Light van</td><td>24,308</td></tr><tr><td>Minivan</td><td>22,167</td></tr></table>
Monitoring equipment	Intelligent Control Platform of Intelligent Link
QA/QC procedures to be applied	N/A
Purpose of data	Calculation of project emissions Calculation of baseline emissions
Calculation method	N/A
Comments	N/A

Data / Parameter	$N_{i,y}$
Data unit	N/A
Description	Number of project vehicle in operation in year y
Source of data	Intelligent Control Platform of Intelligent Link
Description of measurement methods and procedures to be applied	Establish the number of the project vehicles in operation through: Option (A): based on annual sales records or official data on registered project vehicles cross-checked against the results from a representative sample survey vehicles to determine the percentage of vehicles in use or Option (B): based on annual sales records or official data for registered project vehicles, multiplied by the default factor 0.9t, where t is year counter for the number of years since the vehicle was introduced (for example: if n vehicles are sold in year 1, in year 2 the number of vehicles still in operation are assumed to be equal to n*0.9, and in year 3, n*0.92, etc.)

Frequency of monitoring/recording	Monthly
Value applied	<table><tr><th>Project activity instance</th><th>Vehicle categories</th><th>Value</th></tr><tr><td rowspan="2">Truck project</td><td>Light truck</td><td>2,771</td></tr><tr><td>Mini truck</td><td>541</td></tr><tr><td rowspan="2">Van project</td><td>Light van</td><td>2,033</td></tr><tr><td>Minivan</td><td>2,041</td></tr></table>
Monitoring equipment	Intelligent Control Platform of Intelligent Link
QA/QC procedures to be applied	Cross check total vehicles with the operational system
Purpose of data	Calculation of project emissions Calculation of baseline emissions
Calculation method	N/A
Comments	N/A

Data / Parameter	$SEC_{PJ,km,i,y}$
Data unit	g/km
Description	Specific electricity consumption per km per project vehicle category i in year y
Source of data	Measurement
Description of measurement methods and procedures to be applied	Measure the specific electricity consumption through: Option (A): monitor electricity consumption of all project vehicles or Option (B): measure the amount of electricity consumed per km travelled for a representative sample of each vehicle category. Sample vehicles shall be chosen in accordance with the latest version of the “Guidelines for sampling and surveys for CDM project activities and programme of activities” using a 90 per cent confidence interval and +/- 10 per cent precision to determine the sample size. The upper bound of 95 per cent confidence interval shall be used for the specific

<table>
<tr><td></td><td>fuel/electricity consumed. Cross-checked against vehicle specifications (kWh/km) for urban conditions provided by the manufacturers and use the highest of the two values</td></tr>
<tr><td>Frequency of monitoring/recording</td><td>N/A</td></tr>
<tr><td>Value applied</td><td>
<table>
<tr><th>Project activity instance</th><th>Vehicle categories</th><th>Value</th></tr>
<tr><td rowspan="2">Truck project</td><td>Light truck</td><td>28.55</td></tr>
<tr><td>Mini truck</td><td>21.10</td></tr>
<tr><td rowspan="2">Van project</td><td>Light van</td><td>21.02</td></tr>
<tr><td>Minivan</td><td>18.70</td></tr>
</table>
</td></tr>
<tr><td>Monitoring equipment</td><td>N/A</td></tr>
<tr><td>QA/QC procedures to be applied</td><td>N/A</td></tr>
<tr><td>Purpose of data</td><td>Calculation of project emissions</td></tr>
<tr><td>Calculation method</td><td>N/A</td></tr>
<tr><td>Comments</td><td>N/A</td></tr>
</table>

Data / Parameter	$SFC_{PJ,km,i,y}$
Data unit	g/km
Description	Specific fossil fuel consumption per km per baseline vehicle category i in year y
Source of data	Measurement
Description of measurement methods and procedures to be applied	Measure the specific fossil fuel consumption through: Option (A): monitor consumption of all project vehicles or Option (B): measure the amount of fossil fuels consumed per km travelled for a representative sample of each vehicle category. Sample vehicles shall be chosen in accordance with the latest version of the “Guidelines for sampling and surveys for CDM project activities and programme of activities” using a 90 per cent confidence interval and +/- 10 per cent precision

	to determine the sample size. The upper bound of 95 per cent confidence interval shall be used for the specific fuel/electricity consumed. Cross-checked against vehicle specifications (g/km) for urban conditions provided by the manufacturers and use the highest of the two values
Frequency of monitoring/recording	N/A
Value applied	N/A
Monitoring equipment	N/A
QA/QC procedures to be applied	N/A
Purpose of data	Calculation of project emissions
Calculation method	N/A
Comments	N/A

Data / Parameter	EF_{elect}
Data unit	$kgCO_2/kWh$
Description	Grid emission factor
Source of data	The 2019 annual emission reduction project of China's regional power grid baseline emission factors
Description of measurement methods and procedures to be applied	Ministry of Ecology and Environment, PRC is publishing the grid emission factor on annual basis. Therefore, data will be updated on an annual basis based on published data by Ministry of Ecology and Environment, PRC or any other relevant literature or source.
Frequency of monitoring/recording	Annually
Value applied	0.6183
Monitoring equipment	N/A
QA/QC procedures to be applied	N/A

Purpose of data	Calculation of project emissions
Calculation method	N/A
Comments	N/A

Data / Parameter	TDL_y
Data unit	percentage
Description	Average technical transmission and distribution losses for providing electricity in the year y
Source of data	The National Energy Administration released statistics on the country's power industry in 2022
Description of measurement methods and procedures to be applied	National Energy Administration is publishing the rate of technical transmission and distribution losses for providing electricity on annual basis. Therefore, data will be updated on an annual basis based on published data by National Energy Administration or any other relevant literature or source.
Frequency of monitoring/recording	Annually
Value applied	4.84%
Monitoring equipment	N/A
QA/QC procedures to be applied	N/A
Purpose of data	Calculation of project emissions
Calculation method	N/A
Comments	N/A

5.3 Monitoring Plan

The intelligent control platform will monitor all electrical energy data required for estimation of baseline and project emissions for the project activity with very high accuracy for measurement and recording. The projects activity represents all the electric vehicles for which electrical energy data is monitored through this system during the project activity.

1. Monitoring management structure and responsibilities

In order to ensure complete, continuous, clear and accurate project monitoring and calculation of emission reductions during the crediting period, Intelligent Link has set up a monitoring working group for the project. The group is directly led by the project proponent leader, and there are 3 departments responsible for specific duties. The project proponent leader is fully responsible for project development, including: 1) Supervising project operation status related to monitoring data; 2) Responsible for collecting and recording monitoring data to ensure the integrity and accuracy of data. The finance department is responsible for project related financial data, including lease contract, vehicle purchase record, etc. The technical department is responsible for vehicle monitoring, maintenance, QA/QC, archiving and management of vehicle operation data. Other departments under the coordination of project leader, cooperate with technical department to complete the monitoring related work. Meanwhile, as the consultant company, Search Co2 is responsible for VCS project development, including 1) Tracking project progress; 2) Preparation of project PD and MR; 3) Assist the owner to complete the data monitoring and check the authenticity and accuracy of the data.

In order to make sure the accuracy, reliability and authenticity of data, the project proponent leader will cross check data with Search Co2. The diagram of project monitoring team is shown in the figure below:

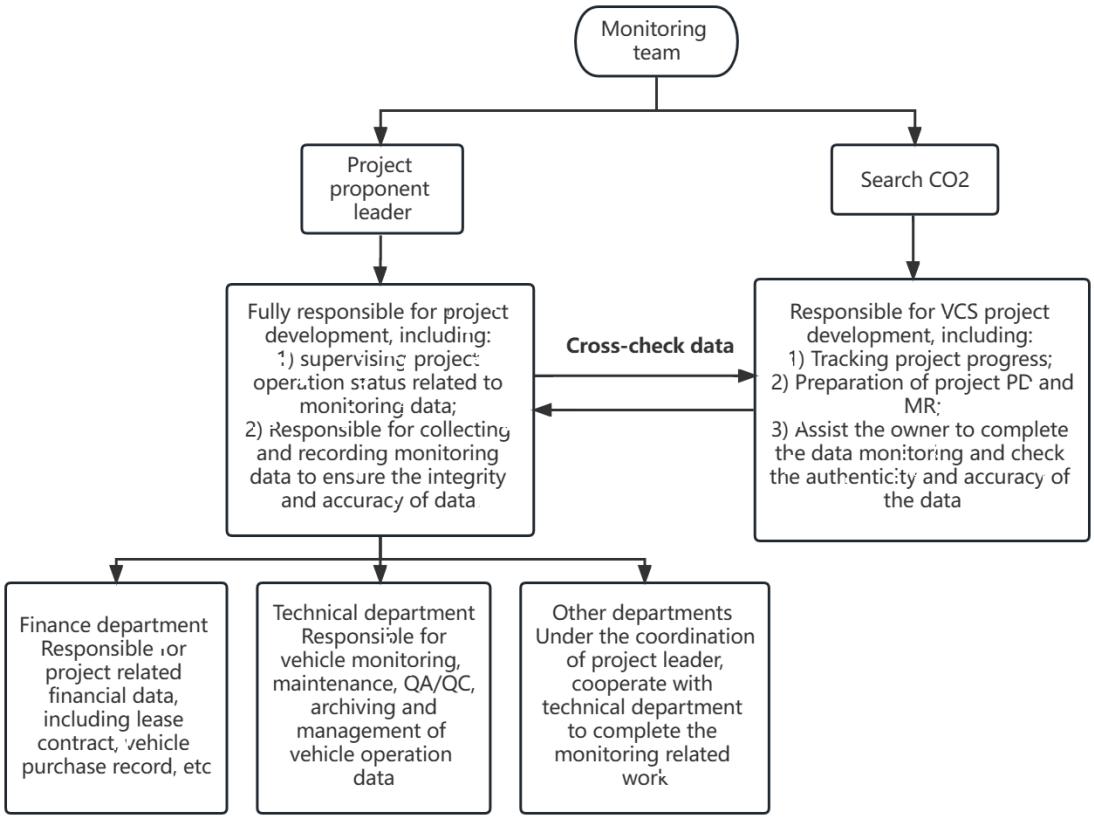

Figure 5-1 The structure of monitoring team

2. Key data to be monitored

Five key data shall be monitored during the monitoring period, i.e. (1) number of project vehicle in operation; (2) annual average distance driven by project vehicle; (3) specific electricity consumption per km per project vehicle; (4) Grid emission factor; (5) Average technical transmission and distribution losses for providing electricity in the year y

The project proponent will monitor the project vehicle in operation through the monitoring data from the mobility platform system. The annual average distance will be monitored and recorded by the accumulated distance meter of each project vehicle. The specific electricity consumed by the project vehicle will be monitored from electric charging records and cross checked by driver logs or invoices from electricity charging station. The grid emission factor will be monitored from the Ministry of Ecology and Environment, PRC. Average technical transmission and distribution losses for providing electricity in the year y will be monitored form the National Energy Administration of China.

3. Data management

A management system for documents (including monitoring plan, preparation documents, monitoring documents, project boundary monitoring, project activity monitoring, fixed sample

sites monitoring, etc.), verification documents, periodic verification documents, and handling of expired documents, etc., is established. Electronic monitoring data along with paper documents shall be kept until more than 2 years after the end of the crediting period or after the last issuance (whichever occurs later).

4. QA/QC

A systematic internal review and correction process will be used to assure/control the quality. The technical staff of Intelligent Link are responsible for vehicle monitoring, maintenance, QA/QC, archiving and management of vehicle operation data once a month and cross check the data with Search Co2.When they find some unusual data, they will feed back to technical staff and then correct the data before share it with Search Co2. Search Co2 will draft the monitoring report based on the raw data and cross-check with the technical staff. If there are not any further comments from the technical staff, Search Co2 will finalise the report. All parties are required to reply any questions raised within 30 days.

5. Emergency procedure

In this project, it is possible to cause electric vehicle damage or missing data due to negligence and improper operation.

First of all, vehicle renters have to be trained before driving electric vehicles, including operation, charging and driving skill trainings, so as to guarantee the driving safety.

Secondly, if there is any damage, Intelligent Link will repair on time, and provide maintenance services during leasing.

If data loss or equipment damage occurs during the monitoring process, the corresponding emission reduction will be deducted in the most conservative way.

APPENDIX1: EVIDENCE OF SDG CONTRIBUTIONS

SDG Target	SDG Indicator	Evidences
8.5	Number of jobs and salaries offered by the project	Lease contracts signed by Intelligent Link and vehicle renters, and trainers hired by Intelligent Link to execute operation training, charging training and driving skills training.
11.6	Make cities and human settlements inclusive, safe, resilient and sustainable	The project promotes and supports the transition to electric vehicles thereby reducing consumption of gas and encouraging electric vehicles. The evidence will be proved by the number and proportion of electric vehicles each year.
13.0	Tons of greenhouse gas emissions reduced compared to the baseline scenario level.	Since the amount CO_2 emissions reduced shall be calculated each year, the evidence will be proved by the emission reduction sheets each year.