5002 Bangkok E-bus Program

Verified monitoring period:	Monitoring from 01.01.2024 to 01.12.2024
Verification cycle:	3rd Verification
Document version:	1.2
Date:	16.09.2025
Verification body:	Bureau Veritas Certification (Thailand) Limited 16th Floor, Bangkok Tower, 2170 Petchburi Road, Bangkapi, Huaykwang, Bangkok 10310, Thailand

Contents

Overall assessment of the monitoring report, summary and FAR

Energy Absolute Public Company Limited (hereafter called “The Applicant”) has engaged Bureau Veritas Certification (Thailand) Limited (hereafter called “The Verifier”) to conduct verification of “Operation of E-buses on privately owned, scheduled public bus routes in the Bangkok Metropolitan area by Energy Absolute” program (hereafter called “The Program”) over the period 01.01.2024 to 01.12.2024. The verification was conducted in accordance with the requirement of the CO_2 Ordinance (Article 5. and 5a for program) and requirements of host country under T-VER program. Level of assurance is reasonable assurance level and a materiality threshold of 5% of reported data.

The verification methodology consists of document review, including Monitoring Report and supporting documents/database, and on-site inspection. The verifiers conducted site visits at the bus terminals from 16.07.2025 to 18.07.2025, with primary objectives of validating program activity implementation, verifying data monitoring processes, and conducting in-depth interviews with key operational personnel. Based on document review and onsite verification, the verification team identified five notable deviations from the registered Mitigation Activity Design Document (MADD), which are as follows;

- The electric bus (E-Bus) battery capacity was changed from ≥150 kWh for each E-Bus within the Program to ≥120 kWh.
- Charging station operator was changed from Energy Mahanakorn Co., Ltd. to Auto Bus Service Co., Ltd.
- The locations of bus terminals for each bus route have been changed from the registered MADD.
- Electricity consumption data for E-Buses was exclusively sourced from charging station measurements, with no electricity consumption data from the Metropolitan Electricity Authority’s electricity bill being used in project emission calculations, as specified in the registered MADD.
- Specific fuel consumption of the baseline natural gas vehicle (NGV) buses was taken from 35 Operating NGV Bus Routes, instead of 37 NGV Bus Routes as specified in the registered MADD.
- The entity responsible for authorizing international carbon credit transfers in Thailand was changed from the Office of Natural Resources and Environmental Policy and Planning (ONEP) to the Department of Climate Change and Environment (DCCE).
- As of the current monitoring period, a fleet of 1,781 E-Buses is fully operational on the project's designated routes. The core objective of this initiative is the systematic replacement of older, high-polluting internal combustion engine (ICE) buses with electric alternatives. To date, 1,065 ICE buses have been meticulously verified as decommissioned based on official deregistration records from the relevant transport authority, providing clear evidence of their permanent removal from service. For this monitoring period, calculations were performed using a proportional replacement of 1,065 decommissioned ICE buses. All these deviations were properly documented in the monitoring report. These deviations do not represent significant changes that could materially impact the emission reduction calculations. Consequently, no revalidation of the project was required.
- To analysis and monitor energy usage per e-bus route, the recorded electricity consumption data and invoice from Energy Mahanakorn (EMN) must be used. This is necessary because the current electricity billing system at the charging stations does not disaggregate electricity usage by individual route, as invoices are generated based on the total consumption of the entire terminal.
- The average Specific Fuel Consumption (SFC) of NGV buses was determined using data from 35 operational routes, collected between October 2022 and January 2024. This number of route is a reduction from the 37 routes specified in the Monitoring and Assessment Data Document (MADD).
- The locations of e-bus terminals for some bus routes have been revised from the MADD.

The Program had no Findings from an Audit Report to follow up on from the previous validation. However, the verifier issued one Corrective Action Request (CAR) during this verification to prompt the project developer to address and clarify certain issues. While three Forward Action Requests (FARs) were issued during this verification, these issues have been retained as a Forward Action Request (FAR) for follow-up in the next verification.

Based on the comprehensive review of evidence and information, the verifier can confirm that the project's greenhouse gas (GHG) emissions and resulting emission reductions were calculated without material misstatements. This assessment considered the validated project baseline, monitoring plan, and associated documentation.

The Verifier hereby confirms that the following project or program has been verified, using the monitoring report, all necessary additional documents according to Annex A1, and the plant survey in accordance with the FOEN Enforcement Notices UV-1315[1] and UV-2001[2]:

The evaluation of the Bangkok Metropolitan Area E-Bus Zone 1 and 2, and Bangkok Metropolitan Area E-Bus Zone 3 and 4 program has resulted in the following emission reductions:	[t CO2eq]	Comment
Total emission reductions achieved (Monitoring from 01.01.2024 to 01.12.2024)	30,591	
Emission Reductions Requiring Special Consideration per Section 3.2		
Emission reductions recommended for issuance by the verification body [t CO2eq]	30,591	

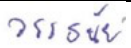
For the next monitoring, the verification body recommends the following Forward Action Request (FAR):

FAR 01: There was no evidence detailing your approach or procedures for managing degraded batteries.
FAR02: There was no evidence of the disposal and management of deregistered vehicles from both the Smart Bus strategic merger (221 vehicles) and other minor strategic mergers (160 vehicles).
FAR03: There was no evidence of GPS calibration records, a calibration plan, or maintenance plan for GPS devices.

[1] https://www.bafu.admin.ch/bafu/en/home/topics/climate/publications-studies/publications/offsetting-co2-emissions-projects-and-programmes.html

[2] https://www.bafu.admin.ch/bafu/en/home/topics/climate/publications-studies/publications/offsetting-co2-emissions-validation-and-verification.html

Verification team role and responsibility

Role	Name, telephone and e-mail address	Place and date:	Signatures
Team Leader	Dr.Issara Poljungreed +662 670 4800 Issara.poljungreed@bureauveritas.com	Bureau Veritas Certification (Thailand) Limited 01.08.2025	
Technical Expert	Wattanai Pipatvidhyanont +662 670 4800 wattanai.pipatvidhyanont@bureauveritas.com	Bureau Veritas Certification (Thailand) Limited 01.08.2025	
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1 Information on the verification

1.1 Documents used

Version and date of the MADD	Version 5.3, 21.11.2022
Version and date of the validation report	Version 1, 29.09.2022
Version and date of the monitoring report	Version 1.0, 30.06.2025
Suitability decision: Date	19.08.2025
Site visit: Date	16.07.2025 – 18.07.2025
Used list of companies exempt from levy: As of	Not applicable

Other documents used on which the verification is based are listed in Annex A1 of the report.

1.2 Procedure for verification

Aim of the verification

The verification aims to comprehensively assess the Monitoring Report's compliance with the CO_2 Ordinance requirements and other relevant host country criteria, ensuring that the monitoring has been implemented as specified in the validated project description. Additionally, the verification team verified adherence to T-VER-METH-TM-05 Version 3: Use of Electric Vehicles in Public Transportation System and T-VER-METH-TM-06 Version 3: Modal Shift from Private Vehicles to Public Passenger Transportation with Electric Vehicles. The verifier shall ensure that:

- The verified emission reductions meet the requirements of Article 5 (for programs also Article 5a) of the CO_2 Ordinance.
- Information on the implemented project/program is complete and consistent.
- Correct collection and presentation of all relevant data according to the monitoring concept.
- Verification of the measuring equipment used during monitoring (records of calibration and maintenance).
- Management of deregistered Internal Combustion Engine (ICE) vehicles, evidence of deregistration, and scrap management.
- Technologies, equipment, etc., used are in accordance with the monitoring concept.
- Accurate calculation of the achieved emission reduction.

This ensures that the monitoring and reporting activities are in full compliance with both the CO_2 Ordinance and the specific T-VER methodologies mentioned.

Description of the chosen methods

The verification was conducted in accordance with multiple regulatory and internal standards, including the CO_2 Ordinance (Articles 5 and Article 5a applicable to the Program), host country requirements under the T-VER program, and Bureau Veritas's Internal Protocol for the Greenhouse Gas (GHG) Verification and Validation Body. The specific standards and guidelines applied include:

- Use of Electric Vehicles in Public Transportation System (T-VER-METH-TM-05), Version 3.
- Modal Shift from Private Vehicles to Public Passenger Transportation with Electric Vehicles (T-VER-METH-TM-06), Version 3.
- Emission Reduction and Carbon Storage Projects and Programs, Federal Office for the Environment (FOEN).
- Validation and Verification of Domestic Projects and Programs, Federal Office for the Environment (FOEN).
- Guideline for Thailand Voluntary Emission Reduction Program (T-VER) (Version 03).
- T-VER Project Development Guideline, September 2019.
- T-VER Validation and Verification Guideline, dated 2 March 2023.

Description of the procedure / steps performed

The verification process encompasses a sequence of stages, including verification planning, on-site inspection, Clarification (CL) & Corrective Action Request (CAR) closure, Independent Review(IR), and the final verification decision. During the verification planning phase, the Verifier conducted a desk review of the Monitoring Report, calculation sheets, and supporting documentation. This initial review serves a critical purpose of developing a detailed verification plan and identifying potential areas of concern, enabling the verifier to issue preliminary Clarification (CL) and Corrective Action Requests (CAR) to the Applicant. By systematically examining the documentation, the Verifier establishes a robust framework for ensuring the accuracy, completeness, and compliance of the submitted materials before proceeding with subsequent verification stages.

During the on-site verification, we verified the implementation of program activities, including the installation and operation of relevant equipment. Interviews were conducted with the Program operator and other key stakeholders to gather insights and confirm operational details. To ensure data credibility and accuracy in emission reduction calculations, all data sources were cross-referenced against original documentation.

Following the on-site verification, the verifier issued additional CL based on observed findings. Once all CL were addressed, a draft verification report was prepared and submitted for Independent Reviewer. Upon completion of the IR process, the authorized representative issued the final verification decision in the formal verification statement, which was delivered to the applicant.

Description of the quality assurance procedure

Before finalizing the verification report, the draft underwent internal quality control process through an IR. This independent process was performed to thoroughly examine that the verification process adhered to the requirements of the verification scheme as well as internal Bureau Veritas's procedures. The Team Leader submitted the draft verification report along with all relevant documentation to the reviewer. The reviewer then conducted a comprehensive assessment of the submitted materials to confirm conformance with the verification scheme.

The IR included a thorough evaluation of all documentation generated throughout the verification process. During this review, the reviewer ensured that:

- The verification activities were conducted with the highest level of diligence and in strict adherence to applicable rules and requirements.
- All aspects of the project were reviewed, including the implementation of monitoring plans, emission reduction calculations, internal quality assurance systems of the project participant, project activities, closure of CAR, CL, and FAR during the verification exercise.

1.3 Declaration of independence

Bureau Veritas Certification (Thailand) Limited, an entity approved by the Federal Office for the Environment (FOEN), was commissioned to conduct the verification for the "Operation of E-buses on privately owned, scheduled public bus routes in the Bangkok Metropolitan area by Energy Absolute" program. The verification was performed by internal and external technical experts specifically approved for this purpose.

The verification team, including the technical expert, quality manager, and overall manager of validators and verifiers (VVS), hereby confirms their complete independence from all involved organizations. Specifically, this independence extends to the client, project operators, and their respective consultants, ensuring an unbiased and objective verification process. The team's involvement is strictly limited to the current validation and verification services, with no conflicting interests or prior engagements that could compromise the assessment's integrity.

To ensure its independence, VVS commits to the following protocols:

- Refrain from validating or verifying projects or monitoring reports in which the team has previously been involved;
- Prohibit the use of technical experts, quality managers, or overall managers who have participated in project development;

- Prevent technical experts, quality managers, or verification managers from participating in validation or verification of a project they have previously been involved with;
- Ensure no reuse of technical experts, quality managers, or verification managers who have conducted previous verifications of the same project or program;
- Decline validation and verification services for clients where VVS has been involved in similar project developments;
- Avoid conducting validations or verifications for clients who have received prior advisory services related to CO_2 tax exemption targets and Swiss Energy PEIK platform consultations;
- Prohibits providing advisory services to organizations during the validation and verification process;
- Ensure an unbiased assessment of emission reductions, explicitly avoiding any methodology that might artificially or systematically maximize the reported carbon credits.

The VVS implements a comprehensive oversight mechanism to ensure that all personnel involved in the verification process—including commissioned technical experts, quality managers, overall responsible persons, and external technical experts—fully comply with the established independence requirements.

The technical expert, quality manager, and overall responsible person for this validation/verification body hereby formally confirm their complete independence from the client and its consultants. By providing their signatures, these key personnel attest that their involvement is strictly limited to the current validation and verification services, with no additional engagements or relationships that could potentially compromise the objectivity of the assessment process.

1.4 Disclaimer declaration

None

2 Means of Verification

2.1 Desk/document review

The assessment of the project documentation provided by the Applicant was based on both quantitative and qualitative information regarding emission reductions.

- Quantitative information included the Monitoring Report, version 1.7, dated June 20, 2025, and the emission reduction calculation sheet, dated June 20, 2025.
- Qualitative information included internal management controls, calculation methodologies, data transfer protocols, emission reporting frequency, and the organization's internal review and validation processes.

In addition to the monitoring documentation from the project participants, the verifier also reviewed the registered MADD, the registered validation report, and other relevant criteria as listed in Annex 1.

The purpose of the desk review was to check the monitoring report against the relevant criteria, methodology, and the registered MADD. The Verifier also performed risk assessment and strategic analysis as per Bureau Veritas's internal procedure to establish the sampling plan and the on-site inspection plan.

2.2 Sampling approach

In accordance with Bureau Veritas's Internal Protocol for Greenhouse Gas Verification and Validation, the verification team developed a comprehensive sampling strategy designed to ensure the accuracy and consistency of program emission calculations. The sampling methodology employed a systematic approach, beginning with a rigorous risk assessment and strategic analysis to identify key areas of potential data variability.

The sample size determination followed a statistically robust method, utilizing the square root of the total population to establish a representative sample. Purposive sampling techniques were then applied to strategically select bus terminals and routes, enabling a targeted examination of ex-post emission reductions. This approach balanced statistical reliability with focused, strategic sampling, providing a comprehensive yet efficient verification of the Program's emission data.

The sample size calculation resulted in the on-site verification plan, where 8 bus terminals covering 58 bus routes were verified. The list of bus routes in the sampling plan is shown in section 2.3.

2.3 On-site inspection

The on-site inspection was conducted from 16.07.2025 to 18.07.2026 at E-Bus terminals hubs of 58 intensive bus routes in Bangkok and the Metropolitan areas. The activities conducted were:

- Conducted a comprehensive inspection of the E-Buses and charging station installations, ensuring proper operation and adherence to standards.
- Examined the data monitoring activities, including data retention practices and the implementation of QA/QC processes.
- Reviewed the maintenance and calibration records of the monitoring equipment to verify accuracy and reliability.
- Performed interviews with responsible personnel and conducted thorough checks of relevant documents and evidence.
- Observed the calibration process of charging stations.

Sites inspected are listed below:

Route Name	Location	Verifier
16.07.2025		
Ramkhamhaeng University (Bangna Campus) - Tha Chang	Terminal Name: Pak Nam	Wattanai Pipatvidhyanont, Chanchanok Ingpongpun
Sam Rong - Bangkok Bus Station (South)		
Samrong - Government Complex (Tollway)		
Paknam - Lat Krabang Industrial Estate (Tollway)		
Pu Chao Saming Phrai - Siam Park		
Pu Chao Saming Phrai - Memorial Bridge Pier (Tollway)		
Samrong - Siam Park		
Patumkongka Schoool Samutprakan - Bangkok Bus Station (Ekamai)		
Numkrai Industrial Estate - Min Buri	Terminal Name: Minburi-Nong Chok	
KMITL - Happy Land		
KMITL - Victory Monument		
Siam Park - Lam Luk Ka Khlong 12		
Siam Park Bus Depot - Ua-Athorn Sangkasantisuk		
Ua-Athorn Sangkasantisuk - Min Buri		
Min Buri - Ministry of Commerce		
Loop Min Buri - Lat Krabang Industrial Estate		
Ua-Athorn Latkrabang 2 - Rom Klao		
Min Buri - Klongtoey (Additional line)		
Minburi - Suvarnabhumi airport		
Samaedam - Victory Monument (Tollway)	Terminal Name: Samae Dam	Panupong Utok
Bang Khun Thian - Happy Land (Tollway)		
Samaedam - Victory Monument		
Samaedam - Bangkok Bus Terminal (Chatuchak) (Tollway)		Chanaket Putiwanich
Phra Pradaeng - Victory Monument		
Rama 3 - Tha Tian	Terminal Name: Rat Burana	Panupong Utok
Thanon Tok - Si Yan		
Bangkok Port (Khlong Toei) - Victory Monument		
Rama 3 - Bangkok Bus Terminal (Chatuchak)		
Loop Rama 3 - Hua Lamphong		
Phra Pradaeng Pier - Bang Lamphu		Chanaket Putiwanich
Phra Pradaeng Pier - Bang Lamphu		
Phra Pradaeng - Thonburi BTS Station		
Samaedam - Victory Monument (Tollway)		
17.07.2025		
Phutthamonthon Sai 5 Road - Tha Ratcha Woradit	Terminal Name: Wat Rai Khing	Wattanai Pipatvidhyanont, Chanchanok Ingpongpun
Rai Khing temple - Krung Thon Buri BTS Station		
Bangkok Bus Station (South) - Rajamangala University of Technology (Bangkok Campus)		
Lak Si - Bangkok Bus Terminal (South)	Terminal Name: Sai Tai Mai	
Prachaniwet 3 - Thewet		

Route Name	Location	Verifier
Pak Nam Temple Nonthaburi - Bangkok Bus Station South (Phra Pin Klao)		
Bangkok Bus Station (South) - Chandrakasem Rajabhat University		
Bangkok Bus Station (South) - Bangkok Bus Station (Ekamai)		
Wor Por Or Village - Suan Luang Rama 8		
Phutthamonthon Sai 5 Road - Tha Ratcha Woradit		
Rai Khing temple - Krung Thon Buri BTS Station		
Bangkok Bus Station (South) - Rajamangala University of Technology (Bangkok Campus)		
Bangkhen -Talat Phlu BTS Station (Tollway)	Terminal Name: Kallapraphruk	Panupong Utok
Bangkhen - Bangsue Grand Station		
Ministry of Public Health - Sanam Luang		
Ministry of Public Health - Priest Hospital		
Loop Bang Sue BTS Station - Kasetsart University		Chanaket Putiwanich
Thanam Nonthaburi - Thanon Tok		
Bangkok Port (Khlong Toei) - Phasi Charoen Port		
Bangkhen - Bangsue Grand Station	Terminal Name: Liang Mueang Nonthaburi	Panupong Utok
Ministry of Public Health - Sanam Luang		
Ministry of Public Health - Priest Hospital		
Loop Bang Sue BTS Station - Kasetsart University		Chanaket Putiwanich
Thanam Nonthaburi - Thanon Tok		
Bangkok Port (Khlong Toei) - Phasi Charoen Port		
18.07.2025		
Compliance of the project implementation with the eligibility criteria of the applied methodology	Head Office	Wattanai Pipatvidhyanont, Chanchanok Ingpongpun
Assessment of the project implementation against the registered MADD		
Compliance of calibration frequency and correction of measured values with related requirements		
Assessment of data and calculation of GHG emission reductions		Panupong Utok
Assessment of avoidance of double registration		
Compliance of monitoring activity to the register monitoring plan		Chanaket Putiwanich

The verification team prepared a sampling plan to verify the emission reduction calculations by systematically cross-referencing reported data against primary source documentation. These primary data sources included the electricity charging logbook, E-Bus mileage logbook, and web-based data storage, among others. The detailed parameters and their respective sampling approaches are outlined in the table below:

Parameter	Description	Sampling / Verification Approach
Power consumption rate		
Electricity Consumption Rate of E-Bus	Not Applicable in Emission Reduction Calculation. Only used during Ex-Ante Calculation.	Sampling E-Bus data across 7 on-site inspection terminals, utilizing primary data sources, including electricity charging logbooks and web-based data storage system.
EC_PJ,i,j,y	Electricity Consumption from Grid	Verified with raw data from E-Bus daily charging usage from the public grid. Cross-checked electricity bills with the Metropolitan Electricity Authority or Provincial Electricity Authority and Energy Mahanakorn (Charging station operator).

Parameter	Description	Sampling / Verification Approach
EC_RE,PJ,i,j,y	Electricity Consumption from Renewable Energy Sources	Validated against raw data from E-bus daily charging usage from renewable energy sources known to have an emission factor of 0 tCO2e/kWh (excluding Biomass, Geothermal, and Hydro Reservoirs). Supported by power meter readings from charging station operators or evidence of renewable energy certificates, virtual power purchase agreements, or peer-to-peer power purchase agreements.
EF_EC,y	Emission factor from grid's transmission line for consumers in year 'y'	Cross-checked with the TH Grid Emission Factor from TGO, dated 30.09.2023.
Vehicle and Route Data		
N_PJ,i,y	Number of Electric Vehicles in route i year y	Verified with summary reports from the bus operator. Conducted random inspections to confirm the number of active vehicles.
L_PJ,i,y	Average annual distance of Electric Vehicles in route i year y	Confirmed using summary reports from the bus operator. Reviewed logs and trip records.
N_BL,i,y	Number of ICEV on route 'i' in the baseline situation	This parameter is equal to N_PJ,i,y (1:1 adjustment as per the registered MADD). Hence, no sampling required.
L_BL,i,y	Annual distance (round trip) on route 'i' in the baseline scenario	This parameter is equal to LPJ, i,y (1:1 adjustment as per the registered MADD). Hence, no sampling was required.
Passenger Data		
PKM_PJ,i,y	Travelling distance of passengers riding on EV number 'j' on route 'i' in year 'y'	Verified with details in sheet Imported TM-06 Data. Analyzed ticket sales data to estimate passenger travel distances.
PKM_BL	Distance of the passengers who travelled with the public transport on route 'i' in the baseline	Verified historical passenger data and analyzed baseline travel distances. See details in sheet TM06-Baseline Study.
Fuel and Emissions Data		
SFC_NGV	Specific fuel consumption of NGV	Reviewed historical data (January - December 2024) from 35 operating NGV bus routes. Verified with fuel consumption logs and maintenance records.
EF_PKM,x	Emission factor of the passenger travelled with vehicle 'x'	Used published emission factors for various vehicle types and validated with national data sources.
BSP_x,y	Mode of transportation ratio of vehicle type 'x' of passengers who shift to EV for public transit in year 'y'	Verified surveys and field studies to determine mode shift ratios. Analyzed statistical models. See details of %BSP from the survey for each route in sheet TM06-CTBL.
FC_BL,i,NGV	Quantity of fossil fuel consumption type 'x' of the ICEV in the public transport system on route 'i' in the baseline	Verified through historical fuel consumption data and records from transport operators. Calculated from recorded distance and average specific fuel consumption of NGV buses. See Sheet 3. Ex-Post_Fuel Switch_TM05.
IR^t	Technology improvement factor for baseline vehicle in year t	Default value 0.99 as per UNFCCC-CDM-Tool 18 version 01.
P_x	Average number of passengers per trip	Not Applicable in Emission Reduction Calculation. Only used during Ex-Ante Calculation.
NCV_NGV	Net calorific value of fossil fuel type 'x'	Used standard values published by relevant authorities. Verified with fuel suppliers if necessary. See Energy Statistics of Thailand 2021 and related sources.
EF_CO2,CNG	Emission factor of fossil fuel type 'x'	Used standard emission factors from published sources. Cross-checked with national data. IPCC Value 2006; CNG (Table 3.2.1).

Parameter	Description	Sampling / Verification Approach
ADJ_i,y	Correction factor for route 'i' in year 'y'	Applied correction factors based on specific route conditions and historical data. ADJ = 1 from assumption 1:1 replacement.
LE_Modal Shift	Leakage in year y	The project developer is allowed to use the default factor to estimate the leakage emissions from the mitigation activity, which equal to 2.64% of baseline emissions.
Operating Data		
Operating Days (per Year)	Number of days the e-buses operate per year	Verified operational records from bus operators. Cross-checked with historical data to ensure consistency. See column E in 4. Ex-Post_Modal Shift_TM06 for number of operating days for each route.

3 General information on the project/program

3.1 Project organization

Applicant (company)	Energy Absolute Public Company Ltd.
Name, first name	Mr. Mongkol Kijlerdphon
Street, no.	16th floor, AIA Capital Center Building 89 Ratchadaphisek Road, Dindaeng Bangkok
Postcode, place	10400
Tel.	+66(0)2 248-2488-92 (ext. 19518)
E-mail address	Mongkol.kij@energyabsolute.co.th Ea.sd@energyabsolute.co.th

Project developer (company)	Carbon Coordinating Managing Entity (Co) Ltd., Thailand (100% owned by South Pole Group)
Name, first name	Dr. Daniel Klier
Contact person for queries (instead of applicant)?	☒ yes ☐ no
Tel.	+66 (0)2 219 3791
E-mail address	registries@southpole.com

3.2 Project information

Short description of the project/program

The Bangkok E-Bus Program (the "Program"), developed by Energy Absolute Public Company Limited ("EA"), operates on public transport routes throughout Thailand. The Program's primary objective is to transition Thailand's conventional public transport system from internal combustion engine vehicles (ICEVs) to electric vehicles (EVs) within the Bangkok Metropolitan area.

This initiative is projected to reduce both energy consumption and greenhouse gas (GHG) emissions from public transportation. Beyond mitigating GHG emissions, the Program is also expected to enhance service quality and decrease local air and noise pollution.

Project type according to project/program description

Electromobility (Transportation)

Applied technology

The Program's core technology involves the adoption of EVs for public transportation. This initiative aims to replace conventional buses (powered by diesel and natural gas) with E-Buses on a minimum of 122 privately operated bus routes, encompassing a total of 1,913 buses that provide regular, scheduled service within the Bangkok Metropolitan area. The other key component of the Program is the installation of charging stations at each E-Bus terminal, which are directly connected to the power grid.

3.3 Assessment of application documents

Checklist item		n.a.	Applies	Does not apply
3.3.1	The application is based on the relevant bases for the project/program (legal bases, notification and supplementary documents).		✓	
3.3.2	The cover sheet is filled in completely and correctly.		✓	
3.3.3	Formal information on project number, project/program name, and monitoring period is complete, correct, and consistently provided throughout the document (cover sheet and formal information).		✓	
3.3.4	Project/program timing information (eligibility decision, project/program description, and monitoring period) is complete, accurate, and consistently provided throughout the document (cover sheet and formal information).		✓	
3.3.5	The applicant is correctly identified and identical to the applicant who entered the validated project/program description, or changes to the applicant are traceable and sufficiently justified.		✓	
3.3.6	The details of all adjustments compared to the project/program description are documented and comprehensibly described in the monitoring report (chapter 1.1 of the monitoring report) (Note: The correctness of the content of the adjustments should be checked in the respective thematic blocks).		✓	
3.3.7	FARs from the suitability decision or last order certifying the emission reductions achieved are listed in full in chapter 1.2 of the monitoring report (note: the correctness of the content of the FARs is to be checked in the respective thematic blocks).	✓		

The checklist confirms that all items apply to the standards. The application is based on relevant legal and supplementary documents, and the cover sheet and formal information throughout the document are complete, accurate, and consistent. The project number, name, monitoring period, and timing information are correctly provided. The Applicant is accurately identified, with any changes traceable and justified. There are no CARs, CL, or FAR that require action.

4 Results of the verification of the content of the monitoring report

4.1 Information about the project/program

Description and implementation of the project/program

Checklist item		n.a.	Applies	Does not apply
4.1.1	The description of the effectively implemented project/program is understandable and comprehensible and it is evident whether it is a project, project bundle or program.		✓	
4.1.2	The information on the project/program (start of implementation, start of impact, start of monitoring and other information) corresponds to the project/program description or the last monitoring report. Any deviations are comprehensibly justified and appropriate in the corresponding table.		✓	
4.1.3	The start of implementation and the start of impact are documented.		✓	
4.1.4	The monitoring was started at the same time as the start of the impact. Any deviations are comprehensibly justified and appropriate.		✓	
4.1.5	The monitoring period is completely covered by one or more crediting periods.		✓	
4.1.6	The project/program is not yet finished.		✓	
	Program specific issues	n.a.	Applies	Does not apply
4.1.7	All new projects included in the program have not been implemented prior to application to the program. Any deviations are comprehensibly justified and appropriate.		✓	
4.1.8	The information on the implementation of the individual projects newly included in the program is described and supported by appropriate documents. Any deviations are comprehensibly justified and appropriate.		✓	FAR01 FAR02
4.1.9	The information on the impact period of the projects included in the program is complete. Any deviations are comprehensibly justified and appropriate.		✓	
4.1.10	The projects newly included in the program during the monitoring period under review fully meet the inclusion criteria. This is documented with corresponding evidence.		✓	

The application documents meet all relevant standards, relevant documentation, including project data, legal documents, and permits, was consistently provided. However, incomplete documentation was identified concerning the management of vehicles after they were deregistered and the handling of end-of-life battery scrap. Consequently, these matters have been raised as two Forward Action Requests (FARs) for follow-up in the next verification period.

Location and system boundary

Checklist item		n.a.	Applies	Does not apply
4.1.11	The location of the project/program corresponds to that of the project/program description or the last monitoring report. Any deviations are comprehensibly justified and appropriate.		✓	
4.1.12	The system boundaries have not changed from those defined in the project/program description (initial verification after a validation) or in the last monitoring report. Any deviations are comprehensibly justified and appropriate.		✓	
	Program specific issues	n.a.	Applies	Does not apply
4.1.13	The system boundaries of the individual, newly added projects correspond to those of the program description or the last monitoring report. Any deviations are comprehensibly justified and appropriate.		✓	

The project/program location and system boundaries correspond to those defined in the project/program description or the last monitoring report. Any deviations are comprehensively justified and appropriate. This includes the system boundaries of the newly added E-Bus Terminal, which align with the program description or the last monitoring report, with any deviations appropriately justified.

Technology used

Checklist item		n.a.	Applies	Does not apply
4.1.14	The technical description of the implemented project/program corresponds to that in the project/program description (initial verification after validation) or in the last monitoring report. Any deviations are comprehensibly justified and appropriate.		✓	
4.1.15	The implemented technology is at least state of the art.		✓	
	In the case of a project/program to increase sink performance:	✓		
4.1.16	The evidence for the permanence of CO_2 sequestration corresponds to that in the project/program description (initial verification after a validation) or in the last monitoring report. Any deviations are comprehensibly justified and appropriate13.	✓		

The technical description of the implemented project/program matches the project/program description or the last monitoring report, with any deviations comprehensibly justified and appropriate. The implemented technology is at least state of the art.

Concluding questions on project/program information (Section 4.1 Verification Report)

Checklist item		n.a.	Applies	Does not apply
4.1.17	Any adjustments described in chapter 1.1 of the monitoring report that affect section 4.1. of the verification report are described comprehensibly and implemented correctly.		✓	
4.1.18	Any FARs from the suitability decision or the order on the last monitoring report that affect this section are described in a comprehensible manner and implemented correctly.	✓		

4.2 Differentiation from climate or energy policy instruments and avoidance of double counting

Checklist item		n.a.	Applies	Does not apply
4.2.1	Requested and awarded grants for financing and "non-repayable cash benefits from the federal government, cantons or municipalities for the promotion of renewable energies, energy efficiency or climate protection" for which a breakdown of effects is necessary are shown (amount of contribution and origin) and documented in Annex A4 of the monitoring report.	✓		
4.2.2	The project/program receives the cost-oriented feed-in tariff KEV[15].	✓		
4.2.3	The information on financial assistance received (incl. KEV) corresponds to the information on financial assistance in the project/program description (initial verification after validation) or in the last monitoring report. Any deviations are described, justified and appropriate in the corresponding table.	✓		

Differentiation from companies that are exempt from the CO_2 tax

Checklist item		n.a.	Applies	Does not apply
4.2.4	The project/program interfaces with companies that are exempt from the CO_2 tax. The companies are listed with their address and ideally the associated emission reductions are shown separately.	✓		

Double counting due to other compensation for ecological added value.

This section deals with further double counting not yet covered above. For example, (multiple) crediting of emission reductions at different points in the value chain of the project/program (e.g., crediting at the manufacturer and consumer of a product).

Checklist item		n.a.	Applies	Does not apply
4.2.5	The information on other double counts corresponds to that in the project/program description (initial verification after a validation) or the last monitoring report. Any deviations are described, justified and appropriate in the corresponding table.		✓	
4.2.6	The measures to avoid double counting due to other compensation for ecological added value are implemented accordingly or any deviations are described, justified and appropriate in the corresponding table in a comprehensible manner.		✓	
4.2.7	The measures enable the effective avoidance of double counting due to other compensation for ecological added value.		✓	

The information on double counting aligns with the project/program description or the last monitoring report, with any deviations described, justified, and appropriately documented. Measures to avoid double counting due to other compensation for ecological added value are implemented accordingly, with any deviations comprehensively described and justified in the corresponding table. These measures enable the effective avoidance of double counting, respecting the conditions stated clearly in the methodology (i.e., T-VER-METH-TM-06).

Concluding questions on demarcation from climate or energy policy instruments (section 4.2 Verification report)

Checklist item		n.a.	Applies	Does not apply
4.2.8	Any adjustments described in chapter 1.1 of the monitoring report that affect section 4.2 Verification report are described comprehensibly and implemented correctly.		✓	
4.2.9	Any FARs from the suitability decision or the order on the last monitoring report that affect this section are described in a comprehensible manner and implemented correctly.	✓		

4.3 Implementation Monitoring

Monitoring method and data collection

Checklist item		n.a.	Applies	Does not apply
4.3.1	The applied monitoring method corresponds to the method described in the monitoring concept of the project/program description (initial verification after a validation) or in the last monitoring report, if necessary including scientific monitoring. Any deviations are comprehensibly justified and appropriate.		✓	
4.3.2	The monitoring method is described in a comprehensible way.		✓	
4.3.3	If the project/program has established scientific monitoring, a clear rationale is provided for possible termination of this monitoring.		✓	

The applied monitoring method is consistent with the descriptions provided in the Mitigation Activity Design Document (MADD). Data collection and analysis for electricity consumption were performed in accordance with the established protocols, ensuring the accuracy of all parameters. This process confirms that the reported emissions reductions are a reliable representation of the Program's impact.

Formulas for calculating the ex-post emission reductions achieved

Checklist item		n.a.	Applies	Does not apply
4.3.4	The formulas for calculating the emission reductions achieved correspond to the information in the monitoring concept of the project/program description or the last monitoring report. Any deviations are comprehensibly justified and appropriate.		✓	
4.3.5	If there have been changes in the formulas: the new formulas for calculating the achieved emission reductions are correct and allow the most accurate or conservative estimate of the achieved emission reductions.		✓	

The formulas for calculating the achieved emission reductions correspond to the information in the monitoring concept of the project/program description or the last monitoring report. Any deviations are comprehensively justified and appropriate. If there have been changes in the formulas, the new formulas for calculating the achieved emission reductions are correct and allow the most accurate or conservative estimate of the achieved emission reductions.

Parameters and data collection

Checklist item	Fixed parameters	n.a.	Applies	Does not apply
4.3.6	All fixed parameters (from the formulas for calculating emission reductions) are listed in full.		✓	
4.3.7	Each fixed parameter is fully documented (information about description, value, unit and data source are filled in).		✓	
4.3.8	The specified values and units for each fixed parameter correspond to those of the project/program description. Any deviations are justified and appropriate (under description of the parameter).		✓	
	Dynamic parameters	n.a.	Applies	Does not apply
4.3.9	All dynamic parameters (from the formulas for calculating emission reductions) are fully listed and documented (data source/document in Appendix A5)		✓	
4.3.10	Any calibrations / calibrations for each dynamic parameter are still valid (with proof or, if approved, with plausibility check).		✓	CAR01 FAR03
4.3.11	Each new or changed (new compared to project/program description or last monitoring report) dynamic parameter is fully documented and correctly collected (information on description, value, unit, data source, collection instrument/evaluation instrument, description of measurement procedure, calibration procedure, accuracy of measurement method, measurement interval and responsible person are filled in).		✓	
4.3.12	Any deviations from the monitoring concept of the project/program description or the last monitoring report are comprehensibly justified and appropriate.		✓	
4.3.13	The accuracy of the measurement method for each new dynamic parameter is adequate.		✓	
	Plausibility check	n.a.	Applies	Does not apply
4.3.14	Each parameter used for plausibility check of measured values is complete and documented (information on description, value, unit and data source are filled in).		✓	
4.3.15	The plausibility checks are correct and comprehensible.		✓	
	Influential factors	n.a.	Applies	Does not apply
4.3.16	All influencing factors to be checked according to the project/program description or the last monitoring report are listed and explained. Any deviations are comprehensibly justified and appropriate.		✓	
4.3.17	Each influencing factor is sufficiently and comprehensibly described and substantiated (evidence or data source).		✓	

The formulas for calculating emission reductions align with the monitoring concept in the project description and the most recent monitoring report. All fixed parameters used in the formulas are fully listed and documented with their description, value, unit, and data source. The values and units for these parameters are consistent with the project description, and any minor deviations have been justified.

Regarding dynamic parameters, all parameters used for calculating emission reductions, such $EC\_PJ_{,l,j,y}$, $L\_ PJ_{,l,j,y}$ are fully listed and documented. All influencing factors to be verified according to the project description have been listed, explained, and substantiated with sufficient evidence or data. Initially, the verifier identified that a measuring instrument for a dynamic parameter, specifically at the charging station, was invalid. A Corrective Action Request (CAR) was issued to the organization for resolution. The verifier subsequently confirmed that the organization had conducted a calibration, with the resulting measurement deviation found to be within acceptable range. This ensures the data inaccuracy is now within acceptable limits.

Additionally, 1 Forward Action Request (FAR) was issued regarding the calibration of the GPS. This is to ensure continued monitoring and provided assurance that any data deviation remains within an acceptable range for next verification

Process and management structure

Checklist item	Fixed parameters	n.a.	Applies	Does not apply
4.3.18	The process and management structures correspond to those in the project/program description (initial verification after validation) or the structures defined in the last monitoring report and are correctly described and implemented. Any deviations are comprehensibly justified and appropriate.		✓	
4.3.19	The responsibilities for data collection and archiving correspond to the information in the project/program description (initial verification after a validation) or in the last monitoring report and are described in a comprehensible manner. Any deviations are comprehensibly justified and appropriate.		✓	
4.3.20	The quality assurance (systems and procedures) corresponds to the information in the project/program description (initial verification after a validation) or in the last monitoring report and is implemented appropriately and correctly. Any deviations are comprehensibly justified and appropriate.		✓	

Program structure

Checklist item	Fixed parameters	n.a.	Applies	Does not apply
4.3.21	The program structure corresponds to the information in the project/program description (initial verification after validation) or the last monitoring report and is implemented appropriately and correctly. Any deviations are comprehensibly justified and appropriate.		✓	
4.3.22	The processes for the new projects to be included in the program correspond to the information in the program description (initial verification after a validation), or the last monitoring report. These are appropriate and correctly implemented. Any deviations are comprehensibly justified and appropriate.		✓	
4.3.23	The actual implementation of the program's projects was audited and confirmed.		✓	

The Program structure corresponds to the information in the project/program description (initial verification after validation) or the last monitoring report and is implemented appropriately and correctly. Any deviations are comprehensively justified and appropriate.

The processes for the new projects to be included in the Program align with the information in the program description (initial verification after validation) or the last monitoring report. These processes are appropriate and correctly implemented, with any deviations comprehensively justified and appropriate.

The actual implementation of the Program's projects has been audited and confirmed, ensuring compliance with the established guidelines and standards.

Results of monitoring and measurement data

Checklist item	Fixed parameters	n.a.	Applies	Does not apply
4.3.24	The results of the monitoring are presented completely and comprehensibly (Excel or similar).		✓	
4.3.25	The monitoring systems and procedures actually implemented are consistent with the information provided in the monitoring plan.		✓	
	Program specific issues	n.a.	Applies	Does not apply
4.3.26	The projects included in the program during the corresponding monitoring period are fully and comprehensibly documented.		✓	
4.3.27	The measurement data for the projects included in the program are listed and documented completely and comprehensibly.		✓	
4.3.28	The impact period of the projects included in the monitoring has not yet expired.		✓	

The results of the monitoring are presented completely and comprehensively, typically in an Excel or similar format. The monitoring systems and procedures that have been implemented are fully consistent with the information provided in the monitoring plan. All projects included in the program

during the monitoring period are fully and comprehensively documented. There are no CAR, CL or FAR that require action.

Concluding questions on implementation monitoring (section 3.3 Verification report)

Checklist item	Fixed parameters	n.a.	Applies	Does not apply
4.3.29	Any adjustments described in chapter 1.1 of the monitoring report and concerning section 3.3 of the verification report are described comprehensibly and implemented correctly.		✓	
4.3.30	The information in the monitoring report and the supporting documents comply with the requirements of the CO_2 Ordinance.		✓	
4.3.31	Any FARs from the suitability decision or the order on the last monitoring report that affect this section are described in a comprehensible manner and implemented correctly.		✓	

Based on the verification findings, the monitoring method for data collection and analysis is consistent and in full compliance. The formulas used to calculate emissions reductions align with the project description and the latest monitoring report. The project structure and processes have been correctly implemented and verified. There are no CAR, CL, or FAR that require action.

4.4 Ex-post calculation of creditable emission reductions

Checklist item	Fixed parameters	n.a.	Applies	Does not apply
4.4.1	The calculations of the achieved emission reductions are documented in a comprehensible manner (in Appendix A6 of the monitoring report).		✓	
4.4.2	The calculations of the achieved emission reductions are implemented correctly and comply with the requirements of the relevant framework conditions (Communication UV-1315, binding standard methods of the CO_2 Ordinance).		✓	
4.4.3	The impact distribution due to the receipt of non-repayable cash benefits (→ see section 4.2) is correctly calculated and documented in Annex A6 of the monitoring report.	✓		
4.4.5	The emission reductions achieved and eligible for offsetting are stated correctly and per calendar year.		✓	
4.4.6	The emission reductions attributable to companies exempt from the CO_2 tax are shown separately. This includes the original measurand (mostly heat quantity in MWh).	✓		
	Program specific issues	n.a.	Applies	Does not apply
4.4.8	The calculations of the achieved emission reductions are broken down per project.		✓	
4.4.9	The calculations of the emission reductions of the projects are correct.		✓	

The calculations of the achieved emission reductions are comprehensively documented in the calculation sheet. These calculations are implemented correctly and comply with the relevant framework conditions, including Communication UV-1315 and the CO_2 Ordinance. No CL or CAR were issued under this section.

For program-specific issues, the calculations of achieved emission reductions are broken down per project, and the calculations of the emission reductions of the projects are correct.

Final questions on ex-post calculation of allowable emission reductions (section 4.4 Verification report)

Checklist item	Fixed parameters	n.a.	Applies	Does not apply
4.4.8	Any adjustments described in chapter 1.1 of the monitoring report that affect section 4.4 of the verification report are described comprehensibly and implemented correctly.		✓	
4.4.9	Any FARs from the suitability decision or the order on the last monitoring report that affect this section are described in a comprehensible manner and implemented correctly.	✓		

The calculations of achieved emission reductions are well-documented, correctly implemented, and comply with relevant standards.

4.5 Emission reductions and significant changes

Checklist item	Fixed parameters	n.a.	Applies	Does not apply
4.5.1	The information on emission reductions achieved to date and ex-ante expected emission reductions is shown per calendar year.		✓	
4.5.2	The emission reductions actually achieved correspond to the emission reductions expected according to the project/program description. Any deviations are justified in a comprehensible manner.		✓	
4.5.3	Deviations of the achieved emission reductions from the values specified in the project/program description are less than 20%. Any deviations are justified in a comprehensible manner.	✓		
4.5.4	There is no significant difference between ex-ante estimated and ex-post quantified emission reductions.	✓		
4.5.5	From the verifier's point of view, no revalidation is necessary due to significant changes regarding emission reductions.		✓	

Emission reductions achieved and expected are shown per calendar year, aligning with the project/program description. No revalidation is required, as the identified changes do not materially impact the program's emission reduction calculations.

Cost-effectiveness analysis, technology used, other changes

Checklist item	Fixed parameters	n.a.	Applies	Does not apply
4.5.6	The information on emission reductions achieved to date and ex-ante expected emission reductions is shown per calendar year.		✓	
4.5.7	The emission reductions actually achieved correspond to the emission reductions expected according to the project/program description. Any deviations are justified in a comprehensible manner.		✓	
4.5.8	Only if 4.5.6 does not apply: Deviations of actual costs and revenues from the values specified in the project/program description are less than 20%. Any deviations are justified in a comprehensible manner.	✓		
4.5.9	Only if 4.5.6 does not apply: There is no significant deviation with regard to the profitability analysis.	✓		
4.5.10	From the verifier's point of view, no new validation is necessary due to significant changes regarding the economic analysis.		✓	
4.5.11	Only for initial verification, or if 4.5.6 does not apply: The technology used corresponds to that in the project/program description (initial verification after validation) or the last monitoring report. Any deviations		✓	

Checklist item	Fixed parameters	n.a.	Applies	Does not apply
	are described, justified and appropriate in the corresponding table.			
4.5.12	Only for initial verification, or if 4.5.6 does not apply: There is no significant change with regard to the technology used.		✓	
4.5.13	From the verifier's point of view, a new validation is not necessary due to significant changes in the technology used.		✓	
4.5.14	There are no other changes that might require revalidation (e.g., in the case of programs changing the inclusion criteria).		✓	
4.5.15	From the verifier's point of view, a revalidation is not necessary due to other significant changes.		✓	

The verification checklist conducted a rigorous assessment of critical parameters related to emission reductions and project descriptions, ensuring a comprehensive evaluation of the program's performance. A key finding revealed that achieved emission reductions were significantly lower than initial ex-ante estimates across all CPAs, primarily due to fewer operational E-Buses during the monitoring period., and that any deviations are justified. The checklist also covers the technology used in the project, confirming it corresponds to the descriptions in the project or monitoring report. Additionally, it verifies that there are no significant changes in economic analysis or other aspects that would require revalidation. Overall, the checklist ensures consistency and justifiability in emission reductions, technology use, and economic analyses.

Concluding questions on material changes (Section 4.5 Verification Report)

Checklist item	Fixed parameters	n.a.	Applies	Does not apply
4.5.16	Any adjustments described in chapter 1.1 of the monitoring report that affect section 4.5 of the verification report are described comprehensibly and implemented correctly.		✓	
4.5.17	Any FARs from the suitability decision or the order on the last monitoring report that affect this section are described in a comprehensible manner and implemented correctly.	✓		

Overall, there was no material change in the implementation of the Program during the second monitoring period.

4.6 Final assessment

Checklist item	Fixed parameters	n.a.	Applies	Does not apply
4.6.1	Any information in the "Other" section of the monitoring report has been completed in full. Based on the information provided, there is no need for action in the existing monitoring period.	✓		
4.6.2	All annexes are listed completely and documented accordingly. All references in the report are verifiable, correct and clearly assigned.		✓	
4.6.3	The monitoring report and supporting documents are complete and consistent.		✓	
4.6.4	All issues to be clarified (FAR) from the order on the suitability decision or the order on the last monitoring report are clearly listed and resolved.	✓		
4.6.5	All changes are documented in a comprehensible and consistent manner.		✓	
4.6.6	The information provided by the project/program complies with the requirements of the CO2 Ordinance and the recommendations of the Enforcement Notices UV-1315 and UV-2001.		✓	

A1 List of documents used

1) Use of Electric Vehicles in Public Transportation System (T-VER-METH-TM-05), Version 3
2) Modal Shift from Private Vehicles to Public Passenger Transportation with Electric Vehicles (T-VER-METH-TM-06), Version 3
3) Emission Reduction and Carbon Storage Projects and Programs, Federal Office for the Environment (FOEN)
4) Validation and Verification of Domestic Projects and Programs, Federal Office for the Environment (FOEN)
5) Guideline for Thailand Voluntary Emission Reduction Program (T-VER) (Version 03)
6) T-VER Project Development Guideline, September 2019
7) T-VER Validation and Verification Guideline, dated 2 March 2023
8) Monitoring Report, version 1.0, file name “2. Monitoring Report MP 3_V1.0_250625” date 30/06/2025
9) Calculation sheet, version 1 file name “3. MP3 - Ex-Post-bangkok-e-bus_30062025” date 23/06/2025
10) Authorization Statement by the Federal Office for the Environment of the Swiss Confederation, Authorization statement reference number: 5002, 2023, date 27/02/2023, issued by Federal Office for the Environment FOEN
11) Letter of Office of Natural Resources and Environmental Policy and Planning, subject “Authorization Statement for Bangkok e-bus Program: “Operation of e-buses on privately owned, scheduled public bus routes in the Bangkok Metropolitan area by Energy Absolute”, date 08/02/2023
12) E-bus purchase agreement, between “PAYPOP Co., Ltd.” and “Thai Smile Bus Co., Ltd.”
13) E-bus purchase agreement, between “Next Point PCL.” and “Thai Smile Bus Co., Ltd.”
14) NGV Bus Salvage Purchase Agreement, between “Next Point PCL.” and “Ms. Kesara Saoklang”, Agreement number SMB-HO-LAW-01-2022, date 10/10/2022
15) Vehicle Deregistration Certificate for 1065 NGV Bus from the Department of Land Transport
16) Technical Specifications of e-Bus 120 kWh, 151 kWh, 302 kWh, issued by PAYPOP Co., Ltd.
17) MOU between “Amita Technology (Thailand) Co., Ltd.” and “Thai Smile Bus Co., Ltd.”, date 29/11/2021
18) License to Operate Transportation by Passenger Vehicle, issued by the Department of Land Transport
19) Bus registration, issued by the Department of Land Transport
20) MOU between “Energy Absolute PCL.” and “Thai Smile Bus Co., Ltd.”, subject “Development of GHG Emission Reduction Project” date 15/06/2022
21) NGV bus operation record during 01/01/2024-31/12/2024, by Thai Smile Bus Co., Ltd.
22) E-Bus mileage record from GPS data (exported from demo.sitgps.com from database) during 01/01/2024-31/12/2024, by Thai Smile Bus Co., Ltd.
23) E-Bus maintenance logbook during 01/01/2024-31/12/2024, by Auto Bus Service Co., Ltd.
24) E-Bus charging record (exported from thaismilebus.com database) during 01/01/2024-31/12/2024, by Auto Bus Service Co., Ltd.
25) E-Bus charging logbook during 01/01/2024-31/12/2024, by Auto Bus Service Co., Ltd.
26) Employment data, Operational Report of Thai Smile Bus Co., Ltd., December 2024
27) Financial Details MP3, by Energy Absolute PCL.

A2 List of questions for verification

Formulate questions about the statements in the checklist box that do not apply here (duplicate blocks as needed):

Clarification Request (CR)
None

Corrective Action Request (CAR)

CAR01		CLOSED	
4.3.10	Any calibrations / calibrations for each dynamic parameter are still valid (with proof or, if approved, with plausibility check).		
Question (18.07.2025) There was no evidence of calibration records for the following EV charging stations: sr. WOD0B1505D, WOD0B15056, and WOD0B1504D			
Applicant's answer (23.07.2025) Attached calibration reports for charging station serial number WOD0B15037, WOD0B1505D, WOD0B15056, and WOD0B1504D			
Conclusion Verifier The verifier has reviewed the organization's clarification and supporting documentation and found them to be correct. CAR01 has been closed.			

Forward Action Request (FAR) that had to be considered in the verified monitoring report and their implementation.

FAR01		FAR	
4.1.8	The information on the implementation of the individual projects newly included in the program is described and supported by appropriate documents. Any deviations are comprehensibly justified and appropriate.		
Question (18.07.2025) There was no evidence detailing your approach or procedures for managing degraded batteries			
Applicant's answer (23.07.2025) The Bangkok E-Bus project has been in operation for only 2–3 years, while the power battery system warranty from the manufacturer lasts for 7 years. and to date, no significant battery degradation issues have been identified.			
Conclusion Verifier The verifier has reviewed the organization's clarification and supporting documentation and found it to be consistent with the current verification period. But the issue needs to be followed up again in the next verification.			

FAR02		FAR	
4.1.8	The information on the implementation of the individual projects newly included in the program is described and supported by appropriate documents. Any deviations are comprehensibly justified and appropriate.		
Question (18.07.2025)			

There was no evidence of the disposal and management of de-registered vehicles from both the Smart Bus merger (221 vehicles) and other minor mergers (160 vehicles).
Applicant's answer (23.07.2025) According to the transportation regulations set by Thailand's Department of Land Transport (DLT), a vehicle that has been officially de-registered from the national transportation system is no longer legally allowed to operate.
Conclusion Verifier The verifier has reviewed the organization's clarification and supporting documentation and found it to be consistent with the current verification period. But the issue needs to be followed up again in the next verification.

FAR03		FAR	
4.3.10	Any calibrations / calibrations for each dynamic parameter are still valid (with proof or, if approved, with plausibility check).		
Question (18.07.2025) There was no evidence of GPS calibration records, a calibration plan, or maintenance plan for GPS devices.			
Applicant's answer (23.07.2025) The project has only been in operation for 2–3 years; therefore, calibration is not yet required. From 2025 onward, the GPS Troubleshooting Process is outlined in the diagram.			
Conclusion Verifier The project has only been in operation for 2–3 years; therefore, calibration is not yet required. From 2025 onward, the GPS Troubleshooting Process is outlined in the diagram. But the issue needs to be followed up again in the next verification.			