
Gold Standard Verification and Certification Report

Nanjitan Asset Management Ltd.

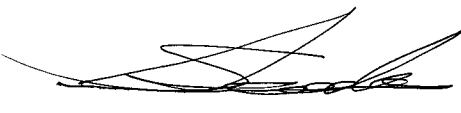
**Miaoli 49.8MW Wind Farm Project
(GS931)**

Project No. 216005

11 October 2017



Japan Quality Assurance Organization

Revision : 1. 0	Project Title : Miaoli 49.8 MW Wind Farm Project (GS931)
Date of issuance : 11/10/2017	Applied Methodology : ACM0002 (Ver. 11)
Project No. : 216005	GS Reference No.: 931
Monitoring period : 03/07/2014 – 02/07/2016	GS Registration Date : 03/07/2012
Client: Nanjitan Asset Management Ltd.	Project Participants : Emerging Markets Infrastructure Fund ("EMIF")
Monitoring Report: - First version and the issue date: Ver.1.0, 01/11/2016 - Revised version and the issue date: Ver.5.0, 05/10/2017	
Summary: Japan Quality Assurance Organization has performed the 3rd periodic verification of "Miaoli 49.8MW Wind Farm Project" (GS registration Number GS931) under the contract with Nanjitan Asset Management Ltd. The verification covers the monitoring period from 03/07/2014-02/07/2016, which is within the 7-years renewable crediting period between 03/07/2010-02/07/2017. Though the resolution of CARs/CLs, JQA confirms that the GS project and its monitoring activity are implemented and operated in accordance with the registered passport and PDD, the registered monitoring plan and the monitoring methodologies / tool. The GHG emission reductions are transparently and correctly calculated based on the methodology ACM0002 (Version 11). JQA determines that the claimed emission reductions of 178,044 tCO _{2e} in the 3rd monitoring period are free from material errors, omissions or misstatements with a reasonable level of assurance.	
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Approved by Senior Executive:  Sumio Asada	

Abbreviations

CAR	Corrective Action Request
CDM	Clean Development Mechanism
CL	Clarification Request
DOE	Designated Operational Entity
ER	Emission Reductions
FAR	Further Action Request
GHG	Greenhouse Gas
GS	Gold Standard
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
JQA	Japan Quality Assurance Organization
KP	Kyoto Protocol
MR	Monitoring Report
MP	Monitoring Plan
OA	On-site Assessment
PDD	Project Design Document
PPs	Project Participants
PRC	Post registration changes
QA	Quality Assurance
QC	Quality Control
SD	Sustainable Development
VERs	Verified Emission Reductions
VVS	Clean Development Mechanism Validation and Verification Standard
WTG	Wind Turbine and Generator
TPC	Taiwan Power Company

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Appendix A: Verification Checklist

Appendix B: Reference list

1. Introduction

Japan Quality Assurance Organization (hereinafter, “JQA”) has performed the 3rd periodic GS verification (hereinafter, the “GS Verification”) of emission reductions achieved by the registered GS project “Miaoli 49.8 MW Wind Farm Project (GS931)” (hereinafter, the “GS Project”). The GS Project has been implemented by Emerging Market Infrastructure Fund Limited (hereinafter, “EMIF”) in Taiwan. As a part of the independent verification work under the contract with Nanjitan Asset Management Ltd. (hereinafter, the “Client”), JQA conducts an assessment to verify both GHG ERs and contributions to SD within the GS Project boundary.

1.1. Objective of GS Verification

The objective of the GS Verification is to confirm whether the GS Project complies with the requirements of Gold Standard (Ver. 2.1). The GS Verification is a periodic independent review and ex-post determination by a DOE of the monitored reductions in anthropogenic emissions by sources of GHG (and monitored SD indicators/chosen parameters) that have occurred as a result of the GS Project during the monitoring period covering 03/07/2014 to 02/07/2016.

According to the requirements of Gold Standard, the GS Verification process includes the activities aiming to:

- (a) Determine whether the project activity has been implemented and operated as per the GS Passport and the PDD, and that all physical features (technology, project equipments, and monitoring and metering equipment) of the GS Project are in place;
- (b) Determine whether the GS-MR and other supporting documents provided are complete in accordance with applicable version of Gold Standard for requests for issuance of VERs, and are verifiable;
- (c) Determine whether actual monitoring systems and procedures comply with the monitoring systems and procedures described in the registered (or any approved revised) monitoring plan, and the approved methodology including applicable tool(s),
- (d) Evaluate the data recorded and stored as per the monitoring methodology including applicable tool(s).

1.2. Scope of verification

The GS-MRs (Ver.1.0, issued on 01/11/2016, and Ver.5.0, issued on 05/10/2017) and the relevant ER calculation spreadsheet, which summarizes information regarding the GHG emission reductions achieved during the 3rd monitoring period, are reviewed against:

- Gold Standard, which is comprised of;
 - Requirements;
 - Toolkit;
 - Guidance Notes;
 - Templates, and;
 - Legal Documents,
- The registered GS Passport (Ver. 8, issued on 11/07/2012);
- The registered PDD (Ver. 6, issued on 14/03/2012)
- Validation Report (Report No.TWN11006GS, Rev No. 01);
- ACM0002 (Ver. 11);
- Tool to calculate the emission factor for an electricity system (Ver. 2), and;
- Tool for the demonstration and assessment of additionality (Ver. 05.2)

1.3. Project information

The basic information of the GS Project is available on the project view page of GS Registry, as follows:

Project information

Item	Information
Name	Miaoli 49.8MW Wind Farm Project
Category	Carbon
Standard Name	Gold Standard (Version 2.1)
Project Type	Wind
Status	Registered
Additional Certification	N/A
Validator	Bureau Veritas Certification Holding SAS
Country	Taiwan, Miaoli County

1.4. Verification team

The verification team and the technical reviewer have been appointed by JQA, taking account of the required scope, technical area, and project activity knowledge requirements for verifying the implementation of the registered GS Project and the ERs achieved during the monitoring period. They have been also assigned based on the JQA CDM quality manual valid at that time. The coverage of technical area by the team and technical reviewer granted by the criteria of the latest JQA CDM quality manual are shown in the following table.

Verification team and Technical Reviewer

Name	Qualification ²⁾	Task ¹⁾	Technical area	Site visit	Local experience	GS DOE training	Prior experience auditing GS	Point of contact
Koichiro Tanabe	TLA	TL	✓ (1.2)	✓	✓	✓ (Jun 2014)	✓	✓
Sachiko Hashizume	AS	TM	✓ (1.2)	-	✓	✓ (Aug 2017)	✓	-
Tadashi Yoshida	TR	TR	✓ (1.2)	-	✓	-	✓	-

1) TLA: Team Leader Assessor, AS: Assessor, UO: Assessor under observation, TR: Technical Reviewer

2) TL: Team Leader, TM: Team Member, TR: Technical Reviewer

The role and responsibilities of the team leader are mainly to prepare the verification plan of the desk review and the on-site assessment, and to manage the overall verification activities of the team. The team leader is also responsible for the description of the verification and certification statement in the final verification and certification report.

2. Verification process

The verification process of JQA consists of the following steps:

- 1) Preparation of a work plan for the verification process;
- 2) Desk review;
- 3) Assessment of materiality and sampling plan;
- 4) On-site assessment;
- 5) Resolution of corrective action requests (CARs), clarification requests (CLs), and/or forward action requests (FARs);
- 6) Preparation of the draft Verification and Certification Report;
- 7) Internal quality control, including technical review; and
- 8) Final decision on the issuance of Verification and Certification Report

To maintain the transparency of the verification process, the concerns raised and responses given are described in Verification Checklist for the GS Project. The completed checklist is enclosed in Appendix A of this report, and CARs, CLs, and FARs are summarized in the table in the Section 4 of this report. The criteria for CAR, CL, and FAR are as follows:

Item	Definition
CAR	a) Non-compliance with the monitoring plan or methodology are found in monitoring and reporting and has not been sufficiently documented by the project participants, or if the evidence provided to prove conformity is insufficient b) Modifications to the implementation, operation and monitoring of the registered project activity has not been sufficiently documented by the project participants; c) Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions; d) Issues identified in a FAR during validation to be verified during verification or previous verification(s) have not been resolved by the project participants.

CL	Information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.
FAR	Monitoring and reporting require attention and/or adjustment for the next verification period.

CARs, CLs and FARs are not suggestion and/or prescriptions from JQA on how to address any deficiencies that may be identified in the verification, and corrective actions are all on decision of the PP.

2.1. Desk review

The verification team conducted a desk review. The reviewed documents includes, but not limited to, those listed in Appendix B.

2.2. Verifying monitored indicators and parameters

The monitored indicators and parameters, which have been defined in the GS Passport, are divided into two categories (sustainable development and emission reductions) as below.

Indicators/parameters verified

ID	Indicator	Chosen parameter	Verified evidential documents (and/or observation)
Indicators/parameters for sustainable development			
1	Air quality	NOx, Sox, emission reductions	Performance of the Past 5 Years ("Corporate Governance" on Taipower Official Website)
2	Quantitative employment and income generation	Number of jobs, salary level	Employment contract and the labor insurance list from Labor Insurance Bureau
3	Diversity	Obstruction lightings were installed on the turbines, in order to enhance the safety precautions of the wind farm towards the birds.	Obstruction lightings have been installed on the wind turbines and operated automatically
4	Diversity	Landscaping at Bantianliao (Haowangjiao)	Continuous existence of the green landscaping by visiting Bantianliao during the periodic verification
Indicators/parameters for emission reductions			
5	EG _{e,y}	Quantity of electricity generation supplied by the project plant/unit to the grid	Electricity monitoring meter
6	EG _{i,y}	Quantity of electricity consumption of the project plant/unit from the grid	Electricity monitoring meter
7	EG _{PJ,y}	Quantity of net electricity generation supplied by the project plant/unit to the grid	Electricity monitoring meter

2.3. On-site assessment

On-site visit was conducted from 07/12/2016 through 09/12/2016. The on-site visit includes follow-up interviews with local stakeholders below:

List of stakeholders interviewed

Name	Title	Organization
Hal Falls	Commercial Manager	Miaoli Wind Co.,Ltd.
Jason Wang	Engineer	Miaoli Wind Co.,Ltd.
Yang Ming Chen	Worker	Miaoli Wind Co.,Ltd.
Andrea Yu	Assistant Project Manager	Nanjitan Asset Management Ltd.
Yvonne Tsai	Assistant Project	Nanjitan Asset Management Ltd.
Tiger Chang	Trainer	Enercon Taiwan
Fang Yi Dai	Teacher	Wei Zeng school
Yuexiang Gu	Local resident	Baishatun village, Houlong Township

2.4. Resolution of CARs, CLs, and FARs

The PPs responded to the CARs/CLs, which were raised during the 3rd verification. JQA reviewed and confirmed the revised GS-MR and the revised ER calculation spreadsheet updated after the resolution of CARs/CLs. Details of resolution process of CARs and CLs are shown in Table 3 of the Verification Checklist (Appendix A).

2.5. Reporting, detailing procedures and responsibilities for quality control

The draft Verification and Certification Report is prepared based on the results of the desk review of the relevant documents, the on-site assessment and the clarification / resolution of CARs and CLs, which are raised through this verification. To maintain the transparency of the verification, the final conclusion is made by using Verification Checklist (Appendix A) which contains the necessary requirements based on GS requirements/toolkit.

Draft Verification and Certification Report, including Verification Checklist, is assessed by a technical reviewer in line with the latest Procedure for Internal Quality Control of JQA. The appropriateness of the draft conclusions on the verification of the GS Project and its procedures are reviewed from technical points of view. The technical reviewer informs the review results to the verification team. The verification team responds to the technical reviewers' comments and revises the Draft Verification and Certification Report, if necessary. The results of the review are informed to the Manager of CDM Assessment Division. The Manager of CDM Assessment Division reports the review result to the Senior Executive of

JQA. Finally, the Senior Executive approves the validity of emission reductions achieved by the GS Project and issues the Verification and Certification Report.

3. Results of verification

3.1. Remaining issues from the validation or the previous verification period

This is the 3rd verification period for the GS Project activity. JQA confirmed that no FAR was raised at the 2nd verification stage, by referring to the relevant Verification Report.

3.2. Compliance of the project implementation with the registered Passport and the PDD

The DOE focused, at the verification, to identify any concerns related to the conformity of the actual project activity and its operation with the registered Passport and the project design document. It was confirmed at the on-site visit that all physical features have been in place as proposed, and the Project has been put into operation as per the Passport/PDD. The details are discussed in the following subsections:

1) Implementation status

According to the monitoring report, the Implementation status is as follows;

- Starting date of construction: 20/05/2005
- Starting date of operation: 10/02/2006
- Specific monitoring period: 03/07/2014-02/07/2016

The Project started construction on 20 May 2005 and started operation on 10 February 2006. The Project has been registered under Gold Standard (Ver. 2.1) on 03 July 2012. Actual operation of the current project activity was cross-checked through observation at the OA with satisfactory results.

2) Actual operation, including installed capacity

The wind farm is comprised of 25 wind turbines for a total of 49.8MW, in two separate areas of Miaoli County. The actual installed capacity of wind turbines was confirmed by checking the nameplates at the site. It was also confirmed through the interview with the PO that there is no change of equipment between the 2nd and the 3rd monitoring period. The results of the

physical inspection for the actual installed capacity of the wind turbines are summarized in the table below:

Installed capacity of the wind turbines

Site name	Location	Model	Rated power	Number of turbines
Dapong	Houlong Township	Enercon E-70 E4	2,000 kW	21
Chunan	Chunan Township	Enercon E-70 E4	2,000 kW	3
Chunan	Chunan Township	Enercon E-70 E4	1,800 kW	1

A connection point (especially with regard to monitoring system) of the other neighboring wind farms was confirmed at the OA. Total number of 21 turbines in Dapong site (11 WTG in north and 10 WTG in south) are connected to the step-up transformer to 161 kV Taipower grid, and then connected to the Tung Ho Steel Substation, where the electricity delivered/consumed by the Project is monitored and recorded automatically, through 22.8KV underground cables. The turbines in Chunan site (4 units) are directly connected to Taipower grid at Shanjia substation, where the monitoring results of the electricity delivered/consumed by the Project is recorded manually by Taipower's technicians, through 22.8KV underground cables. Therefore, it is confirmed by the OA that the actual connection of wind turbines to the grid complies with the registered PDD. It is also confirmed that there is no on-site generator for emergency use (fuel consumption) installed in the project site.

3) Measuring equipment

There are two measuring equipments (Dapong site and Chunan site) used for this project activity. It is confirmed that these two electricity monitoring meters are properly in place and operation, and the results of physical inspection are summarized in the table below.

Monitoring meters

	Chunan	Dapong
Location	Shanjia 22.8kV Substation	Tung Ho Steel 161kV Substation
Manufacturer	Chung Hsin Electric & Machinery Mfg. Corp. Ltd.	Cheng Hsin Engineering & Services Co., Ltd.
Type	3-phase/4-wire	3-phase/4-wire
Function	2 bi-directional	2 bi-directional
Accuracy class	0.5	0.5
Serial number	68940058	10940038

Regarding the findings on calibration of these monitoring meters, it is described in Section 3.6 of this report.

4) Information that is different from that stated in the Passport and the PDD

It was described in the initial MR that the total ER generated through this third periodic monitoring period 03 July 2014 to 02 July 2016 is 181,711 tCO₂e, which is approximately 31.8% lower than the estimated amount of ER as stated in the PDD (total ex-ante ERs from 03/07/2014-02/07/2016: 266,334.00 tCO₂e). After the revision of the total ER calculation, it is confirmed that the finalized ER is 178,044 tCO₂e and still lower than the estimated amount of ER as stated in the PDD. Through the review of the relevant documents and the physical inspection of the site, JQA confirms that the project facilities are installed and operated as planned in the registered PDD.

3.3. Compliance of the monitoring plan with the monitoring methodology including applicable tool(s)

It is confirmed that the monitoring plan of the GS Project is in accordance with the applied methodology, including applicable tool(s). The details are discussed in the following subsections:

1) The project implementation is in accordance with the provisions of the Passport/PDD

In the monitoring report, the following information on the monitoring plan is provided:

- The quantity of electricity generation supplied by the project plant/unit to the grid and the quantity of electricity consumption of the project plant/unit from the grid are continuously monitored,
- Meter reading records will be crosschecked with the electricity receipts.
- The electricity meters will undergo maintenance/calibration according to Taiwan national standards (based on The Weight and Measures Act, Regulation no. CNMV 46, 'Technical Specification for Verification and Inspection of Electricity Meters')
- In addition, electricity receipt is kept at least two years after the end of the crediting period by the project owner for cross reference as per ACM0002.

It is confirmed that the monitoring plan complies with the provisions of the registered PDD and ACM0002 Ver.11.

2) Monitoring aspects that are not specified in the methodology

The monitoring parameters, EG_{e,y} and EG_{i,y}, which are required by ACM0002 are included in the monitoring plan. EG_{e,y} and EG_{i,y} is continuously monitored and monthly recorded. Thus there are no aspects that are not specified in the methodology.

3.4. Compliance of SD monitoring activities with the monitoring plan (Sustainability monitoring check)

It is confirmed that sustainability monitoring in the GS project activity has been implemented in compliance with the monitoring parameters defined in sustainability monitoring plan of the Passport. The findings of monitored indicators and parameters that have been defined in the Passport are discussed in the following subsections.

Findings

1) Air quality

In accordance with the sustainability monitoring plan, the indicator "Air quality" is roughly monitored via the Project's electricity generation with reference to the atmospheric pollution emissions associated with the fossil fuel-based grid electricity generation in the region. Calculation is done according to the national grid's announcement related to its emissions of sulfur oxides (SO_x) and nitrogen oxides (NO_x). According to Taipower's latest announcement, an average of 305 kg of SO_x and 312 kg of NO_x are generated for every GWh electricity produced in 2014, and an average of 310 kg of SO_x and 302 kg of NO_x are generated for every GWh electricity produced in 2015-2016. The total net generation within this monitoring period is 63.2700 GWh in 2014, and 186.0909 GWh in 2015-2016. Based on this data, the proposed project abated approximately 76.9855 tons SO_x and 75.9397 tons NO_x during the monitoring period.

Regarding this section, **CAR2** was raised and resolved as described in Table 3 of Appendix A.

In conclusion, it is confirmed that the above monitoring result is appropriate and correct.

2) Quantitative employment and income generation

In accordance with the sustainability monitoring plan, the indicator "Quantitative employment and income generation" is monitored by checking the employment contract to specify number of permanent employees of the project owner and the labor insurance list from Labor Insurance Bureau to indicate the salary levels. The project activity generates employment of 2 persons during the operational period. The project owner provides Labor Insurance for the staffs as required by the national regulations (Labor Standards Act, etc.). Hal Falls has been receiving a salary since October 01, 2008. Jason Wang has been receiving a salary since November 10, 2011. The salaries for both of them are above the required minimum wage in Taiwan. Through the review of the labor insurance records, withholding & non-withholding tax

statement and the employment contracts with regard to this monitoring period, it is confirmed that the above monitoring result is appropriate and correct. The follow-up interviews with employees are conducted with satisfactory results.

Regarding this section, **CL2** was raised and resolved as described in Table 3 of Appendix A.

3) Diversity – Obstruction lightings

As for SD parameter No.3, it is confirmed through the verification that the indicator "Biodiversity" is monitored by the PO through checking the continuous existence of the precaution measures, to order to minimize impact towards plants and birds, in accordance with the sustainability monitoring plan.

Through interview with the project owner, it was confirmed that 14 wind turbine units (out of 25) have its own obstruction light on the top of each wind turbine unit respectively, and it was also clarified by the project owner that all of the obstruction lights are being replaced for maintenance. On the other hand, it was observed through the on-site inspection that some of the obstruction lights had not functioned (not flashing on and off) because of damage under severe weather conditions, such as typhoons. Regarding this situation, **FAR1** was raised as described in Table 3 of Appendix A and the resolution is to be confirmed during next verification.

4) Diversity – Landscaping at Bantianliao

In accordance with the sustainability monitoring plan, the indicator "Biodiversity" is monitored by checking the continuous maintenance of the green landscaping at Bantianliao (Haowangjiao). The project owners provided lands that they leased from the Forest Bureau and National Property Bureau for the Houlong Government to set up a tourism park at Haowangjiao and ensured their continuous maintenance during this monitoring period. Through observation at the OA, it is confirmed that the above monitoring result is appropriate and correct through observation at the project site. It is further requested to clarify it by the document (a lease agreement between the PO and Forest Bureau for the property). In conclusion, it is confirmed that the green landscaping has continuously existed during the monitoring period.

For supporting information for verifying the appropriateness regarding the above-mentioned monitoring of SD indicators, the on-site interviews with stakeholders are summarized as below:

Summary of on-site interview with stakeholders regarding the monitoring of the SD indicator

Location	Wind turbine park
Interviewee	Local resident
Questions asked	General questions about the indicator No.4 "Biodiversity (landscaping)" and any grievance raised by local residents General questions

The feedback received	The verification team met a school teacher for disabled children on the top hill of the wind turbine park, and had an interview with her. According to what she said, the park is one of recreation and relaxation place to the local communities as well as domestic/overseas tourists. She visits this place occasionally to enjoy with her elementary school children, who need a special purpose education for a mental disorder. She said that her students love to play around and take a walk along to the walkway of the wind turbine park to enjoy the landscape. The verification team understood through the interview that the place, where the project owner provided to set up the tourism park for visitors, contributes to bring local residents comfort from spending time there.
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Location	A meeting room at Ching Hai Temple (as the community center of Dapong village)
Interviewee	Local resident
Questions asked	General questions about any grievance raised by local residents
The feedback received	The verification team met a caretaker of the temple, named Ching Hai Temple, and had an interview with her. The temple is located in the surrounding area of the wind turbine No. 18, and it is known as one of the neighborhood assembly hall. According to what she said, when the compensation program of the development of the wind turbines was noticed, a complaint was raised from some of neighboring residents due to allocation of the total amount of compensation. Some of the local residents, who were recognized as Tier 1 local residents living in the nearest area around the wind turbines, agreed with the compensation program since they could gain a direct compensation, while some other local residents, who were recognized as Tier 2 local residents living the second nearest area, were not covered by the compensation program directly. It was also explained by her that utilization of the proceeds from the compensation as well as the proportion of each distribution ratio of the proceeds were decided by the village leader through discussion among by the community members. Some of the compensation were used to build public restrooms and other local facilities, as a part of the local community project, and thus it was understood that Tier 2 local residents also gained benefit from the compensation indirectly. It was also confirmed that the compensation was paid by the project owner in accordance with the local regulation. As a result, the verification team did not see any circumstances where the compensation was not treated fairly, and considered it still in the reasonable range.

Location	Dapong Wind Farm site where the wind turbines have been installed
Interviewee	A technical engineer, who are working on O&M services of wind turbines
Questions asked	General questions about any grievance raised by local residents
The feedback received	The verification team met a technical engineer of Enercon Taiwan, the maintenance service provider, by the wind turbine No. 19 and had an interview with him. According to what he said, no major incident happened in the wind turbines in the past two years. On the other hand, some minor troubles happened within the regular operation and maintenance. For example, a wind turbine malfunctioned because its rotary parts run out of lubricant. Another case is that a wind turbine became out of control on angle of its turbine head due to a failure, and it was fixed appropriately. Each of wind turbines has been equipped with its monitoring and alert system, and it functions successfully to sense its irregular operation, including a minor failure, in order to avert a more serious incident. It is concluded that the operation and maintenance of wind turbines work well and no negative impact is found on the neighborhoods.

3.5. Compliance of GHG monitoring activities with the monitoring plan

For GHG emission reduction monitoring check, it is confirmed that GHG ER monitoring in the GS Project has been implemented in accordance with the GS conservativeness principles, which are defined in the GS Passport. The details are discussed in the following subsections:

1) Proper implementation of the monitoring plan

Through the review of the relevant documentation and monitoring data as well as the on-site visit, it is confirmed that the monitoring has been properly implemented in accordance with the monitoring plan during this monitoring period.

2) All parameters monitored and updated

Project emission parameters

As per ACM0002, the project emission for Green field renewable energy (including wind farm) project activities is zero ($PE_y = 0$).

Baseline emission parameters

Regarding the quantity of electricity generation, **CAR1** was raised and resolved as described in Table 3 of Appendix A.

Leakage emission parameters

As stated in the methodology ACM0002, leakage calculation and monitoring for this kind of activity is not considered.

In conclusion, all parameters in the monitoring plan have been monitored and updated.

3) Equipment used for monitoring

The electricity meters have been controlled and calibrated according to Taiwan national standards (based on The Weight and Measures Act, Regulation no. CNMV 46, 'Technical Specification for Verification and Inspection of Electricity Meters').

4) Monitoring results recorded consistently

The monitoring data from electricity meters has been recorded by the PO and Taipower on monthly basis, and the electricity transaction notes (ETN) including both electricity amount exported and imported has been provided by Taipower monthly. The following records are confirmed:

- Meter reading records (MRR)
- Purchase note for production (PN)
- Electricity transaction notes for consumption (ETN)
- Payment history of consumption
- Continuous measurement records of WTG

5) Quality assurance and quality control procedures for the information flow

It was explained by the PO that Emerging Markets Infrastructure Fund (EMIF), an investment holding company, owns the project owner (Miaoli Wind Co., Ltd, "Miaoli Wind"), and the following entities have been involved in operation and maintenance of Miaoli Wind:

i) Taiwan Power Company (Taipower)

- to which Miaoli Wind has connected to deliver the electricity
- State-run, largest utility in Taiwan
- Obligated under regulations to purchase energy from renewable sources

ii) Enercon GmbH

- The supplier of wind turbines

iii) SolVent GmbH

- Operations and maintenance (O&M) service provider
- A wholly owned subsidiary of Enercon GmbH

Miaoli Wind subcontracts O&M of the wind turbines to the subcontractor (SolVent), and personnel responsible for O&M is managed and trained by SolVent.

The following documents are also confirmed in terms of management and operational system of the Project:

- Organization chart
- Responsibility and authority

3.6. Compliance with the calibration frequency requirements for measuring instruments for calculating emission reductions

It is confirmed that the calibration of the electricity meter for Dapong production is conducted at a frequency specified in the monitoring plan of the Passport/PDD. At the on-site assessment, the calibration implementation of the electricity meter was checked through the calibration

records. The information on type, accuracy class, serial number, calibration frequency, date of last calibration, and validity was summarized in the report. It is confirmed that the calibration has been implemented with no delay and covering the whole monitoring period, and the results of calibration are available. On the other hand, the calibration of the electricity meter for Chunan production is delayed and a correction has been made to address the delayed calibration in the emission reduction calculation. It was confirmed that the correction was made in line with the relevant requirements appropriately.

Calibration of monitoring equipments

	Chunan	Dapong
Location	Shanjia 22.8kV Substation	Tung Ho Steel 161kV Substation
Manufacturer	Chung Hsin Electric & Machinery Mfg. Corp. Ltd.	Cheng Hsin Engineering & Services Co., Ltd.
Type	3-phase/4-wire	3-phase/4-wire
Function	2 bi-directional	2 bi-directional
Accuracy class	0.5	0.5
Serial number	68940058	10940038
Calibration frequency	8 years	8 years
Date of last calibration	21/02/2008	27/08/2010
Valid until	20/02/2016	26/08/2018
Calibration Docu. No.	970158	991111
Issued by	Third party for calibrationcy:Taiwan Electric Research and Testing Center No. 1329 (TERTEC)	Third party for calibrationcy:Taiwan Electric Research and Testing Center No. 1329 (TERTEC)

3.7. Assessment of data and calculation of emission reductions

The assessment of data and calculation of GHG ERs achieved by/resulting from the project activity, by the application of the selected approved methodology, is discussed as below.

It is confirmed that a complete set of data for the monitoring period are available at the verification, including:

- ER calculation spreadsheet, and the supplementary calculation spreadsheet
- Meter reading records (MRR)
- Purchase note for production (PN)
- Electricity transaction notes for consumption (ETN)
- Payment history of consumption
- Continuous measurement records of WTG

The monitoring data from electricity meters has been recorded by the PO and Taipower on monthly basis, and the electricity transaction notes (ETN) including both electricity amount exported and imported has been provided by Taipower monthly.

MRR, ETN, PN, and the other supplemental records have been verified. The information flow of continuous measurement recording of WTG was cross-checked through interviews with TPC senior specialist, in order to confirm as to whether any emergency events had happened during the monitoring period.

It is confirmed through the verification that the transparency of calculation formula (in the ER calculation spreadsheet) is properly maintained for baseline emissions, project emissions, emission reduction, and leakage.

$$BE_y = EF_{grid,CM,y} * EG_{PJ,y}$$

$$EG_{PJ,y} = EG_{e,y} - EG_{i,y}$$

$$PE_y = 0$$

$$LE = 0$$

Based on methodology ACM0002, the emission reductions are calculated below:

$$ER_y = BE_y - PE_y - LE = BE_y = EF_{grid,CM,y} * EG_{PJ,y}$$

Therefore, it is confirmed that the above-mentioned calculation is in accordance with the monitoring plan and the applied methodology, and any assumptions have not been applied for emission reductions calculation for the monitoring period.

The emission factor of the Taipower Grid is calculated ex-ante in the registered PDD and used for this monitoring period, as follows:

$$EF_{grid,OM,y} = 0.733 \text{ tCO}_2\text{e/MWh}$$

$$EF_{grid,BM,y} = 0.657 \text{ tCO}_2\text{e/MWh}$$

$$W_{OM} = 0.75, W_{BM} = 0.25$$

$$\text{Therefore, } EF_{grid,CM,y} = 0.714 \text{ tCO}_2\text{e/MWh}$$

It is confirmed that the emission factor 0.714 tCO₂e /MWh has been correctly applied in the calculation of the emission reductions. Meanwhile, it is confirmed that EG_{PJ,y} should be revised (please refer to **CAR1** in Table 3 of Appendix A), and thus it is requested to correct the results of ER emission reductions in the initial monitoring report.

The DOE has verified the revised values for electricity in the following table.

Electricity data used for baseline emissions calculation

Period		EG _{e,y} (kWh)	EG _{i,y} (kWh)	EG _y (kWh)
2014	Jul	5,490,455	28,800	5,461,655
	Aug	5,132,800	32,800	5,100,000
	Sep	3,123,200	36,000	3,087,200
	Oct	16,254,400	20,540	16,233,860
	Nov	13,004,800	20,000	12,984,800
	Dec	20,408,800	6,278	20,402,522
2015	Jan	16,740,000	5,576	16,734,424
	Feb	11,161,600	17,028	11,144,572
	Mar	10,699,200	14,400	10,684,800
	Apr	9,880,000	20,000	9,860,000
	May	7,074,400	22,400	7,052,000
	Jun	8,820,000	18,777	8,801,223
	Jul	8,720,800	32,000	8,688,800
	Aug	7,030,400	44,000	6,986,400
	Sep	7,329,600	46,400	7,283,200
	Oct	11,244,800	32,217	11,212,583
	Nov	9,887,200	31,502	9,855,698
	Dec	15,877,600	11,839	15,865,761
2016	Jan	16,448,800	4,220	16,444,580
	Feb	17,031,200	8,000	17,023,200
	Mar	9,568,161	14,358	9,553,803
	Apr	4,855,948	25,616	4,830,332
	May	5,513,356	32,016	5,481,340
	Jun	7,457,368	39,220	7,418,148
	Jul	1,192,532	22,525	1,170,008
Total		249,719,949	586,511	249,360,909

As a result, the emission reductions for the monitoring period is calculated, based on the recalculation results of the amount of the net electricity generated from Miaoli Wind for the monitoring period, as:

$$ER_y = EG_{PJ,y} * EF_{grid,CM,y} = 249,360.909 \text{ MWh} * 0.714 \text{ tCO}_2\text{e/MWh} = 178,044 \text{ tCO}_2\text{e}$$

3.8. Post registration change

There is no post registration change occurred during this monitoring period.

3.9. Double counting in the context of Green Certificate schemes

It is required to check for double counting at both validation and verification stages by reviewing all relevant registries that could hold Renewable Energy Credits (RECs) from the considered project activity. The identified registries are examined by the DOE as below:

1) Pilot Program for Voluntary Purchase of Green Power Pilot Program

According to *“Pilot Program for Voluntary Purchase of Green Power – Ministry of Economic Affairs, issued 12th February 2015”*, and the supplemental document, *“Pilot Program of Green Power voluntarily purchase -Green Power Good Power- Bureau of Energy, Ministry of Economics, issued February 2015”*, Bureau of Energy (BOE) has announced “Green power pilot program” on July 1st 2014, allowing businesses and households to voluntarily purchase “accredited green electricity” sourced from renewable energy (mainly solar power and onshore wind power in Taiwan). Green power pilot program started on July 1st 2014, expected to last 3 years, and it is designed to be reviewed and audited annually. For this pilot program, users buy green power voluntarily from Taipower, who also issues certificate for voluntary users. However, Taipower does not disclose the information about the origin of green power, and thus the users do not know who generates the green power that the users purchase. This is an issue of the system.

2) International Renewable Energy Certificates (I-REC)

According to *“Accounting of Scope 2 emissions – Technical notes for companies reporting on climate change on behalf of investors & supply chain members 2015”*, I-REC is recognized the world-wide standardized attribute tracking certificate system, that is considered as appropriate for the purpose of tracking and voluntary corporate disclosure of renewable electricity. The details are as follows:

“I-REC is a voluntary initiative with local governmental support working to spread the principles of energy attribute tracking systems, worldwide, to promote a consistent and verifiable electricity product. It is the initiative’s intention to provide a client-oriented system that allows simple electricity tracking options to the end-user. I-REC allows for transparent and reliable consumer claims when purchasing renewable electricity in locations that traditionally did not have this option. As such, the energy attribute tracking standard created by I-REC is intended for regions without an existing or reliable energy attribute tracking certificate meaning I-REC is currently limited to locations outside the US, EU/EEA, or Australia. Additional exemptions to this rule may be determined as the standard develops.”

“I-REC allows consumers to purchase any available renewable resources without discriminating based upon the criteria of the production station. This allows the consumer to purchase products based upon their own internal company objectives. I-REC is currently active in Taiwan, Turkey and Israel although the principles are easily expanded to other countries and regions. I-REC also publishes annual residual mix figures for the locations where there has been active I-REC issuance and consumption the year before.”

Considering the above-mentioned green power schemes in Taiwan, the power purchase agreement and the amendment of both Chunan and Dapong wind farms were reviewed, and no evidence was found which shows question in double counting on any RECs or the other green power premium scheme (except FIT system in Taiwan) applied by the GS Project. As a result, it is confirmed that the PP sincerely provided a declaration (in the Monitoring Report) in writing that states no RECs are being issued for the project under consideration for Gold Standard VERs, and it is considered reasonable.

4. Technical review

The technical review was conducted on 02/10/2017 according to the submission of a draft Verification and Certification Report prepared by the verification team. The report is approved after the resolution of CARs/CLs, which were raised by the technical reviewer.

5. Conclusion

JQA concludes that the monitoring report is revised and corrected adequately reflecting the CARs and CLs raised by the DOE.

6. Verification opinion

JQA has performed the 3rd periodic verification of emission reductions achieved by the GS Project "Miaoli 49.8MW Wind Farm Project" (GS-931; registered on 03/07/2012) under the contract with Nanjitan Asset Management Ltd. The verification covers the monitoring period from 03/07/2014 to 02/07/2016.

Verification is the periodic independent review and *ex-post* determination by the DOE of emission reductions from anthropogenic emissions sources of GHGs that have occurred as a result of the registered GS project activity during the monitoring period. JQA has performed the verification of the registered GS Project as per GS Requirements/toolkit to check whether the GS Project is implemented and operated in accordance with the registered Passport, its revised monitoring plan, and the applied monitoring methodologies/tools. The verification process includes the desk review of the relevant documents, on-site assessment including data cross-check and site observation, resolution of CARs and CLs, preparation of Draft Verification Report, internal quality control and the final approval of Verification and Certification Report.

Through the verification process, no post registration change of the registered project activities is identified.

Through the resolution of 2 CARs and 4 CLs raised in this verification, JQA has confirmed that the GS Project is implemented and operated in accordance with the registered Passport/PDD and the monitoring plan which comply with the monitoring methodologies ACM0002 (Ver.11) except an issues remaining as FAR1. This issue is to be confirmed at the next verification opportunity. The GHG emission reductions stated in the revised GS-MR (Ver. 5.0) and the revised ER calculation spreadsheet (Ver. 5) are transparently and correctly calculated throughout the 3rd monitoring period by applying these methodologies.

As a result of verification, JQA has determined that the emission reductions achieved in the 3rd monitoring period between 03/07/2014 and 02/07/2016 by the registered GS Project activity "Miaoli 49.8MW Wind Farm Project" are as follows and are free from material errors, omissions or misstatements with a reasonable level of assurance:

Baseline emissions	178,044 tCO ₂ e
Project emissions	0 tCO ₂ e
Emission reductions	178,044 tCO ₂ e

11/10/2017



Sumio Asada

Senior Executive