

5002 Operation of e-buses on privately owned, scheduled public bus routes in the Bangkok Metropolitan area by Energy Absolute

Verified monitoring period: Monitoring from 01.10.2022 to 31.12.2022
Verification cycle: 1st verification
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Verification body: Bureau Veritas Certification (Thailand) Limited
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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 01/10/2022 to 31/12/2022. The verification was conducted in accordance with the requirement of the CO₂ Ordinance (Article 5. and 5a for program) and requirements of host country under T-VER program. Level of assurance is reasonable and materiality threshold is 5%.

The verification methodology consists of document review, including the Monitoring Report and supporting documents/database and on-site inspection. The verifier conducted site visit at the bus terminals during 02/08/2023-04/08/2023, to investigate the program activity implementation, data monitoring and interviewed responsible person. Based on document review and onsite verification, the verifier found 5 deviations of the assessed program compared to the registered MADD, as follows;

- The E-Bus battery capacity has changed from ≥ 150 kWh for each e-bus within the program to ≥ 120 kWh.
- Charging station operator change 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 by E-Buses is taken from charging station only, no electricity consumption data from Metropolitan Electricity Authority’s electricity bill being used in project emission calculation.
- Specific fuel consumption of the baseline NGV buses are taken from 35 Operating NGV Bus Routes, instead of 37 NGV Bus Routes as per the registered MADD.

All these deviations had been properly declared in the monitoring report. Overall, none of these deviations are significant change that could affect amount of emission reduction. Therefore, no revalidation needed to be carried out.

The program has no FAR from validation to follow up in this verification. However, the verifier has issued 6 CARs and 5 CRs (No FARs from this verification) during verification, to request the project developer to conduct necessary resolves and clarify these issues. Eventually, the project developer could resolve and give satisfactory clarification to close all the CARs and CLs.

According to the evidence and information that are considered necessary to guarantee that GHG emission reductions are appropriately calculated. Our opinion relates to the projects' GHG emissions and resulting GHG emission reductions reported and related to the validated and registered project baseline, monitoring plan, and associated documents, the verifier can confirm that the GHG emission reductions are calculated without material misstatements.

The evaluation of the program has resulted in the following emission reductions:

| | [t CO2eq] | Comment |
|--|-----------|---------|
| Total emission reductions achieved Emission reductions achieved | 1,916 | - |
| Which emission reductions are to be taken into special account according to section 3.2 | None | - |
| Emission reductions recommended for issuance by the verification body [t CO2eq] Emission reductions | 1,916 | - |

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

None

Verification team role and responsibility

| | Name, telephone, and e-mail address | Place and date: | Signatures |
|-----------------------------|--|---|---|
| Team Leader | Chanyawut Engsuwan +66 2 670 4800 chanyawut.engsuwan@bureauveritas.com | Bureau Veritas Certification (Thailand) Limited 27/08/2023 |  |
| Technical Expert | Chanyawut Engsuwan +66 2 670 4800 chanyawut.engsuwan@bureauveritas.com | Bureau Veritas Certification (Thailand) Limited 27/08/2023 |  |
| Team member | Dr. Poonperm Vardhanabindu +66 2 670 4800 poonperm.vardhanabindu@bureauveritas.com | Bureau Veritas Certification (Thailand) Limited 27/08/2023 |  |
| Team member | Tadpong Ratanasoponchai +66 2 670 4800 tadpong.ratanasoponchai@bureauveritas.com | Bureau Veritas Certification (Thailand) Limited 27/08/2023 |  |
| Team member | Wattana Pipatvidhyanont +66 2 670 4800 wattana.pipatvidhyanont@bureauveritas.com | Bureau Veritas Certification (Thailand) Limited 27/08/2023 |  |
| Internal Technical Reviewer | Dr. Chumphol Sriprapakorn +66 2 670 4800 chumphol.sriprapakorn@bureauveritas.com | Bureau Veritas Certification (Thailand) Limited 27/08/2023 |  |

1 Information on the verification

1.1 Documents used

| | |
|---|------------------------------|
| Version and date of the program description | Version 5.3, date 21/12/2023 |
| Version and date of the validation report | Version 1, date 29/09/2022 |
| Version and date of the monitoring report | Version 3, date 25/08/2023 |
| Suitability decision: Date | 27/02/2023 |
| Site visit: Date | 02/08/2023 - 04/08/2023 |
| Used list of companies exempt from levy | Not applicable |

Other documents used on which the verification is based are listed in Annexure 1 of the report.

1.2 Procedure for verification

1.2.1 Aim of the verification

To ensure the Monitoring Report meets the requirements of the CO₂ Ordinance and other relevant host country's criteria and the Monitoring has been implemented as specified in the validated project description. The verifier shall ensure that:

- Checking whether the verified emission reductions meet the requirements of Art. 5 (for programs also 5a) CO₂ Ordinance.
- Checking whether information on the implemented project/program is complete and consistent.
- Verification of the 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).
- Verification that the technologies, equipment, etc. used are in accordance with the monitoring concept.
- Verification of the calculation of the achieved emission reduction.

1.2.2 Description of the chosen methods

The verification was conducted in accordance with the requirement of the CO₂ Ordinance (Articles 5. and 5a for the program), requirements of host country under the T-VER program, and Bureau Veritas's Internal Protocol of the GHG Verification and Validation body, as follows;

- 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 Programmes, Federal Office for the Environment (FOEN)
- Validation and Verification of Domestic Projects and Programmes, 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

1.2.3 Description of the procedure / steps performed

The verification process comprises of verification planning, on-site inspection, CR&CAR Closure, Internal Technical Review (ITR), and verification decision. During verification planning, the verifier will conduct a desk review including the Monitoring Report, and calculation sheet along with supporting document review, for the purpose of issue verification plan and initial CR&CAR to the

applicant. Then on-site inspection will be performed to investigate the program activity implementation i.e., equipment installation and operation, interviewing the program operator and any involved parties with the program. Data used in emission reduction calculation will be checked with the data sources to ensure the credibility of data sources and accuracy of the data transfer. The verifier may issue additional CR or CAR based on finding during on-site inspection. Then the draft verification report will be issue after all CR & CAR are closed and enter the ITR process. Finally, the verification decision will be made by the authorized person in the form of a verification statement to delivered to the applicant.

1.2.4 Description of the quality assurance procedure

The draft verification report underwent internal quality control through Internal Technical Review (ITR) before finalizing the verification report of the program. The ITR is an independent process performed to examine thoroughly that the process of verification has been carried out in conformance with the requirements of the verification scheme as well as internal Bureau Veritas's procedures. The Team Leader provides a copy of the verification report to the reviewer, including any necessary verification documentation. The reviewer reviews the submitted documentation for conformance with the verification scheme. This will be a comprehensive review of all documentation generated during the verification process. When performing an Internal Technical Review, the ITR reviewer ensures that:

- The verification activity has been performed by the team by exercising utmost diligence and complete adherence to all relevant rules and requirements.
- The review encompasses all aspects related to the project which includes implementation of monitoring plans and emission reduction calculations, internal quality assurance systems of the project participant as well as the project activity, closure of CARs, CRs, and FARs during the verification exercise, review of sample documents.

The reviewer may raise Clarification Requests (CR) to the verification team and discuss these matters with the Team Leader. After the agreement of the responses to the Clarification Requests from the verification team as well as the applicant, the finalized verification report is accepted for further processing.

1.3 Declaration of Independence

The internal or external technical expert of the body approved by the FOEN undertakes the verification of this program "Operation of e-buses on privately owned, scheduled public bus routes in the Bangkok Metropolitan area by Energy Absolute" on behalf of the company approved by the FOEN as a validation/verification body "Bureau Veritas Certification (Thailand) Limited"

The company as well as the approved technical expert, the quality manager, and the overall manager of the validation/verification body (VVS) confirm that - apart from their services within the scope of the validation/verification - they are independent of the organizations concerned (in particular the client of the validation/verification and the operators of the individual projects, if it is a program) as well as their consultants.

To ensure its independence, VVS commits itself to:

- not validate projects or programs or verify monitoring reports in the development⁹ of which it has been involved;

- not to use, in the validation or verification of a project or a program, a technical expert, quality manager, or overall manager who has been involved in any way in the development of the same project;
- not to use a technical expert, quality manager or manager in charge of the verification who has already been involved in any way in the validation of the project or program;
- not to use in the validation any technical expert, quality manager, or overall manager who has already been involved in any way in the last verification of the project or program;
- not to carry out validations and verifications for clients for whom it has been involved in the development of the same type of project;
- not to validate or verify projects or programs for clients for whom it has provided advice or an audit in the setting of CO₂ tax exemption targets or for whom it has provided advice within the framework of the Swiss Energy PEIK platform;
- not to advise the organizations concerned in the context of validation and verification, but to conduct an independent review of the documentation. In particular, the organizations concerned must not be advised in such a way that the amount of creditable emission reductions is systematically maximized.

The VVS ensures that the commissioned technical expert, the person responsible for quality and the person with overall responsibility as well as the external technical experts mandated by him also fulfill the preceding requirements.

The technical expert, the person responsible for quality, and the person with overall responsibility of the validation/verification body confirm with their signature that - apart from their services within the scope of the validation/verification - they are independent of the client of the validation/verification and its consultants.

1.4 Disclaimer declaration

None

2 Means of Verification

2.1 Desk/document review

The assessment of the project documentation provided by the applicant is based on both quantitative and qualitative information on emission reductions. Quantitative information comprises of the first version of the Monitoring Report, dated 13/07/2023 and its later revisions. The final monitoring report (MR) version 03 dated 25/08/2023 and emission reduction calculation sheet, dated 25/08/2023 have been reviewed and are being referred as the latest approved versions in this verification report. Qualitative information comprises information on internal management controls, calculation procedures, and procedures for transfer of data, frequency of emissions reports, and review and internal review of calculations. In addition to the monitoring documentation provided by the project participants, the verifier also reviewed the registered MADD, the registered validation report, and other relevant criteria as per the list shown in Annexure 1

The purpose of the desk review are the monitoring report check against the relevant criteria, methodology and the registered MADD. According to the desk review, the verifier came up with the initial 5 CRs and 2 CARs, detail of these CRs and CARs are as shown in Annexure 2. 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 On-site inspection

The on-site inspection was conducted during 02/08/2023 - 04/08/2023 at E-Bus terminals, located in the Bangkok Metropolitan area. The following table provides details on activities performed onsite.

Date: 02/08/2023

| No. | Site Location | Activity Performed On-site | Verification Team Member |
|-----|------------------------|---|--|
| 1 | Phra Pradaeng Terminal | <ul style="list-style-type: none"> - Inspection of E-Buses and charging station installation and operation - Inspection of data monitoring activity, data retention and QA/QC process - Inspection of monitoring equipment maintenance and calibration - Interview with responsible persons and document/evidence check | Chanyawut Engsuwan Tadpong Ratanasoponchai Wattanaipipatvidhyanont |
| 2 | Samae Dam Terminal | <ul style="list-style-type: none"> - Inspection of E-Buses and charging station installation and operation - Inspection of data monitoring activity, data retention, and QA/QC process - Inspection of monitoring equipment maintenance and calibration | Chanyawut Engsuwan |

| | | | |
|---|------------------------|--|---|
| | | - Interview with responsible persons and document/evidence check | |
| 3 | Wat Rai Khing Terminal | <ul style="list-style-type: none"> - Inspection of E-Buses and charging station installation and operation - Inspection of data monitoring activity, data retention, and QA/QC process - Inspection of monitoring equipment maintenance and calibration - Interview with responsible persons and document/evidence check | Tadpong Ratanasoponchai Wattanai Pipatvidhyanont |

Date: 03/08/2023

| No. | Site Location | Activity Performed On-site | Verification Team Member |
|-----|--------------------------|---|--------------------------|
| 1 | Ramkhamhaeng 74 Terminal | <ul style="list-style-type: none"> - Inspection of E-Buses and charging station installation and operation - Inspection of data monitoring activity, data retention, and QA/QC process - Inspection of monitoring equipment maintenance and calibration - Interview with responsible person and document/evidence checks | Tadpong Ratanasoponchai |
| 2 | Bueng Kum Terminal | <ul style="list-style-type: none"> - Inspection of E-Buses and charging station installation and operation - Inspection of data monitoring activity, data retention and QA/QC process - Inspection of monitoring equipment maintenance and calibration - Interview with the responsible person and document/evidence checks | Tadpong Ratanasoponchai |

Date: 04/08/2023

| No. | Site Location | Activity Performed On-site | Verification Team Member |
|-----|----------------------------|---|--------------------------|
| 1 | Rangsit-Bang Poon Terminal | - Inspection of E-Buses and charging station installation and operation | Chanyawut Engsuwan |

| No. | Site Location | Activity Performed On-site | Verification Team Member |
|-----|---------------------------|---|--------------------------|
| | | <ul style="list-style-type: none"> - Inspection of data monitoring activity, data retention, and QA/QC process - Inspection of monitoring equipment maintenance and calibration - Interview with responsible persons and document/evidence checks | |
| 2 | Minburi-Nong ChokTerminal | <ul style="list-style-type: none"> - Inspection of E-Buses and charging station installation and operation - Inspection of data monitoring activity, data retention, and QA/QC process - Inspection of monitoring equipment maintenance and calibration - Interview with responsible persons and document/evidence checks | Chanyawut Engsuwan |

According to the on-site inspection, the verifiers issue 4 additional CARs during the on-site inspection. Details of these CARs and resolution are shown in Annexure 2

2.3 Interviews

The following table provides a list of in-person interviewees and a brief description of subject discussed.

| Date | Name | Organization | Subject Discussed |
|------------|--------------------------|--|--|
| 02/08/2023 | Norasak Suphakorntanakit | Energy Absolute Public Company Limited | Project activity implementation, Data QA/QC, program structure |
| 02/08/2023 | Thippawan Sahatara | Energy Absolute Public Company Limited | Project activity implementation, Data QA/QC, program structure |
| 02/08/2023 | Weerawee Khamdee | Thai Smile Bus Co., Ltd. | E-Bus Operation, Monitoring activity |
| 02/08/2023 | Panthita Panyawilai | Thai Smile Bus Co., Ltd. | E-Bus Operation, Monitoring activity |
| 02/08/2023 | Sahalak Phoharn | Thai Smile Bus Co., Ltd. | E-Bus Operation, Monitoring activity |
| 02/08/2023 | Korakoj Sanguanpiyapan | Carbon Coordinating Managing Entity (Co) Ltd., | Program activities applicability/changes, fixed & dynamics parameter, GHG reduction calculation, |
| 02/08/2023 | Panchanit Ittisaksakul | Carbon Coordinating Managing Entity (Co) Ltd., | Program activities applicability/changes, fixed & dynamics parameter, GHG reduction calculation, |
| 02/08/2023 | Weerapun Muthanon | Carbon Coordinating Managing Entity (Co) Ltd., | Program activities applicability/changes, fixed & |

| | | | |
|------------|-----------------------|--|--|
| | | | dynamics parameter, GHG reduction calculation, |
| 02/08/2023 | Apirat Witthayanukool | Carbon Coordinating Managing Entity (Co) Ltd., | Program activities applicability/changes, fixed & dynamics parameter, GHG reduction calculation, |
| 02/08/2023 | Wiriya Rattanasuwan | Carbon Coordinating Managing Entity (Co) Ltd., | Program activities applicability/changes, fixed & dynamics parameter, GHG reduction calculation, |
| 02/08/2023 | Jetsada Falert | Energy Absolute Public Company Limited | Program activities applicability/changes, fixed & dynamics parameter, GHG reduction calculation, |

| Date | Name | Organization | Subject Discussed |
|------------|------------------------|--|--|
| 03/08/2023 | Thippawan Sahatara | Energy Absolute Public Company Limited | Project activity implementation, Data QA/QC, program structure |
| 03/08/2023 | Weerawee Khamdee | Thai Smile Bus Co., Ltd. | E-Bus Operation, Monitoring activity |
| 03/08/2023 | Korakojsanguanpiyapan | Carbon Coordinating Managing Entity (Co) Ltd., | Program activities applicability/changes, fixed & dynamics parameter, GHG reduction calculation, |
| 03/08/2023 | Panchanit Ittisaksakul | Carbon Coordinating Managing Entity (Co) Ltd., | Program activities applicability/changes, fixed & dynamics parameter, GHG reduction calculation, |
| 03/08/2023 | Weerapun Muthanon | Carbon Coordinating Managing Entity (Co) Ltd., | Program activities applicability/changes, fixed & dynamics parameter, GHG reduction calculation, |
| 03/08/2023 | Apirat Witthayanukool | Carbon Coordinating Managing Entity (Co) Ltd., | Program activities applicability/changes, fixed & dynamics parameter, GHG reduction calculation, |
| 03/08/2023 | Wiriya Rattanasuwan | Carbon Coordinating Managing Entity (Co) Ltd., | Program activities applicability/changes, fixed & dynamics parameter, GHG reduction calculation, |
| 03/08/2023 | Vivat Khositsakul | Energy Absolute Public Company Limited | Program activities applicability/changes, fixed & dynamics parameter, GHG reduction calculation, |

| Date | Name | Organization | Subject Discussed |
|------------|-----------------------|--|--|
| 04/08/2023 | Thippawan Sahatara | Energy Absolute Public Company Limited | Project activity implementation, Data QA/QC, program structure |
| 04/08/2023 | Weerawee Khamdee | Thai Smile Bus Co., Ltd. | E-Bus Operation, Monitoring activity |
| 04/08/2023 | Korakojsanguanpiyapan | Carbon Coordinating Managing Entity (Co) Ltd., | Program activities applicability/changes, fixed & |

| | | | |
|------------|------------------------|--|--|
| | | | dynamics parameter, GHG reduction calculation, |
| 04/08/2023 | Panchanit Ittisaksakul | Carbon Coordinating Managing Entity (Co) Ltd., | Program activities applicability/changes, fixed & dynamics parameter, GHG reduction calculation, |
| 04/08/2023 | Weerapun Muthanon | Carbon Coordinating Managing Entity (Co) Ltd., | Program activities applicability/changes, fixed & dynamics parameter, GHG reduction calculation, |
| 04/08/2023 | Apirat Witthayanukool | Carbon Coordinating Managing Entity (Co) Ltd., | Program activities applicability/changes, fixed & dynamics parameter, GHG reduction calculation, |
| 04/08/2023 | Wiriya Rattanasuwan | Carbon Coordinating Managing Entity (Co) Ltd., | Program activities applicability/changes, fixed & dynamics parameter, GHG reduction calculation, |
| 04/08/2023 | Jetsada Falert | Energy Absolute Public Company Limited | Program activities applicability/changes, fixed & dynamics parameter, GHG reduction calculation, |

2.4 Sampling approach

Based on the risk assessment and strategic analysis as per Bureau Veritas's Internal Protocol of the GHG Verification and Validation body, the verifier has established the sampling plan to ensure the accuracy and consistency of data used in the program emission calculation. The method of sampling consists of sample size calculation which is at least square root of a total number of populations. Then purposive sampling is chosen to determine the sample bus terminals, the number of E-buses and subsequently amount of ex-post emission reduction.

The sample size calculation result in the number on-site inspection-wise, total number of terminals to conduct on-site inspection are 7 bus terminals (out of a total of 20 operating bus terminal) which will cover 347 E-buses (out of a total of 550 operating E-buses) and cover around 75% of total amount of ex-post emission reduction. The list of terminals to conduct on-site inspection is as follows;

| No. | Terminal | No. of Operate E-Bus | Amount of Ex-post emission reduction (tCO _{2e}) |
|-------|---------------------------|----------------------|---|
| 1 | Bueng Kum Terminal | 46 | 225.4 |
| 2 | Ramkhamhaeng 74 Terminal | 49 | 174.5 |
| 3 | Minburi-Nong ChokTerminal | 60 | 277.1 |
| 4 | Rangsit-Bang PoonTerminal | 28 | 223.4 |
| 5 | Phra Pradaeng Tetminal | 66 | 226.3 |
| 6 | Samae Dam Terminal | 64 | 388.1 |
| 7 | Wat Rai Khing Terminal | 34 | 215.1 |
| Total | | 347 | 1,729.9 |

During on-site inspection (02/08/2023-04/08/2023), the verification team prepared a sampling plan to verify the data provided in emission reduction calculation against primary data sources (i.e.,

electricity charging logbook, E-Bus mileage logbook and web base data storage, etc.), as per following detail parameters sampling approach:

| Dynamics Parameter | Description | Sampling / Verification Approach |
|--------------------|---|--|
| $FC_{BL, i, NGV}$ | Quantity of fuel consumption of the NGV of the ICEV in the public transport system on the route i in the baseline | This parameter is calculated from $SFC_{NGV} \times L_{BL, i}$. Hence, no sampling is required. |
| SFC_{NGV} | Specific fuel consumption of the baseline NGV buses | Sampling data at least square root of the total route of ICE bus routes equal to 6 out of 35 ICE bus routes, against the primary source of data i.e. mileage and fuel consumption logbook. |
| $L_{BL, i}$ | Annual distance (round trip) on route ' i ' in the baseline scenario. | This parameter is equal to $L_{PJ, i, y}$ (1:1 adjustment as per the registered MADD). Hence, no sampling required. |
| $L_{PJ, i, y}$ | Annual distance of electric vehicles in route i year y . | Sampling data of all E-Buses at 7 onsite-inspection terminals, against the primary source of data i.e. mileage logbook and web based data storage. |
| $EC_{PJ, i, j, y}$ | Annual electricity consumption for charging EV number j on route i during year y | Sampling data of all E-Buses at 7 onsite-inspection terminals, against primary source of data i.e. electricity charging logbook and web base data storage. |
| $EF_{EC, y}$ | Grid Emission factor. | Crosscheck $EF_{EC, y}$ value with the latest Emission Factor for standard T-VER project, announced by TGO on 30/11/2022 |
| IR_i | Technology improvement factor for vehicle category i per year | Default value 0.99 as per UNFCCC-CDM-Tool 18 version 01 |

2.5 Verification findings, Clarification requests, corrective action requests, and forward action requests raised

Verification finding and conclusions are described in Section 3 and Section 4 "Verification Checklist" of this report. While details of CRs and CARs issued during the desk review and on-site inspection and resolution are as shown in the Annexure 2. Overall, CRs and CARs can be summarized under the area of verification topics and stage of CRs and CARs issuance, as follows;

| Area of verification topics | No. of CR | No. of CARs | No. of FAR |
|--|-----------|-------------|------------|
| Assessment of application documents (3.3) | - | - | - |
| Information about the project/program (4.1) | 2 | 3 (2) | - |
| Differentiation from climate or energy policy instruments and avoidance of double counting (4.2) | - | - | - |
| Implementation Monitoring (4.3) | 2 | 3 (2) | - |
| Ex-post calculation of creditable emission reductions (4.4) | - | - | - |
| Emission reductions and significant changes (4.5) | 1 | - | - |
| Total | | | - |

Remark: (-) indicate the CR or CAR issued during on-site inspection

3 General information on the program

3.1 Project organization

| | |
|---------------------------|--|
| Project Activity Operator | Energy Absolute Public Company Ltd. |
| Name, first name | Mr. Norasak Suphakornthanakit |
| Address | 16th floor, AIA Capital Center Building 89 Ratchadaphisek Road, Dindaeng Bangkok, 10400 |
| Tel. | +66(0)2 248-2488-92 (ext. 19518) |
| E-mail address | norasak.sup@energyabsolute.co.th |

| | |
|--|--|
| Program Management and Coordinating Entity | Carbon Coordinating Managing Entity (Co) Ltd., Thailand (100% owned by South Pole Group) |
| Name, first name | Mr. Renat Heuberger |
| Address | Unit 3A, Evergreen Place, 318 Phaya Thai Rd, Khwaeng Thanon Phetchaburi, Ratchathewi, Bangkok 10400 |
| Tel. | +66 (0)2 219 3791 |
| E-mail address | registries@southpole.com |

3.2 Project information

3.2.1 Short description of the program

The Bangkok E-Bus Program (“the Program”) operates on the public transport routes of Thailand. The Program was developed by the Energy Absolute Public Company Limited (“EA”). The program aims to replace Thailand’s conventional mode of public transport of internal combustion engine vehicles (ICEVs) by the adoption of electric vehicles (EVs) within the Bangkok Metropolitan area. As a result, it will consequently reduce the energy consumption of, and GHG emissions from, public transport. In addition to reducing GHG emissions, the project will improve service quality and local air and noise pollution.

3.2.2 Project type according to project/program description

Electromobility (Transportation)

3.2.3 Applied technology

The technology implemented in the Program comprises of adoption of electric vehicles (EVs) in public transport. The program will replace the use of conventional (diesel & and natural gas) buses with e-buses on a minimum number of 122 privately operated bus routes, totaling 1,913 buses, that provide a regular, scheduled service within the Bangkok Metropolitan area. The other component

of this program is the charging station. The charging stations have been installed at each of the e-bus terminals that are directly connected to the grid.

3.3 Assessment of application documents

| Checklists-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). | | X | |
| 3.3.2 | The cover sheet is filled in completely and correctly. | | X | |
| 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). | | X | |
| 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). | | X | |
| 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. | | X | |
| 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). | | X | |
| 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). | X | | |

Based on application review, the verifier can confirm application document is complete, accurate and consistent throughout the document. Detail of applicant is consistent with data presented at the registered MADD and relevant documents (item 10 item 11 and item 12 of Annexure 1). No CRs or CARs are issued under this section.

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

| Checklists-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. | | X | |
| 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. | | X | CR 1 |
| 4.1.3 | The start of implementation and the start of impact are documented. | | X | |
| 4.1.4 | The monitoring was started at the same time as the start of the impact. Any deviations are comprehensibly justified and appropriate. | | X | |
| 4.1.5 | The monitoring period is completely covered by one or more crediting periods. | | X | |
| 4.1.6 | The project/program is not yet finished. | X | | |
| | Program specific issues | n.a. | Applies | Does not apply |
| 4.1.7 | All new projects included in the program have not been implemented before application to the program. Any deviations are comprehensibly justified and appropriate. | | X | |
| 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. | | X | |
| 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. | | X | |
| 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. | | X | |

Based on the Monitoring Report review (item 37 of Annexure 1), the verifier can confirm description of program implementation is clear and comprehensible. The program start date and monitoring period are valid and in accordance with the crediting period of the registered MADD. The program

start date and program implementation is based on credibility supporting evidence and in accordance with the fact found during the on-site inspection.

However, at preliminary the verifier has issued CR1 to request the applicant to clarify the program registration status under the host country scheme. Eventually, the applicant can give a clear clarification with supporting evidence which program registration database on TGO website. The monitoring report is also revised accordingly. Therefore, the verifier accepted the revised monitoring report and CR 1 is closed.

Location and system boundary

| Checklists-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. | | X | |
| 4.1.12 | The system boundaries have not changed from those defined in the project/program description (initial verification after validation) or the last monitoring report. Any deviations are comprehensibly justified and appropriate. | | X | |
| | 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. | | X | |

Based on license to operate (item 18 of Annexure 1) review and on-site inspection, the verifier can confirm location and system boundary are in line with the information given in the monitoring report and the registered MADD. The newly added 40 bus routes under POA1 correspond to those of the program description and applicability criteria. No CRs or CARs are issued under this section.

Technology used

| Checklists-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 the last monitoring report. Any deviations are comprehensibly justified and appropriate. | | X | CAR 3, CAR 4 |
| 4.1.15 | The implemented technology is at least state-of-the-art. | | X | |

| Checklists-item | | n.a. | Applies | Does not apply |
|-----------------|--|------|---------|----------------|
| | In the case of a project/program to increase sink performance: | | | |
| 4.1.16 | The evidence for the permanence of CO2 sequestration corresponds to that in the project/program description (initial verification after validation) or the last monitoring report. Any deviations are comprehensibly justified and appropriate ¹³ . | X | | |

Based on the desk review and on-site inspection, the verifier can confirm the technical description at equipment nameplate and specification / datasheet of equipment (item 16, 34 and 35 of Annexure 1), of the implemented program corresponds to the monitoring report. There are some deviations in program implementation compared to the registered MADD, which are;

- The E-Bus battery capacity has changed from ≥ 150 kWh for each e-bus within the program to ≥ 120 kWh
- The locations of bus terminals for each bus route have been changed from the registered MADD.

However, none of these deviations would affect the emission reduction of the program. All these deviations are appropriately and comprehensibly justified in the Monitoring Report.

However, at preliminary the verifier has issued CAR 3 and CAR 4 because the verifier investigated during an on-site inspection, the nameplate of the EV buses shown capacity of battery capacity not consistent with the battery capacity indicated in the Monitoring Report and no adequate information on the charging station of the program is given in the Monitoring Report, respectively. Eventually, the applicant can give a clear clarification with supporting evidence (item 33 of Annexure 1). The monitoring report is also revised accordingly. Therefore, the verifier accepted the revised monitoring report and CAR 3 and CAR 4 are closed.

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

| Checklists-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. | | X | CR 2 |
| 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. | X | | |

Overall, the program information presented in the Monitoring Report the during the first monitoring period is accurate and comprehensible. All adjustments in the program activity described in the monitoring report are described accurately and comprehensibly.

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

| Checklists-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 ¹⁴ , 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. | X | | |
| 4.2.2 | The project/program receives the cost-oriented feed-in tariff KEV ¹⁵ . | X | | |
| 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. | X | | |

This section is not applicable to the program.

Differentiation from companies that are exempt from the CO₂ tax

| Checklists-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. | X | | |

This section is not applicable to the program.

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).

| Checklists-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 validation) or | | X | |

| Checklists-item | | n.a. | Applies | Does not apply |
|-----------------|---|------|---------|----------------|
| | 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. | | X | |
| 4.2.7 | The measures enable the effective avoidance of double counting due to other compensation for ecological added value. | | X | |

Based on the desk review, the verifier can confirm no double counts by the program and there are appropriate measures to avoid double counting. Since there is a unique serial number for every credit issued by TGO and the transfer of ITMOs shall follow the “Carbon Credit Management Guideline and Mechanism” regulated by ONEP to avoid double counting. No CRs or CARs is issued under this section.

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

| Checklists-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. | | X | |
| 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. | X | | |

Overall, no double counts by the program, and there are appropriate measures to avoid double counting during the first monitoring period.

4.3 Implementation Monitoring

Monitoring method and data collection

| Checklists-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 the last monitoring report, if necessary including scientific monitoring. Any deviations are comprehensibly justified and appropriate. | | X | |
| 4.3.2 | The monitoring method is described in a comprehensible way. | | X | |
| 4.3.3 | If the project/program has established scientific monitoring, a clear rationale is provided for the possible termination of this monitoring. | X | | |

Based on the desk review and on-site inspection, the verifier can confirm the applied monitoring method corresponds to the method described in the Monitoring Report. There are some deviations in data monitoring implementation compared to the registered MADD, which are;

- Electricity consumption by E-Buses is taken from charging station only, no electricity consumption data from Metropolitan Electricity Authority's electricity bill being used in project emission calculation
- Specific fuel consumption of the baseline NGV buses are taken from 35 Operating NGV Bus Routes, instead of 37 NGV Bus Routes as per the registered MADD.

However, none of these deviations would affect the emission reduction of the program. All deviations are appropriately and comprehensibly justified. No CRs or CARs are issued under this section.

Formulas for calculating the ex-post emission reductions achieved

| Checklists-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. | | X | CAR 1 |
| 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. | X | | |

Based on the Monitoring Report and calculation sheet review (item 37 and item 38 of Annexure 1), the verifier can confirm the formulas used for calculating the emission reductions achieved

correspond to formulas described at the registered MADD. The calculation is presented in spreadsheet format which enable to verify. Value of baseline emission and project emission of each sub-program is shown transparently and appropriately. No CRs or CARs are issued under this section.

Parameters and data collection

| Checklists-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. | | X | |
| 4.3.7 | Each fixed parameter is fully documented (information about the description, value, unit, and data source are filled in). | | X | |
| 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 the description of the parameter). | | X | |
| | 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) | | X | CAR 5, CAR 6 |
| 4.3.10 | Any calibrations/calibrations for each dynamic parameter are still valid (with proof or, if approved, with plausibility check). | | X | CR 4 |
| 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 the measurement procedure, calibration procedure, the accuracy of the measurement method, measurement interval, and responsible person are filled in). | | X | CR 5, CAR 2 |
| 4.3.12 | Any deviations from the monitoring concept of the project/program description or the last monitoring report are comprehensibly justified and appropriate. | | X | |
| 4.3.13 | The accuracy of the measurement method for each new dynamic parameter is adequate. | X | | |
| | Plausibility check | n.a. | Applies | Does not apply |
| 4.3.14 | Each parameter used for the plausibility check of measured values is complete and documented (information on description, value, unit, and data source are filled in). | | X | |
| 4.3.15 | The plausibility checks are correct and comprehensible. | | X | |

| | 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. | | X | |
| 4.3.17 | Each influencing factor is sufficiently and comprehensibly described and substantiated (evidence or data source). | | X | |

Based on the desk review and on-site inspection, the verifier can confirm the fixed parameters used and the data collection process of dynamics parameters of the program's emission reduction calculation are accurate and complete as per the registered MADD. The verifier also checks credibility of data sources and accuracy of data transfer, as follows;

The fixed parameters used in emission calculation

| Fixed Parameter | Value | Supporting Evidence / Verification Method |
|---|-----------------------------|---|
| 1. Net calorific value of natural gas vehicle (NCV_{NGV}) | 36.76 MJ/kg | The registered MADD |
| 2. Emission factor of NGV ($EF_{CO_2,x}$) | 0.056 kgCO ₂ /MJ | The registered MADD |

While the dynamics parameter of the program

| Dynamics Parameter | Value | Supporting Evidence / Verification Method |
|--|------------------------------|---|
| 1. Quantity of fuel consumption of the NGV of the ICEV in the public transport system on the route i in the baseline ($FC_{BL,i,NGV}$) | 1,807,213 kg | This parameter is calculated from $SFC_{NGV} \times LBL_i$. Hence, no sampling is required. |
| 2. Specific fuel consumption of the baseline NGV buses (SFC_{NGV}) | 0.5586 kg _{NGV} /km | Check data of 23 NGV bus route (out of a total of bus 35 routes) against NGV bus operation record. (item 23 of Annexure 1) |
| 3. Annual distance (round trip) on route 'i' in the baseline scenario. (LBL_i) | 3,235,254 km | This parameter is equal to $L_{PJ, i,y}$ (1:1 adjustment as per the registered MADD). Hence, no sampling required. |
| 4. Annual distance of electric vehicles in route i year y ($L_{PJ,i,y}$) | 3,235,254 km | Check data of 347 busses (out of a total of 550 busses) against mileage logbook and mileage data on web base (item 24 and item 25 of Annexure 1) |
| 5. Annual electricity consumption for charging EV number j on route i during year y ($EC_{PJ,i,j,y}$) | 3,700,279 kWh | Check data of 347 busses (out of a total of 550 busses) against electricity charging logbook and mileage data on web base (item 26 and item 27 of Annexure 1) |

| | | |
|---|------------------------------|---|
| 6. Grid Emission factor ($EF_{EC,y}$) | 0.4758 tCO ₂ /MWh | Crosscheck with the latest Emission Factor for standard T-VER project, announced by TGO on 30/11/2022 |
| 7. Technology improvement factor for vehicle category i per year (IR_i) | 0.99 | Crosscheck with default value from UNFCCC-CDM-Tool 18 version 01 |

The monitoring activity is implemented in accordance with the monitoring plan described in the registered MADD. All measuring equipment used for each dynamic parameter is maintained properly and calibrated in accordance with the registered MADD. The Plausibility check of each parameter is complete and documented. All Influential factors analysis is being checked and justified appropriately.

However, at preliminary the verifier has issued CAR 2 CAR 5, and CAR 6 because the detail of some dynamics parameters do not match/not fully cover the description in the MADD, and the distance value of some EV bus routes used in the calculation are not consistence with the supporting GPS data. and data of an EV bus appear on the calculation sheet incorrectly, respectively. Eventually, the applicant can give a clear clarification. The monitoring report and calculation sheet are also revised accordingly. Therefore, the verifier accepted the revised monitoring report and CAR 2 CAR 5, and CAR 6 are closed.

Moreover, at preliminary the verifier has issued CR 4 and CR 5 to request the technical specification, and calibration certificate of electricity meters at EV Bus charging stations and clarify how the SFC_NGV value is calculated, respectively. Eventually, the applicant can give a clear clarification with supporting evidence (item 34 and item 35 of Annexure 1). The monitoring report is also revised accordingly. Therefore, the verifier accepted the revised monitoring report and CR 5 and CR 6 are closed.

Process and management structure

| Checklists-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. | | X | |
| 4.3.19 | The responsibilities for data collection and archiving correspond to the information in the project/program description (initial verification after validation) or the last monitoring report and are described in a comprehensible manner. Any deviations are comprehensibly justified and appropriate. | | X | |
| 4.3.20 | The quality assurance (systems and procedures) corresponds to the information in the project/program description (initial verification after | | X | |

| Checklists-item | Fixed parameters | n.a. | Applies | Does not apply |
|-----------------|--|------|---------|----------------|
| | validation) or the last monitoring report and is implemented appropriately and correctly. Any deviations are comprehensibly justified and appropriate. | | | |

Based on the desk review and on-site inspection, the verifier can confirm the process and management structure of the program correspond to the information in the Monitoring Report and the registered MADD. No CRs or CARs are issued under this section.

Program structure

| Checklists-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. | | X | |
| 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. | | X | |
| 4.3.23 | The actual implementation of the program's projects was audited and confirmed. | | X | |

Based on the E-Bus operation & maintenance record (item 25 and item 27 of Annexure 1) review and on-site inspection, the verifier can confirm the program structure corresponds to the monitoring report. There is a deviation in program structure compared to the registered MADD which is the Charging station operator change from Energy Mahanakorn Co., Ltd. to Auto Bus Service Co., Ltd. However, this would not affect the emission reduction of the program. The deviations are comprehensibly justified and appropriate. No CRs or CARs are issued under this section.

Results of monitoring and measurement data

| Checklists-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). | | X | |
| 4.3.25 | The monitoring systems and procedures implemented are consistent with the information provided in the monitoring plan. | | X | |

| | 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. | | X | |
| 4.3.27 | The measurement data for the projects included in the program are listed and documented completely and comprehensibly. | | X | |
| 4.3.28 | The impact period of the projects included in the monitoring has not yet expired. | | X | |

Based on the Monitoring Report & calculation sheet review and on-site inspection, the verifier can confirm results of monitoring and measurement data are accurate, complete, and being collected as per the description in the registered MADD. The measurement data of newly added 38 bus routes under POA1 and newly added 40 bus routes under POA2 also collected completely and comprehensibly. No CRs or CARs are issued under this section.

Concluding questions on implementation monitoring (section 4.3 Verification report)

| Checklists-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. | | X | |
| 4.3.30 | The information in the monitoring report and the supporting documents comply with the requirements of the CO ₂ Ordinance. | | X | |
| 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. | X | | |

Overall, the implementation of the data monitoring activity of the program during the first monitoring period is in accordance with the description at the registered MADD. All adjustments on data monitoring activity described in the monitoring report are described comprehensibly and implemented correctly.

4.4 Ex-post calculation of creditable emission reductions

| Checklists-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). | | X | |
| 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). | | X | |
| 4.4.3 | The impact distribution due to the receipt of non-repayable cash benefits (→ see section 3.2) is correctly calculated and documented in Annex A6 of the monitoring report. | X | | |
| 4.4.5 | The emission reductions achieved and eligible for offsetting are stated correctly and per calendar year. | | X | |
| 4.4.6 | The emission reductions attributable to companies exempt from the CO ₂ tax are shown separately. This includes the original measurement (mostly heat quantity in MWh). | X | | |
| | Program specific issues | n.a. | Applies | Does not apply |
| 4.4.8 | The calculations of the achieved emission reductions are broken down per project. | | X | |
| 4.4.9 | The calculations of the emission reductions of the projects are correct. | | X | |

Based on the Monitoring Report and calculation sheet review, the verifier can confirm emission reduction calculation of the program is accurate and developed in accordance with the method described in registered MADD. No CRs or CARs are issued under this section.

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

| Checklists-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 3.4 of the verification report are described comprehensibly and implemented correctly. | | X | |
| 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. | X | | |

Overall, the emission reduction calculation of the program is accurate and developed in accordance with the method described in the registered MADD.

4.5 Emission reductions and significant changes

Emission reductions

| Checklists-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. | | X | |
| 4.5.2 | The emission reductions achieved correspond to the emission reductions expected according to the project/program description. Any deviations are justified in a comprehensible manner. | | X | |
| 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. | | X | |
| 4.5.4 | There is no significant difference between ex-ante estimated and ex-post quantified emission reductions. | X | | |
| 4.5.5 | From the verifier's point of view, no revalidation is necessary due to significant changes regarding emission reductions. | | X | |

Based on the desk review and on-site inspection, the verifier can confirm emission reduction of the program is shown accurately in a transparent manner. Deviation of achieved emission reduction compared to ex-ante calculation at the registered MADD due to the delay in the E-Bus operation is properly justified in the Monitoring Report and accepted by the verifier. No CRs or CARs are issued under this section.

Cost-effectiveness analysis, technology used, other changes

| Checklists-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. | | X | |
| 4.5.7 | The emission reductions achieved correspond to the emission reductions expected according to the project/program description. Any deviations are justified in a comprehensible manner. | | X | |
| 4.5.8 | Only if 3.5.6 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. | X | | |
| 4.5.9 | Only if 3.5.6 does not apply: There is no significant deviation concerning the profitability analysis. | X | | |
| 4.5.10 | From the verifier's point of view, no new validation is necessary due to significant changes regarding the economic analysis. | | X | CR 3 |

| Checklists-item | Fixed parameters | n.a. | Applies | Does not apply |
|-----------------|---|------|---------|----------------|
| 4.5.11 | Only for the initial verification, or if 3.5.6 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 are described, justified, and appropriate in the corresponding table. | | X | |
| 4.5.12 | Only for initial verification, or if 3.5.6 does not apply: There is no significant change concerning the technology used. | | X | |
| 4.5.13 | From the verifier's point of view, a new validation is not necessary due to significant changes in the technology used. | | X | |
| 4.5.14 | There are no other changes that might require revalidation (e.g., in the case of programs changing the inclusion criteria). | | X | |
| 4.5.15 | From the verifier's point of view, a revalidation is not necessary due to other significant changes. | | X | |

Based on the desk review, the verifier can confirm no change that required the revalidation. The applicant can demonstrate no significant change in economics analysis that would adversely affect the economics of the program compared to the registered MADD.

However, at preliminary the verifier has issued CR 3 to request the supporting evidence regarding financial of the program. Eventually, the applicant can give a clear clarification with supporting evidence (item 36 of Annexure 1). The monitoring report and calculation sheet are also revised accordingly. Therefore, the verifier accepted the revised monitoring report and CR 3 is closed.

Concluding questions on material changes (Section 4.5 Verification Report)

| Checklists-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 3.5 of the verification report are described comprehensibly and implemented correctly. | | X | |
| 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. | X | | |

Overall, there was no material change in the program implementation during the first monitoring period.

4.6 Final assessment

| Checklists- 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. | X | | |
| 4.6.2 | All annexes are listed completely and documented accordingly. All references in the report are verifiable, correct, and clearly assigned. | | X | |
| 4.6.3 | The monitoring report and supporting documents are complete and consistent. | | X | |
| 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 listed and resolved. | X | | |
| 4.6.5 | All changes are documented in a comprehensible and consistent manner. | | X | |
| 4.6.6 | The information provided by the project/program complies with the requirements of the CO ₂ Ordinance and the recommendations of the Enforcement Notices UV-1315 and UV-2001. | | X | |

Overall, the monitoring report is complete and consistent throughout the document. All changes in program activity are documented in a comprehensible and consistent manner.

Annexure 1: 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 Programmes, Federal Office for the Environment (FOEN)
- 4) Validation and Verification of Domestic Projects and Programmes, 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, file name "Bangkok e-Bus Monitoring Report Verification MP1_13072023" date 13/07/2023
- 9) Calculation sheet, version 1 file name "Ex-Post-bangkok-e-bus v.01_12072023" date 12/07/2023
- 10) Email communication for MADD approval from FOEN, date 05/12/2022, Subject "AW:5002 (Bangkok e-bus Program): 3rd round submission"
- 11) 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
- 12) 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 02/02/2023
- 13) E-bus purchase agreement, between "PAYPOP Co., Ltd." and "Thai smile Bus Co., Ltd.", Agreement number POP-TSB-0001-2565, POP-TSB-0002-2565, POP-TSB-0003-2565, POP-TSB-0004-2565, POP-TSB-0005-2565, POP-TSB-0006-2565, POP-TSB-0007-2565, POP-TSB-0008-2565, POP-TSB-0009-2565, POP-TSB-0010-2565, POP-TSB-0011-2565, POP-TSB-0012-2565, POP-TSB-0013-2565, POP-TSB-0014-2565, POP-TSB-0015-2565,
- 14) E-bus purchase agreement, between "Next Point PCL." and "Thai smile Bus Co., Ltd.", Agreement number NEXP-057-2565, date 15/06/2022
- 15) NGV Bus Salvage Purchase Agreement, between "Next Point PCL." and "Ms. Kesara Saoklang", Agreement number SMB-HO-LAW-01-2022, date 10/10/2022
- 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) Letter of Carbon Coordinating Managing Entity Limited, subject “Request for e-Bus Batter Capacity change, under Operation of e-buses on privately owned, scheduled public bus routes in the Bangkok Metropolitan area by Energy Absolute program”, date 08/05/2023
- 21) Letter of TGO, subject “Acknowledgement on Project Activity Change”, date 16/05/2023
- 22) MOU between “Energy Absolute PCL.” and “Thai smile Bus Co., Ltd.”, subject “Development of GHG Emission Reduction Project” date 15/06/2022
- 23) NGV bus operation record during 01/10/2022-12/12/2565, by Thai Smile Bus Co., Ltd.
- 24) E-Bus mileage record from GPS data (exported from demo.sitgps.com from database) during 01/10/2022-12/12/2565, by Thai Smile Bus Co., Ltd.
- 25) E-Bus maintenance logbook during 01/10/2022-12/12/2565, by Auto Bus Service Co., Ltd.
- 26) E-Bus charging record (exported from thaismilebus.com database) during 01/10/2022-12/12/2565, by Auto Bus Service Co., Ltd.
- 27) E-Bus charging logbook during 01/10/2022-12/12/2565, by Auto Bus Service Co., Ltd.
- 28) Monitoring Report, version 2, file name “Bangkok e-Bus Monitoring Report Verification MP1_V2_11082023” date 11/08/2023
- 29) Monitoring Report of POA 1 (Thai version), version 1, file name “2.T-T-VER-S-F012-MR TH 300666-POA1-Bangkok E-Bus Program Zone 1_2”
- 30) Monitoring Report POA 2 (Thai version), version 1 file name “2.T-T-VER-S-F012-MR TH 300666-POA2-Bangkok E-Bus Program Zone 3_4”
- 31) Calculation sheet, version 2 file name “Ex-Post-bangkok-e-bus V2_11082023” date 11/08/2023
- 32) Employment data, Operational Report of Thai smile Bus Co., Ltd., December 2022
- 33) Letter of Nex Point PCL., subject “Clarify and Certify Battery Capacity of e-Bus”, date 16/08/2023
- 34) Datasheet of EVD-360D DC Charging Station, issued by Shenzhen Ates Power Technology Co., Ltd.
- 35) User Manual of EVD-300D DC Charging Station, issued by Shenzhen Ates Power Technology Co., Ltd.
- 36) Financial Analysis Report, by Energy Absolute PCL. date 16/08/2023

- 37) Monitoring Report, version 3, file name "Bangkok e-Bus Monitoring Report Verification MP1_V3_25082023" date 25/08/2023
- 38) Calculation sheet, version 3 file name "Ex-Post-bangkok-e-bus V2_25082023" date 25/08/2023
- 39) Monitoring Report of POA 1 (Thai version), version 2, file name "2.T-T-VER-S-F012-MR TH 300666-POA1-Bangkok E-Bus Program Zone 1_2_20230825"
- 40) Monitoring Report POA 2 (Thai version), version 2, file name "2.T-T-VER-S-F012-MR TH 300666-POA2-Bangkok E-Bus Program Zone 3_4_20230825"
- 41) Letter of ATESS Power Technology Co., Ltd., date 15/08/2023, Subject "The Complete of Calibration Process for EV Charging Meters"
- 42) Specification of DCM3366d-J2 Electronic DC Energy Meter, issued by Guangdong Yada Electronics Co., Ltd.
- 43) Record of Electric Energy Meter Inspection of Samaedum, Rama 74, Rangsit Bangpul, Raikhing Temple, Prapadaeng, Minburi, and Buengkhum, issued by Guangdong Yada Electronics Co., Ltd.

Annexure 2: List of questions for verification

Clarification Request (CR)

| CR 1 | Done | X |
|--|--|---|
| Ref. no. 4.1.2 | <i>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.</i> | |
| Question (31/07/2023) | | |
| <p><i>In reference to the Monitoring Report, Section 2.1, Table 1, which indicates “Registration of 9 additional CPAs will be on 25.07.2023 (Tentative date at the time of writing), please update the status of the program registration.</i></p> <p><i>Moreover, please provide the Monitoring Reports of these CPAs under TGO format, in accordance with the TGO credit issuance process, as per Annex 2 of the MADD.</i></p> | | |
| The Applicant’s Answer (10/08/2023) | | |
| <p><i>MR (English version) has been revised, see folder ‘0_MR and ER (English)’. MRs (Thai version, under TGO format) have been created. CPAs information has been added, see folder ‘0_MR (Thai)’.</i></p> | | |
| Conclusion by the Verifier | | |
| <p><i>The verifier reviewed the English version Monitoring Report dated 11/08/2023 (both English and the Thai versions of Monitoring Reports dated 10/08/2023, along with the revised calculation sheet, file name “Ex-Post-bangkok-e-bus V2 11082023.xlsx” and supporting evidence.</i></p> <p><i>The verifier found the status of program registration with TGO is included in the revised Monitoring Report. The Thai version of Monitoring Reports under the TGO format is also submitted to the verifier for verification as per the TGO credit issuance process.</i></p> <p><i>Therefore, the verifier accepts the reports with no further query and CR 1 is closed.</i></p> | | |

| CR 2 | Done | X |
|--|--|---|
| Ref. no. 4.1.17 | <i>Any adjustments described in chapter 1.1 of the monitoring report that affect Section 3.1. of the verification report are described comprehensibly and implemented correctly.</i> | |
| Question (31/07/2023) | | |
| <p><i>In reference to the Monitoring Reports, Section 1.1, and Annex 9, please provide “Letter of Carbon Coordinating Managing Entity Limited, no. 4061/00523 date 08/05/2023”.</i></p> <p><i>Moreover, please clarify on the “Roles and responsibility of Charging station operator” and “Details of e-bus routes in CPA1 in PoA1 and PoA2” changes and whether these changes are required to communication to TGO.</i></p> | | |
| The Applicant’s Answer (10/08/2023) | | |
| <p><i>The letter to TGO “requesting for including the battery 120 kWh into the program” has been uploaded to folder ‘CL 02_Changing (battery & ABS)’. The role and responsibility of the Charging station operator (Autobus service) and detailed e-bus routes have been added in the MR Thai version, see folder ‘0_MR (Thai)’</i></p> | | |

Conclusion by the Verifier

The verifier reviewed the “Letter to TGO requesting for including the battery 120 kWh into the program” along with the Thai version of Monitoring Reports dated 10/08/2023.

The verifier found details of “including the battery 120 kWh into the program, role & responsibility of charging station operator (Autobus Service) and detailed e-bus routes” request to TGO, corresponding to the requirement of TGO “the change that is not affect emission reduction of the project”.

Therefore, the verifier accepts the Monitoring Reports and supporting evidence with no further query and CR 2 is closed.

| | | |
|---|---|---|
| CR 3 | Done | X |
| Ref. no. 4.5.10 | From the verifier's point of view, no new validation is necessary due to significant changes regarding the economic analysis. | |
| Question (31/07/2023) | | |
| In reference to the Monitoring Reports, Section 6.1, please provide the numeric information along with supporting evidence that “In this monitoring period, it is still considering in the beginning phase of operation where the IRR projection is not feasible as the net revenue is still in the negative value.....” | | |
| The Applicant's Answer (16/08/2023) | | |
| Financial analysis files are uploaded to the shared folder ‘CL 03_Financial Analysis’. | | |
| Conclusion by the Verifier | | |
| The verifier reviewed the financial analysis files and found the actual financial performance which includes investment cost, revenue and return on investment of the project corresponding to the information shown in the Monitoring Report. Therefore, the verifier accepts the supporting evidence with no further query and CR 3 is closed. | | |

| | | | |
|---|---|------------------------------|------------------------|
| CR 4 | Done | X | |
| Ref. no. 4.3.10 | Any calibrations/calibrations for each dynamic parameter are still valid (with proof or, if approved, with plausibility check). | | |
| Question (31/07/2023) | | | |
| As per the MADD, Section A3.2, Electricity Consumption Record (kWh), which indicates that “Meters that are being used to record the electricity consumption from the charging station that will be used to calculate GHG emission reduction shall be verified and calibrate in the first year, and every 3 years during the project timeline”. Please provide technical specifications and calibration certificate of electricity meters at the E-Bus charging station. | | | |
| The Applicant's Answer (25/08/2023) | | | |
| Information about the calibration plan and calibration report is uploaded to folder ‘CL 04_Calibration Meter’. | | | |
| Conclusion by the Verifier | | | |
| The verifier reviewed the calibration plan and calibration report and found the accuracy class and calibration results are accepted corresponding to the monitoring plan of the registered MADD. The meter specifications are listed on the table as below | | | |
| Serial Number | Class/Accuracy | Calibration date (Test date) | Station |
| 211210740039 | Class 0.5 | 8 Jan 2022 | Prapadeang Bus Station |
| 21120740011 | Class 0.5 | 5 Dec 2021 | SamaeDum Bus Station |

| | | | |
|--------------|-----------|-------------|--------------------------------|
| 211017950051 | Class 0.5 | 20 Nov 2021 | Rai King Temple Bus Station |
| 221210880021 | Class 0.5 | 3 Dec 2021 | Ramkanheng 74 Bus Station |
| 230101380029 | Class 0.5 | 18 Jan 2023 | Bung Kum Bus Station |
| 220914270095 | Class 0.5 | 8 Sep 2022 | Minburi-Nong Chong Bus Station |
| 210205850037 | Class 0.5 | 19 Feb 2021 | Rangsit Bangpul Bus Station |

Therefore, the verifier accepts the supporting evidence with no further query and CR 4 is closed

| | | |
|---|---|---|
| CR 5 | Done | X |
| Ref. no. 4.3.11 | <i>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 the measurement procedure, calibration procedure, accuracy of the measurement method, measurement interval and responsible person are filled in).</i> | |
| Question (31/07/2023) | | |
| <i>In reference to the Calculation Sheet, Sheet “2. Assumption”, please clarify how the SFC_NGV value is calculated based on the data collection of 37 bus routes from another bus operator, as per the MADD, Section A3.2, Table A16</i> | | |
| The Applicant's Answer (25/08/2023) | | |
| <i>Clarification has been added in ER under sheet “2. Assumption”, cell F16 and MRs in both English and Thai versions</i> | | |
| Conclusion by the Verifier | | |
| <i>The verifier reviewed the revised calculation sheet, file name “Ex-Post-bangkok-e-bus V2 11082023.xlsx” and the revised Monitoring Report. The verifier found the clarification regarding a number of bus routes corresponding to supporting evidence.</i> | | |
| <i>Therefore, the verifier accepts the reports with no further query and CR 5 is closed</i> | | |

Corrective Action Request (CAR)

| | | |
|---|---|---|
| CAR 1 | Done | X |
| Ref. no. 4.3.4 | <i>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.</i> | |
| Question (31/07/2023) | | |
| <i>In reference to the Calculation Sheet, Sheet “3. Ex-Post_Fuel Switch_TM05 20”, the values in column “Annual Distance per year (km)” and column “NGV Consumption kg/year” column are missing.</i> | | |
| <i>Moreover, please create a traceable formular link of the column “Baseline Emission_TM05” in Sheet “1. Calculation of ERs_Total”, to be able to verify the calculation.</i> | | |
| The Applicant's Answer (10/08/2023) | | |

| |
|---|
| <p>The revised Ex-post calculation file has been uploaded, see shared folder '0_MR and ER (English)'.</p> <p>SFC calculation has been corrected and uploaded, see shared folder 'CAR 01_SFC Excel sheet'.</p> |
| <p>Conclusion by the Verifier</p> <p>The verifier reviewed the revised calculation sheet, file name "Ex-Post-bangkok-e-bus V2 11082023.xlsx" and found the input parameter shown properly with a traceable formular link. Therefore, the verifier accepts the revised calculation sheet with no further query and CAR 1 is closed.</p> |

| | | |
|--|---|---|
| CAR 2 | Done | X |
| Ref. no. 4.3.11 | <p>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 the measurement procedure, calibration procedure, accuracy of the measurement method, measurement interval and responsible person are filled in).</p> | |
| <p>Question (31/07/2023)</p> <p>In reference to the Monitoring Report, Section 4.3.2, Other Data Dynamics parameters, the details of these parameter do not match/do not fully cover the description in the MADD, Section A3.2;</p> <ul style="list-style-type: none"> - 9. Number of future buses to be included in the public transportation system in Thailand, Bangkok Metropolitan Region - 12. SDG 8 Number of staff (including for young people and persons with disabilities and equal pay for work of equal value) | | |
| <p>The Applicant's Answer (10/08/2023)</p> <p>Clarification has been added in the revised MR, see shared folder '0_MR and ER (English)'</p> <p>Regarding SDG 8, an additional file regarding number of staff (including young people and persons with disabilities) will be uploaded on August 15th to folder 'CAR 02_ICE, SDG8 (ref. MADD)'.</p> | | |
| <p>Conclusion by the Verifier</p> <p>The verifier reviewed the revised Monitoring Report, dated 11/08/2023, and found the revised data of "9. Number of future buses to be included in the public transportation system in Thailand, Bangkok Metropolitan Region" and "12. SDG 8 Number of staff (including for young people and person with disabilities and equal pay for work of equal value)" in accordance with the registered MADD.</p> <p>Therefore, the verifier accepts the revised Monitoring Report with no further query and CAR 2 is closed.</p> | | |

| | | |
|---|--|---|
| CAR 3 | Done | X |
| Ref. no. 4.1.14 | <p>The technical description of the implemented project/program corresponds to that in the project/program description (initial verification after validation) or the last monitoring report. Any deviations are comprehensibly justified and appropriate.</p> | |
| <p>Question (31/07/2023)</p> <p>Reference to the onsite verification during 02/08/2023 – 04/08/2023, the verifier could investigate nameplate of the EV buses number 3-45 (1), 4-23E (31), 1-3 (17), 1-3 (12) and S4 (2) indicated</p> | | |

| |
|---|
| <i>capacity of battery equivalent to 60 kWh, which is not consistent with battery capacity 120-300 kWh indicated in the MR.</i> |
| The Applicant's Answer (16/08/2023) The clarification file is uploaded to the shared folder 'CAR 03_Battery'. |
| Conclusion by the Verifier <i>The verifier reviewed the letter of Nex Point PCL, subject "Clarify and Certify Battery Capacity of e-Bus", date 16/08/2023, and found the clarification from E-Bus manufacture which included a photo of batteries installation in the bus. The verifier found a number of batteries corresponding to the certified battery capacity. Therefore, the verifier accepts the supporting evidence with no further query and CAR 3 is closed.</i> |

| | | |
|--|--|---|
| CAR 4 | Done | X |
| Ref. no. 4.1.14 | <i>The technical description of the implemented project/program corresponds to that in the project/program description (initial verification after validation) or the last monitoring report. Any deviations are comprehensibly justified and appropriate.</i> | |
| Question (31/07/2023) <i>In reference to the onsite verification from 02/08/2023 – 04/08/2023, the verifier found a major component of project activity, charging stations, at each terminal. However no adequate information (such as a number of equipment installations, specification, etc.) on this component is given in the MR.</i> | | |
| The Applicant's Answer (25/08/2023) <i>Information about the charger has been added in MR, section 2.4. The specifications of both charging station models and the list of charging stations per bus terminal have been uploaded to the shared folder 'CAR 04_Charing Station'.</i> | | |
| Conclusion by the Verifier <i>The verifier reviewed the revised Monitoring Report, dated 11/08/2023, and found details of the specification of both charging station models and a list of charging stations of each bus terminal, included in the Monitoring Report. The detail corresponds to the supporting evidence and the verifier's finding at onsite verification. Therefore, the verifier accepts the supporting evidence with no further query and CAR 4 is closed.</i> | | |

| | | |
|--|---|---|
| CAR 5 | Done | X |
| Ref. no. 4.3.9 | <i>All dynamic parameters (from the formulas for calculating emission reductions) are fully listed and documented (data source/document in Appendix A5)</i> | |
| Question (31/07/2023) <i>In reference to the onsite verification during 02/08/2023 – 04/08/2023, the verifier found the distance value of the EV buses under 4-25, 4-39, and S2 routes that used in the calculation sheet, not consistence with the supporting GPS data.</i> | | |
| The Applicant's Answer (10/08/2023) <i>Revised Ex-post calculation file has been uploaded, see shared folder '0_MR and ER (English)'.</i> | | |
| Conclusion by the Verifier | | |

*The verifier reviewed the revised calculation sheet, file name “Ex-Post-bangkok-e-bus V2 11082023.xlsx” and found the distance value used in the calculation corresponding to the supporting evidence.
 Therefore, the verifier accepts the supporting evidence with no further query and CAR 5 is closed.*

| | | |
|--|---|---|
| CAR 6 | Done | X |
| Ref. no. 4.3.9 | <i>All dynamic parameters (from the formulas for calculating emission reductions) are fully listed and documented (data source/document in Appendix A5)</i> | |
| Question (31/07/2023) | | |
| <i>About the onsite verification during 02/08/2023 – 04/08/2023, the verifier found data of the EV bus under the 4-45 route, license plate “16-6149 Bangkok” appears to be “16-6140 Bangkok” instead, at the calculation sheet.</i> | | |
| The Applicant's answer (10/08/2023) | | |
| <i>Data has been updated, see shared folder ‘CAR 06_charging report offline update’</i> | | |
| Conclusion by the Verifier | | |
| <i>The verifier reviewed the revised calculation sheet, file name “Ex-Post-bangkok-e-bus V2 11082023.xlsx” and found the input data of the bus corresponding to the supporting evidence. Therefore, the verifier accepts the supporting evidence with no further query and CAR 6 is closed.</i> | | |

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

None

Annexure 3: The Verifier's Competency and Technical Expert Area

Table 1: Approved quality officers and technical experts

x* = conditional accreditation

New accreditations are marked in bold (x)

| Technical Experts | QM | Project Type | | | | | | | | | | | |
|--|----|--------------|---|---|----|---|----|---|----|---|----|----|----|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Chanyawut Engsuwan | x | | | x | x | x | x | x | | x | | | |
| Pacharaporn Wachirapongpun | x | | | | x* | | x* | | | | | | |
| Dr. Poonperm Vardhanabindu | | | | | | | x* | | x* | | | | |
| Tadpong Ratanasoponchai | x | | | | x | | x* | | | | x* | | |
| Dr. Chumphol Sriprapakorn (Sub-contractor) | x | | | x | x | x | x | x | | | x | | |
| Wattana Pipatvidhyanont | x | | | | | | | | | | | | |

Table 2: Project types

| |
|---------------------------------------|
| 1. Energy efficiency in households |
| 2. Renewable energies in households |
| 3. Energy efficiency in industry |
| 4. Renewable energies in industry |
| 5. Buildings |
| 6. Waste |
| 7. Biogas |
| 8. Methane reduction in agriculture |
| 9. Electromobility |
| 10. Biofuels |
| 11. F-gas reduction |
| 12. Avoidance and substitution of N2O |