

Validation report form for renewal of crediting period for GS project activities

(Version 01.0)

VALIDATION REPORT FOR RENEWAL OF CREDITING PERIOD (RCP)

Title of the project activity	Miaoli 49.8MW Wind Farm Project
Reference number of the project activity	GS ID: 931 TN P-No.: 8000466256 - 16/154
Number and duration of the next crediting period	CP-No.: 2 12/12/2017 to 11/12/2024 (incl. both days)
Version number of the validation report for RCP	2.0
Completion date of the validation report for RCP	22/01/2018
Version number of PDD to which this report applies	PDD: 4.0 Passport: 4.0
Project participant(s)	Whitehelm Capital Limited (Taiwan)
Host Party	Taiwan
Sectoral scope(s), selected methodology(ies), and where applicable, selected standardized baseline(s)	Scope 1 : / Technical Area: 1.2 CDM Methodology: ACM0002: Grid-connected electricity generation from renewable sources (Version17.0)
Estimated annual average GHG emission reductions or net anthropogenic GHG removals in the next crediting period	120,298 tCO₂e
Name of DOE	TÜV NORD CERT GmbH
Name, position and signature of the approver of the validation report for RCP	 Stefan Winter Final Approval

SECTION A. Executive summary

Nanjitan Asset Management Ltd. has commissioned the TÜV NORD JI/CDM Certification Program to carry out validation of the request for renewal of crediting period (RCP) for the project:

“Miaoli 49.8MW Wind Farm Project”

with regard to the relevant requirements for GS project activities.

The project was registered on 03/07/2012 under Gold Standard (Ver. 2.1) and the Gold Standard registration No. 931. The PP has chosen a 7 year crediting period which is now due for renewal. The second crediting period starts from 12/12/2017 to 11/12/2024.

The objective of this RCP validation is the review by an independent entity whether the project is still compliant with the applicable sections of:

- the CDM project standard (version 9.0)^{/PS/},
- the Validation and Verification Standard (version 9.0)^{/VVS/},
- the Gold Standard Requirements Version 2.2^{/GSR/},
- the Gold Standard Toolkit Version 2.2^{/GST/},
- GS 2.2 ANNEX-Z Gold Standard Procedures for the renewal of a crediting period^{/PRCP/}
- the updated applied UNFCCC Methodology ACM0002: Grid-connected electricity generation from renewable sources (Version17.0)^{/ACM0002/} and
- the methodological tool “Tool to calculate the emission factor for an electricity system” (version 05.0)^{/TEF/}
- the methodological tool: “Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation” (Version 02.0)^{/BPLE/}
- the methodological tool “Assessment of the validity of the original / current baseline and update of the baseline at the renewal of the crediting period” (Version 03.0.1)^{/TVB/}.

As per the requirements of the ANNEX-Z Gold Standard Procedures for the renewal of a crediting period^{/PRCP/} the validation is based on

- the registered GS PDD (including the monitoring plan)^{/PDD-R/},
- the registered GS Passport^{/GSP-R/},
- the Gold Standard Local Stakeholder Consultation Report of 1st crediting period^{/LSCR/},
- the GS validation report of 1st crediting period^{/VAL/},
- the updated PDD corresponding to 2nd crediting period^{/PDD/},
- the updated GS Passport corresponding to 2nd crediting period^{/GSP/},
- the updated emission reduction calculation spread sheet^{/XLS/},
- the periodic verification reports and Monitoring Reports of 1st crediting period^{/VER/},
- further supporting documents made available to the validator as well as
- information collected through performing on-site interviews.

Furthermore publicly available information, such as the host country legislation, was considered as far as available and required.

The project reduces GHG emissions due to installation of a newly built wind power project with total installed capacity of 49.8 MW (24*2 MW+1*1.8 MW), which supplies the power energy to Taiwan power grid (TPCG) and contributes to the reduction of GHG emission by replacing part of electricity of TPCG which is dominated by fossil fuel-fired power plants.

The wind farm is located in two separate areas of Miaoli County, Houlong Township ‘named Dapong Site’ (21 turbines*2 MW) and Chunan Township, named ‘Chunan Site’ (3 turbines*2 MW+1 turbine*1.8 MW). The actual installed capacity of wind turbines was confirmed by checking the nameplates at the site^{/PHT/}. It was also confirmed through the interview with the PO^{/11/} that there is no change of equipment between the 1st and the 2nd crediting period.

The proposed project started construction on 20/05/2005 which is confirmed via checking the Construction Permit of Chunan site issued by Bureau of Energy, Ministry of Economic Affairs dated

20/05/2005^{/CPC/} and started operation on 10/02/2006 which is confirmed via checking the Taiwan Power Company Grid Feed-in Confirmation Letter dated 10/02/2006^{/FCL/}.

Details of the project location are given in table A-1 below:

Table A-1: Project Location

No.	Project Location
Host Country	Taiwan
Region:	Miaoli County
Project location address:	Houlong and Chunan Township
Latitude:	Chunan site: 24°43'0.27"N Dapong Site: 24°35'37.42"N
Longitude:	Chunan site: 120°51'48.60"E Dapong Site: 120°42'58.68"E

Basic technical details of the project are summarized in table A-2.

Table - A-2: Technical data of the project activity

Parameter	Unit	Value		
Type	-	E-70 E4		
Site	-	Chunan		Dapong
Number of Wind Turbines	-	3	1	21
Rated power	kW	2,000	1,800	2,000
Rotor diameter	m	71		
Height of hub	m	64		
Generator	-	Direct-driven synchronous Enercon ring generator		
Grid feeding	-	ENERCON inverter		

SECTION B. Validation team, technical reviewer and approver

B.1. Validation team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk review	On-site inspection	Interview(s)	Validation findings
1.	Team Leader (also verifier) ¹	EI	Zhao	Xuejiao	-	☒	☒	☒	☒

B.2. Technical reviewer and approver of the validation report for RCP

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer	EI	Lubanga	David	-
2	Technical reviewer /Approver	IR	Winter	Stefan	TÜV NORD CERT GmbH

¹ The verifier has conducted the GS project in Taiwan (GS1350), and the people in Taiwan Speak Mandarin, the verifier can understand the local language.

SECTION C. Means of validation

C.1. Desk review

>>

During the desk review all documents initially provided by the client and publicly available documents relevant for the validation were reviewed. The main documents are listed below:

- the registered PDD including the monitoring plan^{/PDD-R/},
- the registered GS PDD (including the monitoring plan)^{/PDD-R/},
- the registered GS Passport^{/GSP-R/},
- the Gold Standard Local Stakeholder Consultation Report of 1st crediting period^{/LSCR/},
- the GS validation report of 1st crediting period^{/VAL/},
- the updated PDD corresponding to 2nd crediting period^{/PDD/},
- the updated GS Passport corresponding to 2nd crediting period^{/GSP/},
- the updated emission reduction calculation spread sheet^{/XLS/},
- the periodic verification reports and Monitoring Reports of 1st crediting period including the claimed emission reductions for the project^{/VER/},

Other supporting documents, such as publicly available information on the GS website and background information were also reviewed.

C.2. On-site inspection

Duration of on-site inspection: 05/01/2017 to 07/01/2017				
No.	Activity performed on-site	Site location	Date	Team member
1.	Opening meeting	Nanjitan Asset Management Ltd.'s office in Taichung City, Taiwan	05/01/2017	Zhao Xuejiao
2	Documents check	Nanjitan Asset Management Ltd.'s office in Taichung City, Taiwan	05/01/2017	Zhao Xuejiao
3	On-site inspection	Houlong and Chunan Township, Miaoli County, Taiwan	06/01/2017	Zhao Xuejiao
4	Interview with PP and Representative Operation Staff	Houlong and Chunan Township, Miaoli County, Taiwan	07/01/2017	Zhao Xuejiao
5	Finding Summary	Miaoli Wind Co., Ltd Office in Taipei City, Taiwan	07/01/2017	Zhao Xuejiao
6	Close Meeting	Miaoli Wind Co., Ltd's Office in Taipei City, Taiwan	07/01/2017	Zhao Xuejiao

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Falls ^{/11/}	Hal	Miaoli Wind Co., Ltd / Commercial Manager	05/01/2017 ~ 07/01/2017	- Project history - Monitoring and measurement equipment and system - Remaining lifetime of equipment - Crediting period - Baseline study assumptions - Roles & responsibilities of the project participants - National legislation - ER calculation - Ex-ante parameters	Zhao Xuejiao

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
					- Changes of parameters	
2	Wang ^{/11/}	Chisheng	Miaoli Wind Co., Ltd / Engineer	05/01/2017 ~ 07/01/2017	- Project history - Monitoring and measurement equipment and system - Remaining lifetime of equipment - Crediting period - Baseline study assumptions - Roles & responsibilities of the project participants - National legislation - ER calculation - Ex-ante parameters - Changes of parameters	Zhao Xuejiao
3	Gan ^{/11/}	Yiqiong	Qinghaigong/ Local resident	05/01/2017 ~ 07/01/2017	- Project history - Monitoring and measurement equipment and system. - Remaining lifetime of equipment - Roles & responsibilities of the project participants - Changes of parameters	Zhao Xuejiao
4	Li ^{/11/}	Yuhuan	Nangangli/ Local resident	05/01/2017 ~ 07/01/2017	- Project history - Monitoring and measurement equipment and system. - Remaining lifetime of equipment - Roles & responsibilities of the project participants - Changes of parameters	Zhao Xuejiao
5	Zhang ^{/11/}	Yuwei	Nangangli/ Local resident	05/01/2017 ~ 07/01/2017	- Project history - Monitoring and measurement equipment and system. - Remaining lifetime of equipment - Roles & responsibilities of the project participants - Changes of parameters	Zhao Xuejiao
6	Yu ^{/2/}	ChiaJung	Nanjitan Asset Management Ltd. / Project	05/01/2017 ~ 07/01/2017	- Project history - Monitoring and measurement equipment and	Zhao Xuejiao

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
			Manager		system. - Remaining lifetime of equipment - Crediting period - Baseline study assumptions - Roles & responsibilities of the project participants - National legislation - ER calculation - Ex-ante parameters - Changes of parameters - Editorial issues of the revised PDD	

C.4. Clarification requests, corrective action requests and forward action requests raised

Area of validation findings	No. of CL	No. of CAR	No. of FAR
Compliance with PDD form	2	0	0
Application of baseline and monitoring methodology and standardized baseline	0	2	0
Validity of original baseline or its update	0	1	0
Estimated GHG emission reductions or net anthropogenic GHG removals	0	1	0
Validity of monitoring plan	0	1	0
Crediting period	0	1	0
Project participants	1	0	0
Others (please specify) – Complementary Local stakeholder consultation process and its outcome	1	0	0
Others (please specify) - Sustainable Development assessment of “Do No Harm”	1	0	0
Others (please specify) - Sustainable Development assessment of SD Matrix	2	0	0
Others (please specify) – Revised SD monitoring plan	0	1	0
Total	7	7	0

SECTION D. Validation findings

D.1. Compliance with PDD form

Means of validation	A draft revised PDD was submitted to the validation team by the project participants. By means of the UNFCCC website it has been checked whether the latest applicable PDD template CDM-PDD-FORM has been used. Further it has been checked whether the latest instructions for filling out the PDD template have been followed. Every section has been checked against the respective guidance. The following sources of information have been used in this context: • /PDD/ • /PDD-T/ • /unfccc/	
Findings	☒	The latest reporting template CDM-PDD-FORM as listed on the UNFCCC website has been used for the PDD.
	☐	The latest instructions for filling out the PDD have been followed. No adverse finding has been identified in the course of this validation.
	☒	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context: - CL 1 & CL 2

Conclusion	☐	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	☒	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
	The project participants used the later version of the PDD form for the updated PDD than the version of the PDD form of the registered PDD. It is confirmed that the information transferred to the later version of the PDD form is materially the same as that in the registered PDD.	

D.2. Application of baseline and monitoring methodology and standardized baseline

Means of validation	By means of comparison of the PDD with (i) the applied CDM methodology (ii) all applicable CDM Meth tools and (iii) if applicable, a standardized baseline the verification team has checked whether the updated PDD is in compliance with the requirements of the applied methodology/tools/SB. The following sources of information have been used in this context: • /PDD/ • /ACM0002/ • /TVB/ • /TEF/ • /TA/ • /BPLE/ • /unfccc/						
Findings	☒	The updated PDD is completely in accordance with the approved methodology applicable for the CDM project					
	☒	The breakdown of PDD accordance of the referenced tools is as follows:					
		1	<table border="1"> <tr> <td>Title (of the tool)</td><td>Tool to calculate the emission factor for an electricity system</td></tr> <tr> <td>Version</td><td>05.0</td></tr> <tr> <td>PDD compliance</td><td> ☒ full compliance ☐ findings have been raised ☐ N/A (for MP) </td></tr> </table>	Title (of the tool)	Tool to calculate the emission factor for an electricity system	Version	05.0
Title (of the tool)	Tool to calculate the emission factor for an electricity system						
Version	05.0						
PDD compliance	☒ full compliance ☐ findings have been raised ☐ N/A (for MP)						
2	<table border="1"> <tr> <td>Title (of the tool)</td><td>Assessment of the validity of the original/current baseline and update the baseline at the renewal of the crediting period</td></tr> <tr> <td>Version</td><td>03.0.1</td></tr> <tr> <td>PDD compliance</td><td> ☒ full compliance ☐ findings have been raised ☐ N/A </td></tr> </table>	Title (of the tool)	Assessment of the validity of the original/current baseline and update the baseline at the renewal of the crediting period	Version	03.0.1	PDD compliance	☒ full compliance ☐ findings have been raised ☐ N/A
Title (of the tool)	Assessment of the validity of the original/current baseline and update the baseline at the renewal of the crediting period						
Version	03.0.1						
PDD compliance	☒ full compliance ☐ findings have been raised ☐ N/A						
3	<table border="1"> <tr> <td>Title (of the tool)</td><td>Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation</td></tr> <tr> <td>Version</td><td>02.0</td></tr> <tr> <td>PDD compliance</td><td> ☒ full compliance ☐ findings have been raised ☐ N/A </td></tr> </table>	Title (of the tool)	Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation	Version	02.0	PDD compliance	☒ full compliance ☐ findings have been raised ☐ N/A
Title (of the tool)	Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation						
Version	02.0						
PDD compliance	☒ full compliance ☐ findings have been raised ☐ N/A						
The breakdown of PDD accordance of the applicable SB is as follows:							
1	<table border="1"> <tr> <td>Title (of the SB)</td><td>n/a</td></tr> <tr> <td>Version</td><td>-</td></tr> <tr> <td>MP compliance</td><td></td></tr> </table>	Title (of the SB)	n/a	Version	-	MP compliance	
Title (of the SB)	n/a						
Version	-						
MP compliance							
☐ In this context the following CARs, CLs, FARs have been raised: - CAR 1 & CAR 2							
Conclusion	☐	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.					

	☒	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
		For both the methodology and applicable tools it is confirmed that all applicable references in the updated PDD are correct and all applicable tools have been correctly identified in the updated PDD, and in accordance with the applicable requirements in the Project standard. All applicability conditions of the updated methodology and grid emission factor tool are still met.

D.3. Validity of original baseline or its update

Means of validation	In order to check the validity of the original baseline or its updates the validation team has applied the following stepwise approach: Step 1: Check of assessment to the validity of the current baseline for the next crediting period Step 1.1: Check of assessment to compliance of the current baseline with relevant mandatory national and/or sectoral policies Step 1.2: Check of assessment to the impact of circumstances Step 1.3: Check of assessment to whether the continuation of use of current baseline equipment(s) or an investment is the most likely scenario for the crediting period for which renewal is requested. Step 1.4: Check of assessment of the validity of the data and parameters Step 2: Check of the update to the current baseline and the data and parameters Step 2.1: Check of the update to the current baseline Step 2.2: Check of the update to the data and parameters All necessary documentation has been either provided by the client or the validation team has acquired appropriate information required for assessment independently. For a detailed list of reviewed documentation please refer to Appendix 3.
Findings	Step 1: Check of assessment to the validity of the current baseline for the next crediting period The baseline scenario of the project as per the registered PDD can be described as follows: <i>Emissions generated by the operation of the power plants currently connected to TPCG and the emissions generated by the addition of new power sources to TPCG. This is estimated ex-ante by using the Combined Margin (CM) calculation, which is the CM of TPCG multiplied by the electricity delivered to TPCG by the project.</i> The baseline is still in line with the latest version of the applied methodology. As per the project standard this scenario is not subject to re-assessment and is thus deemed to be applicable for the next crediting period. However the baseline itself i.e. the calculation of baseline emissions has been checked regarding the continued validity of underlying assumptions and parameter values. The assessment steps are described in the following subsections. Step 1.1: Check of assessment to compliance of the current baseline with relevant mandatory national and/or sectoral policies The baseline of the PDD has been assessed to be compliant with the national legislation and policies applicable for the project activity at the time of validation. During the first crediting period the PP has frequently reviewed the legal requirements and policies relevant for the baseline of the project. On the basis of this the PP has arrived at the conclusion that the baseline is still in line with all applicable legislations and policies. The validation team has independently reviewed the host country legislation as well as current policies, such as

- Taipower grid composition^{/tpgc/}.

On the basis of this analysis the validation team confirms that the baseline is still in compliance with the currently applicable national legislation and other national and/or sectoral policies. Therefore the baseline did not need to be adjusted due to changes in this respect.

Step 1.2: Check of assessment to the impact of circumstances

As the baseline scenario might be affected by changed circumstances, e.g. market conditions, market prices etc. the PP has checked the baseline against such changes that have occurred since validation. This is of special importance if the baseline scenario is the continuation of the pre-project scenario.

In the current case no such changes have been identified by the project participants as

- changed market conditions are not likely to impact the PA.

The validation team has independently checked whether there are changes in circumstances which have an impact on the baseline, such as searching the website of local government of electricity power^{/tpgc/}, verifying the Power Purchase Agreement^{/PPA/} and interview with the PP^{/11/}.

No such changes have been identified and thus it is deemed appropriate not to revise the baseline due to changes in circumstances.

Step 1.3: Check of assessment to whether the continuation of use of current baseline equipment(s) or an investment is the most likely scenario for the crediting period for which renewal is requested.

If the baseline scenario has been identified as the continuation of the pre-project scenario it is necessary to assess whether an investment and/or exchange of the baseline equipment (e.g. due to expiry of the equipment's lifetime) during the upcoming crediting period is to be deemed the most likely scenario. If so the baseline needs to be updated.

In case of an ACM0002 project, there is no baseline equipment which is to be exchanged. Furthermore no other reasons for a possible investment – other than possible legal requirements – have been identified.

Thus the validation team confirms the conclusion that no changes to the baseline are required due to the likeliness of investments in equipment which impacts the baseline.

Step 1.4: Check of assessment of the validity of the data and parameters

The parameters which have been determined ex-ante in the registered PDD are basically still valid. Only the following change was required:

Parameter	Previous value	Updated value	Reference
EF _{grid,CM,y} tCO ₂ /MWh	0.714	0.645	Energy Balances in Taiwan - New Format (from the Bureau of Energy) ^{/EBT/}

These changes have been appropriately considered in the updated PDD.

Step 2: Check of the update to the current baseline and the data and parameters

Step 2.1: Check of the update to the current baseline

As per the check in step 1 above, it is confirmed that the current baseline does not need to be updated.

	Step 2.2: Check of the update to the data and parameters	
	Refer to the check results of step 1.4.	
	☐	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context: - CAR 3
Conclusion	☐	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	☒	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
	The original baseline scenario of the project as per the registered PDD is still valid for the 2 nd crediting period. Most of the data and parameters determined ex-ante are still valid except for the emission factor, the emission factor was re-determined in the baseline emission calculation.	

D.4. Estimated GHG emission reductions or net anthropogenic GHG removals

Means of validation	For validation of the estimated GHG emission reductions the client has provided the validation team with the following documentation: - Updated PDD^{/PDD/} - XLS spreadsheet^{/XLS/}. Further, the validation team has downloaded from the UNFCCC website the applicable version of the CDM methodology and all referenced methodological tools^{/unfccc/}. Via verify the PDD, it is confirmed the calculation of ERs is done as per the applied methodology (ACM0002 ver. 17.0) and “Tool to calculate the emission factor for an electricity system” (version 05.0)^{/TEF/} with follow steps listed below. In addition, as per the applied methodology (ACM0002 ver. 17.0) and “Tool to calculate the emission factor for an electricity system” (version 05.0)^{/TEF/}, The $EF_{grid,CM,y}$ calculation refers to the latest version of “Energy Balances in Taiwan - New Format” published by Taiwan’s Bureau of Energy on 06/06/2016^{/EBT/}. The RCP PDD was submitted to DOE on 18/12/2016, $EF_{grid,CM,y}$ calculation based on “Energy Balances in Taiwan - New Format” issued on 06/06/2016 is confirmed as the latest valid available data at the time of the validation for the crediting period renewal. 1) Baseline emissions BE_y: According to the applied methodology, baseline emissions include only CO₂ emissions from electricity generation in power plants that are displaced due to the project activity. The methodology assumes that all project electricity generation above baseline levels would have been generated by existing grid-connected power plants and the addition of new grid-connected power plants. Hence, Baseline emissions BE_y (tCO₂e) are to be calculated as follows: $BE_y = EG_{PJ,y} \times EF_{grid,CM,y}$ Where: BE_y = Baseline emissions in year y (t CO₂) $EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh) $EF_{grid,CM,y}$ = Combined margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the “Tool to calculate the emission factor for an electricity system” (t CO₂/MWh) Calculation of $EG_{PJ,y}$
---------------------	---

Via checking the registered PDD, it is confirmed that the project activity is a greenfield power plant, then according to the methodology,

$$EG_{PJ,y} = EG_{facility,y}$$

Where:

$$EG_{facility,y} = \text{Quantity of net electricity generation supplied by the project plant/unit to the grid in year } y \text{ (MWh)}$$

Calculation of $EG_{grid,CM,y}$

Baseline emission factor $EF_{grid,CM,y}$ is determined by follow sub-steps according to the “Tool to calculate the emission factor for an electricity system” (version 05.0).

Sub-Step 1. - Identify the relevant electricity systems.

The national grid, i.e. Taiwan power grid (TPCG), which the project directly connected, is selected as the electric power system of the Project.

The validation team verified the data sources of “Energy Balances in Taiwan - New Format” published by Taiwan’s Bureau of Energy^{/EBT/}, and confirms that the identified electric power systems are appropriate.

Sub-Step 2. -Choose whether to include off-grid power plants in the project electricity system.

Project participant choose Option I: Only grid power plants are included in the calculation, which is confirmed in line with the tool.

Sub-Step 3. -Select a method to determine the operating margin (OM).

For the calculation of the OM emission factor, the simple OM emission factor calculation method is selected because low cost/must-run projects constitute less than 50% of the total grid generation during the last 5 years (2011-2015). And the ex-ante option is selected for the calculation of the simple OM emission factor.

The validation team has checked the calculation for low cost/must-run constitution of the total grid generation and confirmed the calculation is correct. Therefore, simple OM emission factor calculation method is selected reasonable. Data from the energy balance in Taiwan^{/EBT/} has been applied correctly.

Sub-Step 4. -Calculate the operating margin emission factor according to the selected method.

Option B “Based on the total net electricity generation of all power plants serving the system and the fuel types and total fuel consumption of the project electricity system” is selected for the calculation of the simple OM emission factors. The data on electricity generation and auxiliary electricity consumption are obtained from the energy balance in Taiwan^{/EBT/}. The data on different fuel consumptions for power generation and the net caloric values of the fuels are obtained from the energy balance in Taiwan^{/EBT/} and GHG Emission Factor Inventory v.6.0.2 — Environmental Protection Administration (EPA) Executive Yuan, Taiwan^{/EFI/}. The emission factors of the fuels adopted are obtained from GHG Emission Factor Inventory v.6.0.2 — Environmental Protection Administration (EPA) Executive Yuan, Taiwan^{/EFI/}. The renewable crediting period is adopted for the Project and the OM will be fixed for the second crediting period as the ex-ante option is selected for the calculation of the simple OM emission factor.

The data source are checked as reasonable and the validation team confirms that the calculation is able to be replicated using the data and parameter provided in the PDD.

Sub-Step 5.- Calculate the build margin (BM) emission factor.

	Considering data availability, deviation accepted by EB was used in the PDD i.e. The BM emission factor of the power grid is calculated by multiplying the emission factor of the thermal power with the share of the thermal power in the most recently added approach to 20% of total installed capacity. The emission factor for thermal power is determined based on the weighted emissions factor of thermal power generation with the efficiency level of the best commercially available technology in Taiwan in the previous three years. The validation team hereby confirms that the data source and approaches taken are deemed reliable and the calculation is appropriate. Sub-Step 6.-Calculate the combined margin (CM) emissions factor. According to the “Tool to calculate the emission factor for an electricity system” (version 05.0)^{TEF/}, the default weights: $\omega_{OM}=0.75$ for Operating Margin and $\omega_{BM}=0.25$ for Build Margin in the second crediting period of wind power projects are adopted. In accordance to the “Tool to calculate the emission factor for an electricity system”, the Simple OM emission factor ($EF_{grid,OM,y}$) of TPCG is calculated ex-ante as 0.702 tCO₂e/MWh. Similarly, the build margin emission factor ($EF_{grid,BM,y}$) of the TPCG is calculated ex-ante as 0.475 tCO₂e/MWh. Hence, $EF_{grid,CM,y} = 0.702 \text{ tCO}_2\text{e/MWh} \times 0.75 + 0.475 \text{ tCO}_2\text{e/MWh} \times 0.25 = 0.645 \text{ tCO}_2\text{e/MWh}$ Therefore the combined baseline emission factor is determined ex-ante and will remain fixed during the second crediting period. 2) Project emissions PE_y: The project is a windpower project. Furthermore, no fossil fuel will be consumed in the project site. Hence, according to the methodology ACM0002 version 17.0 , the project emission is zero. 3) Leakage emissions LE_y: As per the methodology ACM0002 version 17.0 , no leakage needs to be considered by the project activity. Hence, the leakage is zero. 4) Emission reductions ER_y: $\begin{aligned} ER_y &= BE_y - PE_y \\ &= BE_y - 0 \\ &= BE_y \\ &= EF_{grid,CM,y} \times EG_{facility,y} \\ &= 0.645 \text{ tCO}_2\text{e/MWh} \times 186,509 \text{ MWh} \\ &= \mathbf{120,298 \text{ tCO}_2\text{e}} \end{aligned}$ The estimated amount of GHG emission reductions of the project is 842,086 tCO₂e during the second crediting period (7 years) from 12/12/2017 to 11/12/2024, resulting in estimated average annual emission reductions of 120,298 tCO₂e. The XLS ER calculation has been duly checked. Further it has been checked whether the results have been correctly transferred to the updated PDD for determination of ex-ante ER. The validation team has further checked the updated PDD against the latest version of the applicable methodology incl. the referenced methodological tools for consistency. Special focus was laid on the changes against the previous crediting period.
Findings	<input data-bbox="427 1960 459 1993" type="checkbox"/> The calculation of ERs is done as per the applied methodology (ACM0002 version 17.0). The calculation in the Excel spreadsheet and the corresponding calculation tables in the PDD have been checked and no mistakes have been identified. The estimation of emission reductions for the 2nd crediting period is deemed plausible and conservative.

	☒	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context: - CAR 4
Conclusion	☐	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	☒	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
		All changes due to the upgraded methodology and the re-assessment of the baseline have been considered appropriately and in line with the CDM PS. The calculation in the Excel spreadsheet and the corresponding calculation tables in the PDD have been checked and no mistakes have been identified. The estimation of emission reductions for the 2 nd crediting period is deemed plausible and conservative.

D.5. Validity of monitoring plan

Means of validation	The validation team has checked the monitoring plan of the updated PDD against the required changes due to the update of the baseline and other methodological changes. Further, changes due to editorial updates of the applicable templates have been checked. The monitoring plan in the PDD has been updated to comply with the latest applicable version of the monitoring methodology (ACM0002 version 17.0). The basic changes from the current crediting period can be summarized as follows: Monitoring Parameters: - $EG_{facility,y}$ Quantity of net electricity generation supplied by the project plant/unit to the grid in year y is calculated by the formula $EG_{facility,y} = EG_{e,y} - EG_{i,y}$ Where: $EG_{facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh/yr). $EG_{e,y}$ = Quantity of electricity generation supplied by the project plant/unit to the grid in year y (MWh/yr) $EG_{i,y}$ = Quantity of electricity consumption of the project plant/unit from the grid in year y (MWh/yr). Via checking the registered PDD^{/PDD/} and the periodic MRs and verification reports^{/VER/}, it is confirmed that the monitoring plan in the second crediting period PDD is in line with the actual situation as below demonstration. The electricity generated by the project in Chunan Site is first delivered to Shanjia 22.8 kV substation, and then into TPCG. The electricity generated by the project in Dapong Site is first delivered to Tung-Ho Steel 161 kV Substation and then into TPCG. It can be verified by the Power Purchase Agreement^{/PPA/}. All the measuring equipments includes 2 meters. One is installed at the Shanjia 22.8kV Substation (Chunan Site), another is installed at Tung Ho Steel 161kV Substation (Dapong Site). The two bidirectional meters are used to measure the Quantity of electricity generation supplied by the project plant/unit to the grid ($EG_{e,y}$) and Quantity of electricity consumption of the project plant/unit from the grid ($EG_{i,y}$). The installation and operation of the monitoring meters were in line with the registered monitoring plan^{/PDD/} and the periodic verification reports^{/VER/}. The electricity generated is supplied to the TPCG under the Power Purchase Agreement^{/PPA/}. The two monitoring meters have the accuracy of 0.5. Both the meters will be calibrated by qualified third parties in line with the national calibration standard Weight and Measures Act, Regulation no. CNMV 46, 'Technical Specification for Verification and Inspection of Electricity Meters'^{/TSV/}. Taipower's calibration procedures are in accordance to governed by the Bureau of Standards, Metrology and Inspection, Ministry of Economic Affairs, Taiwan R.O.C. QA/QC procedure
----------------------------	--

		Authorities and responsibilities regarding monitoring plan have been described in section B.7.3 of the updated PDD. Calibration of Meters & Metering should be implemented periodically according to national standards and rules. All the records should be documented by the project owner. The net electricity generation delivered by the Project to TPCG will be monitored through the meters and double-checked against relevant electricity sales receipts and/or records for quality control. The designated staff will collect the measured electricity data every month and complete the corresponding records. At the end of each month the monitoring data needs to be filed electronically. The electronic files need to have CD back-up or print-out. The project developer needs to keep electricity sale and purchase invoices. All the relevant data records will be kept by the Project owner during the crediting period and two years after for DOE's verification. Data management and quality control measures have been confirmed with PP through telephone and emails. In detail all parameters, ex-ante values and applicable formulae have been checked to determine the required changes for the next crediting period. Besides, based on conducted interviews with related personnel the validation team has assessed the feasibility of the required changes.
Findings	☒	The validation team has duly assessed all the required changes due to the upgraded methodological requirements and the re-assessment of the monitoring plan. The validation team has concluded that - all necessary changes have been appropriately reflected in the updated PDD, - the monitoring plan in the updated PDD is in compliance with the applied monitoring methodology, - the monitoring arrangements described in the updated PDD can be implemented and are feasible within the project design.
	☒	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context: - CAR 5
	☐	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
Conclusion	☒	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
		All necessary changes have been appropriately reflected in the updated PDD, the monitoring plan in the updated PDD is in compliance with the applied monitoring methodology, and the monitoring arrangements described in the updated PDD can be implemented and are feasible within the project design.

D.6. Crediting period

Means of validation	According to the ANNEX-Z Gold Standard Procedures for the renewal of a crediting period^{/PRCP/}, "the start date of the renewed crediting period is defined as the first day after the end date of the previous crediting period, provided the application for a renewal of the crediting period is submitted to Gold Standard prior to the end of the previous crediting period". Via checking the mail sent to GS by the DOE on 18/12/2016^{/MAIL/}, it is confirmed that the formal application of renewal of the crediting period is submitted to Gold Standard prior to the end of the previous crediting period of 02/07/2017. However, as per GS CP renewal rule, the start date of the renewed crediting period will be the date when the 4 week review period ends in the case when the application for renewal of the crediting period is not submitted to GS prior to the end of the previous crediting period but is submitted within one year. Thus, CP 2 of the project activity start date can be 12/12/2017.
----------------------------	--

Findings	☒	As the respective requirements are met, the project's 2 nd crediting period may start immediately after the expiration of the 1 st one, given that all other applicable criteria are met. It is further confirmed that the start date (12/12/2017) and the length of the crediting period (7 years) are in compliance with the Gold Standard Procedures.
	☒	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context: - CAR 6
Conclusion	☐	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	☒	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
It is thus confirmed that the start date and the length of the 2 nd crediting period (7 years) are in compliance with the Gold Standard Procedures.		

D.7. Project participants

Means of validation	The validation team has checked the revised PDD ^{/PDD^R/} against the registered PDD ^{/PDD^R/} to check whether the names of the PP in the PDD are consistent with that in the previous PDD/previous GS-Passport and GS project webpage ^{/gspw/} .	
Findings	☐	The names of the project participants as listed in the revised PDD (sections A.4. and appendix 1) are consistent with those listed on the dedicated GS project website ^{/gspw/} and registered PDD ^{/PDD^R/} .
	☒	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context: - CL 3
Conclusion	☐	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	☒	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
The validation team has reviewed the agreement between Macquarie International Infrastructure Fund Limited (MIIF) and Whitehelm Capital Limited ^{/ETA/} and accepted that Whitehelm Capital Limited is the project participant for this crediting period.		

D.8. Post-registration changes

Type of post-registration changes (PRCs)	Confirmation (Y/N)	Validation report for PRCs	
		Version	Completion date
Temporary deviations from the registered monitoring plan, monitoring methodology or standardized baseline	N	-	-
Corrections	N	-	-
Inclusion of a monitoring plan to a registered project activity	N	-	-
Permanent changes from registered monitoring plan, monitoring methodology or standardized baseline	N	-	-
Changes to the project design of a registered project activity	N	-	-
Types of changes specific to afforestation and reforestation project activities	N	-	-

D.9. Complementary Local stakeholder consultation process and its outcome

Means of validation	The validation team has checked the updated GS-Passport, it is stated that the PP conducted a complementary stakeholder consultation for the renewal of the crediting period on 16/03/2017^{/CLSC/}. The validation team has checked how the complementary stakeholder consultation for the renewal of the crediting period is conducted by interviewing the stakeholders. The validation team has verified how the complementary consultation prior to the submission of the request for a renewal of the crediting period was conducted by the PP. The validation opinion of the same is detailed below. PP held a complementary stakeholder consultation meeting for the project prior to the submission of the request for a renewal of the crediting period on 16/03/2017 located at Qing Hai Temple, No. 114-1, 14 Neighborhood, Nangang Village, Houlong Township, Miaoli County, Taiwan R.O.C.^{/CLSC/}. Via checking the participant lists^{/CLSC/}, it is confirmed that 44 stakeholders including the Houlong Township Mayor, local residents, community representatives, village heads, township officer have attended the stakeholder consultation meeting, among which 15 were women. 44 evaluation forms were gathered during the meeting and checked by the validation team, besides, the meeting minutes were checked by the validation team. It is confirmed that there are two comments were proposed during the LSC, one regarding to the wind directions and the other about if wind turbine can operate during typhoon. Both the comments were explained by the PP and accepted by the stakeholder. No negative comments were received regarding to the impact to the sustainability development by the project. Furthermore, the PP made the initial PDD and initial GS passport available in public domain (GS website^{/gs/} and Nanjitan's website^{/njt/}) for 37 days (from 16/03/2017 to 21/04/2017) to enable the globe stakeholders to make comments. Stakeholders were invited to comment on the project documents, renewal of the project and grievance mechanism. The validation team has accepted the „37 day period“ as acceptable as „60 day period“ is applicable for the initial stakeholder consultation. Since this is a complementary consultation process, the 37 day period is deemed sufficient. There are no comments received during the online stakeholder consultation. The same was reported in the LSC report^{/CLSC/}. During the onsite visit, the validation team interviewed 3 people and confirmed that local stakeholders are satisfied about the project and have do not have any negative comments. They informed the validation team that they welcome such projects. They are of the positive opinion on the roads constructed due to the wind farms. They do not have any grievances from the project as such and are aware of the grievance mechanism and how to contact the Miaoli Wind Co., Ltd / Nanjitan in case of grievances. The validation team has observed that there is no visible impact on human activities.				
Findings	<table border="1"> <tr> <td data-bbox="408 1480 478 1697"> ☒ </td><td data-bbox="478 1480 1441 1697"> Project participants discuss if and why there is or is not a need to conduct a complementary stakeholder consultation for the renewal of the crediting period. Project participants can choose to invite relevant stakeholders for comments electronically or via a physical meeting, but will be required to justify the same. Whenever possible, project participants shall conduct the complementary consultation prior to the submission of the request for a renewal of the crediting period. </td></tr> <tr> <td data-bbox="408 1697 478 1800"> ☒ </td><td data-bbox="478 1697 1441 1800"> The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context: - CL 4 </td></tr> </table>	☒	Project participants discuss if and why there is or is not a need to conduct a complementary stakeholder consultation for the renewal of the crediting period. Project participants can choose to invite relevant stakeholders for comments electronically or via a physical meeting, but will be required to justify the same. Whenever possible, project participants shall conduct the complementary consultation prior to the submission of the request for a renewal of the crediting period.	☒	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context: - CL 4
☒	Project participants discuss if and why there is or is not a need to conduct a complementary stakeholder consultation for the renewal of the crediting period. Project participants can choose to invite relevant stakeholders for comments electronically or via a physical meeting, but will be required to justify the same. Whenever possible, project participants shall conduct the complementary consultation prior to the submission of the request for a renewal of the crediting period.				
☒	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context: - CL 4				
Conclusion	<table border="1"> <tr> <td data-bbox="408 1800 478 1872"> ☐ </td><td data-bbox="478 1800 1441 1872"> No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements. </td></tr> <tr> <td data-bbox="408 1872 478 1966"> ☒ </td><td data-bbox="478 1872 1441 1966"> The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4. </td></tr> </table> PP held a complementary stakeholder consultation meeting for the project prior to the submission of the request for a renewal of the crediting period. Via checking the LSC report^{/CLSC/} and supporting evidence^{/CLSC/}, it is verified that no negative comments were received from the local stakeholder regarding to the impact to the sustainability	☐	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.	☒	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
☐	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.				
☒	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.				

	development by the project.
--	-----------------------------

D.10. Sustainable Development assessment of “Do No Harm”

Means of validation	The validation team has also checked sustainable development indicators with respect to the level of risk associated with the eleven Safeguarding Principles of the Do-No Harm Assessment (DNHA). The validation opinion of the same is detailed below.	
	1. The project respects internationally proclaimed human rights including dignity, cultural property and uniqueness of indigenous people. The project is not complicit in Human Rights abuses.	As demonstrated above in D.3 of this report, the current baseline is valid for this second crediting period as well. During the onsite, the validation team has observed that no impact of the human existence. The people interviewed by the validation team, had a positive opinion on the project and are welcome to such projects. By reviewing the FSR of proposed Project^{/FSR/}, the local Human Rights Report^{/hrr/} and on-site interview^{/11/}, the Validation Team confirmed that Taiwan has its own legislation on placed prohibiting violation of the human rights principle and it actively enforces the compliance of this principle. Whitehelm Capital Limited, being an enterprise, completely obeys the nation and local laws. As such there is no risk involved and therefore the project does not violate this safeguarding principle.
	2. The project does not involve and is not complicit in involuntary resettlement.	During the onsite, the validation team has observed that the all the two wind farms are installed in inhabited areas and there is no impact of the human existence and there is no displacement of people at all, which has been confirmed in the registered validation report. As the baseline and project location is not changed during the 2nd crediting period, hence, no impact to the conclusion of the validation report of 1st crediting period. In addition, via checking the Chunan II/Tongyuan EIA report Ch. 7.1.7^{/CTEIA/}, it is confirmed that the proposed project is constructed distanced to residential area. The closest village is at 180m distance, while other residential areas are located at approximately 500 m - 1000 m distance range from the wind turbines, thus no resettlement is necessary. The same was confirmed with the people interviewed^{/12/}. As such there is no risk involved and therefore the project does not violate this safeguarding principle.
	3. The project does not involve and is not complicit in the alternation,	via checking the EIA reports of Chunan II/Tongyuan Wind Farm Ch. 6.6.3,

	damage or removal of any critical cultural heritage.	Houlong Wind Farm 6.6.2.3., Long Gang Wind Farm Ch. 6.7.2.1^{/CTEIA/}, it is confirmed that the proposed project is not constructed at any cultural heritage area, thus no impact on cultural heritage in the region, which has been confirmed in the registered validation report. As the baseline and project location is not changed during the 2nd crediting period, hence, no impact to the conclusion of the validation report of 1st crediting period. As such there is no risk involved and therefore the project does not violate this safeguarding principle.
	4. The project respects the employees' freedom of association and their right to collective bargaining and is not complicit in restrictions of these freedoms and rights	The validation team has interviewed the staff employed by the PP^{/11/} and following are confirmed. The staff employed are employed by a contract by which they are free to form an association and there is no restriction on their part for collective bargaining. The labor contracts^{/LC/} have provision for the identity of the parties, the place of work, the title, grade, nature or category of the work for which the employee is employed or a brief description thereof, the date of commencement of the contract, the amount of paid leave to which the employee is entitled or, failing that, the procedures for allocating and determining such leave, the length of periods of notice, information regarding the salary and the frequency of its payment and working hours: daily or weekly and the collective agreements governing the conditions of employment. They are provided with cars for travelling, sufficient holidays with 40 working hours per week, good work place. As such there is no risk involved and therefore the project does not violate this safeguarding principle.
	5. The project does not involve and is not complicit in any form of forced or compulsory labour	All the staff are contracted by means of a labor contract^{/LC/} which does not involve forced or compulsory labour. The interview with the staff^{/11/} also confirms this. As such there is no risk involved and therefore the project does not violate this safeguarding principle.
	6. The project does not employ and is not complicit in any form of child labour	Via checking the Labour Standard Act Chapter 5^{/lsa/}, it is confirmed that the minimum legal age for employment is between 15 and 16 in Taiwan. All the staff are confirmed as grown up people^{/11/} and there is no child labour involved^{/LC/}.

		As such there is no risk involved and therefore the project does not violate this safeguarding principle.
	7. The project does not involve and is not complicit in any form of discrimination based on gender, race, religion, sexual orientation or any other basis.	The staff employed by the PP are both indigenous people and people of American origin. These rights are not negotiated irrespective of the position one is holding. As such there is no risk involved and therefore the project does not violate this safeguarding principle.
	8. The project provides workers with a safe and healthy work environment and is not complicit in exposing workers to unsafe or unhealthy work environments	Via the on-site investigation and interview^{/I1/}, and checking the Technical Agreement of wind turbines^{/TAWT/}, it is confirmed that the wind turbine tower is insulated, the project applies an automated wind power generating facility equipped with a remote controlling system. Thus there is no danger during the wind turbine operation. Via on-site observation^{/PHT/}, it is confirmed that most of the employees work in indoor environment. And as the project is a green energy project without any pollution, even if the staffs conduct outdoor monitoring or maintenance, they are not exposed to unsafe or unhealthy environment. Furthermore, via checking the Enforcement Rules of the Occupational Safety and Health Act^{/erosha/}, it is confirmed that the project owner's office space complies with the detailed principles of working environment as requested in this Act. Hence, the project has provided workers with a safe and healthy work environment and is not complicit in exposing workers to unsafe or unhealthy work environments. As such there is no risk involved and therefore the project does not violate this safeguarding principle.
	9. The project takes a precautionary approach in regard to environmental challenges and is not complicit in practices contrary to the precautionary principle.	Via checking the registered validation report^{/VAL/} and passport^{/R-GSP/}, it is confirmed that the project activity is limited to a total capacity of 49.8MW and is below the 50MW threshold for EIA approval. It is also verified via checking the Rule no. 5, article 29, Standards for Determining Specific Items and Scope of Environmental Impact Assessments for Development Activities (29/12/2004), regulated by the Environmental Protection Administration (EPA), Executive Yuan – Taiwan R.O.C.^{/SEIA/}. The referenced EIA reports of neighboring wind farms^{/EIAN/} cover the areas of the proposed project activity, considering the referenced wind farms

		locations, and the impact assessments that were conducted within the same area. Thus for the SD assessment, the Environmental Impact Assessments of the neighboring wind farms were used as data source ^{/EIAN/} . As such there is no risk involved and therefore the project does not violate this safeguarding principle.
	10. The project does not involve and is not complicit in significant conversion or degradation of critical natural habitats, including those that are (a) legally protected, (b) officially proposed for protection, (c) identified by authoritative sources for their high conservation value or (d) recognized as protected by traditional local communities	The validation team has observed during onsite visit ^{/PHT/} that the wind farms are installed in inhabited areas. Furthermore, via checking the Letter issued by Miaoli County Government (07/08/2002) ^{/LMCG/} , it is verified that the project area is not defined as a Nature Conservation Area or an Important Habitat Area, as regulated by the Wildlife Conservation Act. As such there is no risk involved and therefore the project does not violate this safeguarding principle.
	11. The project does not involve and is not complicit in corruption	There was no evidence of corruption involved as far as the project is concerned. Via the on-site investigation and interview ^{/II/} , it is confirmed that all the cost of construction and implementation of project is covered by the project owner, there is no governmental subsidy disbursed to the project. In addition, the project owner is required to pay income tax to local government. As the project is also inspected by the government, thus the risk of corruption will be very low. As such there is no risk involved and therefore the project does not violate this safeguarding principle.
Findings	☒	The Do-No-Harm Assessment (DNHA) is conducted with respect to the validity of the updated baseline. Project participants discuss any necessary revision in the scores of the 11 Safeguarding Principles of the Do-No-Harm Assessment (DNHA) following a possible change of the baseline.
	☒	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context: - CL 5
Conclusion	☐	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	☒	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
		The validation team considers the "Do no harm" assessment has been based on the accurate local situation and the corresponding mitigation measures are included in the GS Passport. It is analyzed in the GS Passport that it would create low risks of relevance to the project activity in all aspects of "Do no harm" assessment. The validation team also considers that no mitigation measures are required for the project activity.

D.11. Sustainable Development assessment of SD Matrix

Means of validation	The validation team has assessed the scores of the Sustainable Development indicators depending on the baseline which can lead to a revision of the sustainable development monitoring plan. The validation team has also assessed the changes in the scores of the twelve sustainable development indicators as per the sustainable development assessment guidance. The validation opinion is detailed below.	
	1. Air quality	As per the baseline of the project, if the project was not implemented, the electricity would be imported from fossil fuel dominated grid. Since the fuel combustion in baseline power generation produces air pollutants beside GHG, such as NO_x and SO_x, and other heavy metal pollutants. The replacement of fossil fuel based electricity generated in the grid reduces consumption of fossil fuel which have positive impact on the air quality. NO_x, SO_x emission reductions are chosen as the monitoring parameters. Refer to section D.12 for monitoring details. Thus, this sustainable indicator scores a “+”.
	2. Water quality and quantity	Via on-site investigation, it is confirmed that wind power plant operation does not require the use of water, and the operation is controlled remotely, there is no industrial wastewater generated in the proposed project. The wastewater during operation period is mainly sanitary waste water. After treatment by septic tank, the waste water will be discharged in the specialized pool as greening water. Therefore, the project does not impact the surface water and underground water conditions. Thus, this sustainable indicator scores a “0”.
	3. Soil condition	The validation team has observed that there was no impact on soil condition in the 2nd crediting period as all wind-farms have been designed to limit their impact on soil condition. Hence there is no impact on soil condition in the 2nd crediting period. Thus, this sustainable indicator scores a “0”.
	4. Other pollutants	Via on-site investigation, it is confirmed that during the operation period, no any harmful pollutants can be produced. Thus, this sustainable indicator scores a “0”.
	5. Biodiversity	The project poses some biodiversity issues as there is a chance of birds being hit by the wind turbines. However, the precaution measure had been provided by the project owner as below: To keep the impact as low as possible in terms of birds migration, obstruction lightings were installed on the turbines, in order to enhance the safety precautions of the wind farm towards the birds. Via on-site investigation^{/PHT/}, it is confirmed that the obstruction lightings were installed on the turbines to enhance the safety precautions of the wind farm towards the birds. The operation of obstruction lightings, Landscaping at Bantianliao (Haowangjiao) is chosen as the monitoring parameters. Refer to section D.12 for monitoring details. Thus, this sustainable indicator scores a “+”.
	6. Quality of employment	The validation team has observed that the jobs created for the maintenance and operation of the proposed project activity are in accordance with national laws^{/erosha/} and therefore do not present any significant changes in quality of employment. The

		training programs were held only during the earlier phase of project development. Thus, this sustainable indicator conservatively scores a “0”.
	7. Livelihood of the poor	The project improves the livelihood by the cash incentives paid by the project to local government will be used for local infrastructure construction^{/1/}. And the public toilet was built in Chunan Township which is confirmed via on-site observation^{/PHT/}. The validation team agrees that “balance sheets of cash incentive” is a suitable monitoring indicator as it can reflect the actual amount of donation created by the project. Annual monitoring will be carried out for the assessment of livelihood of the poor. Thus, this sustainable indicator conservatively scores a “+”.
	8. Access to affordable and clean energy services	The purpose of the project activity is provide renewable electricity to serve the national grid and does not involve any stand-alone or small grid applications; hence although the project facilitates access to clean electricity by replacing the same amount of fossil-fuel based electricity generated in the grid (baseline scenario). However, the impact of this indicator on a local level is rather difficult to quantify and monitor. Thus, this sustainable indicator conservatively scores a “0”.
	9. Human and institutional capacity	The project does not have any impact on gender equality, social structures, and access to schooling or distribution of assets. Thus, this sustainable indicator scores a “0”.
	10. Quantitative employment and income generation	The validation team agrees that “Number of jobs” and “salary level” are suitable monitoring indicators as it can reflect the actual amount of employment opportunities created by the project monitoring. The improvement of income generation can be also indicated by the staff salary records. Annual monitoring will be carried out for the assessment of quantitative employment and income generation. Thus, this sustainable indicator scores a “+”.
	11. Balance of payments and investment	The electricity generated by the bundled project will displace equivalent electricity mainly produced by fossil fuel fired power plants, thus result in reduced fossil fuel consumption, finally reduce fossil fuel imports in Taiwan. However it requires complex quantification and monitoring. Thus, this sustainable indicator scores a “0”.
	12. Technology transfer and technological self-reliance	According the CDM PDD, the foreign manufacturer wind turbines was used by the proposed project. However, the project owner had organized capacity building for the local staffs, so that it is no longer necessary to import the skilled foreign workers. The capacity building for staffs responsible for operation and maintenance were held only in the earlier phase of the project, no more action in 2nd crediting period. Thus, this sustainable indicator scores a “0”.
Findings	☒	The Sustainable Development(SD) Assessment is conducted with respect to the validity of the updated baseline. Project participants discuss any necessary revision in the scores of the 12 SD indicators following a possible change of the baseline.
	☒	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:
		- CL 6 & CL 7
Conclusion	☐	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.

	☒	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
		The indicators within the three components mentioned above have been set out in the Sustainable Development Assessment Matrix in the PDD and the project's performance has been assessed using the scoring system as follows: • -: negative impacts • 0: no, or negligible impacts, i.e. there is no impact or the impact is considered insignificant to stakeholders • + positive impacts The project shows a positive performance in the sustainable development components. The validation team hereby confirms that the sustainable development indicators relevant for the project activity have been assessed using the Gold Standard Sustainable Development (SD) assessment matrix as required by the Gold Standard version 2.2. It is able to verify that the sustainable development matrix is prepared as per the existing sources of information, the GS validation report as well as the stakeholder consultation, and the scoring is reproducible and verifiable. The project activity contributes to reduce the GHG emissions and sustainable development in the region by reducing pollution, creating employment opportunities and improving the qualitative value of employment.

D.12. Revised SD monitoring plan

Means of validation	DOE has validated the revised sustainability monitoring plan in section G of the Gold Standard Passport and confirms that the revised sustainability monitoring plan contains all necessary parameters that are clearly described and that the means of monitoring described in the plan complies with the requirements of Gold Standard Standard 2.2 and the result of outcome sustainability assessment that provided in section F of the Gold Standard Passport (Do no harm assessment in section F.1 and Sustainable development matrix in section F.2).	
	The revised sustainability monitoring plan is included in the GS Passport as per the requirements in the GS Toolkit Annex I. The validation of each non-neutral indicator is tabulated as follows:	
	1. Air quality	As the proposed project replaces the fossil fuel electricity generation dominating the national grid, it reduces the emissions other than GHG such as NO_x, SO_x. According to latest official data Taipower's statistic, an average of 310 kg of SO_x and 302 kg of NO_x are generated from every 1000 MWh electricity produced in 2015 respectively. The unit emissions are calculated as dividing emission amount for each parameter with net electricity amount. The validation team agrees that "Air quality" is a suitable monitoring indicator as it can reflect the environmental condition. Annual monitoring will be carried out for the assessment of air quality. Therefore, it can be considered to be used as a SD indicator.
	2. Biodiversity	The validation team considers that the project owner takes measures to built the Landscaping at Bantianliao (Haowangjiao) which make positive impact to biodiversity during project operation. And via on-site investigation and interview with local residents^{/12/}, it is further confirmed that there is no green landscaping exists at Bantiaoliao at baseline situation. Hence the project has positive impact to the biodiversity. The validation team agrees that the monitoring of continuous maintenance of the green landscaping at Bantianliao by visiting Bantianliao during the periodic verification site visit can directly reflect the ability of the project takes measures to protect the biodiversity. Each periodic site visit monitoring will be carried out by project owner and DOE for the assessment. Therefore, it can be considered to be used as

		a SD indicator in the project takes measures to protect the biodiversity.
	3. Quantitative employment and income generation	The job opportunities could not be created for wind power engineering works before the project implementation. The validation team agrees that “Number of jobs” and “salary level” are suitable monitoring indicators as it can reflect the actual amount of employment opportunities created by the project monitoring. The improvement of income generation can be also indicated by the staff salary records. Annual monitoring will be carried out for the assessment of quantitative employment and income generation. Therefore, it can be considered to be used as a SD indicator in quantitative employment and income generation.
	4. Biodiversity	The validation team considers that the project owner takes precaution measures to minimize impact towards plants and birds to mitigate the impact of biodiversity during project operation. The mitigation measures, i.e. obstruction lightings installed on the turbines have been verified and confirmed. And via on-site investigation, it is further confirmed that all the wind turbines are installed and the proposed project will not expand in the future nor would it operate in a way that would impact the plants or birds. Hence the project has little impact to the biodiversity. The validation team agrees that the monitoring of continuous existence of the operational obstruction lights by photographs can directly reflect the ability of the project takes measures to protect the biodiversity. Annually monitoring of the photographs records will be carried out by project owner for the assessment. Therefore, it can be considered to be used as a SD indicator in the project takes measures to protect the biodiversity.
	5. Livelihood of the poor	The subsequent donation to the village office could not be created for maintaining the public area and facilities, and shares remaining with local residents before the project implementation. The validation team agrees that “balance sheets of cash incentive” is a suitable monitoring indicator as it can reflect the actual amount of donation created by the project. Annual monitoring will be carried out for the assessment of livelihood of the poor. Therefore, it can be considered to be used as a SD indicator in livelihood of the poor.
Findings	☒	Project participants discuss prepare a revised sustainable development monitoring plan to accommodate any changes and/or comments from the local stakeholders. This can potentially include new mitigation measures as per new comments by stakeholders. Changes in the scores of the SD indicators due to the new baseline can also lead to a revision of the sustainable development monitoring plan. The changes in the scores of the SD indicators shall be assessed as per the sustainable development assessment guidance discussed above.
	☒	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context: - CAR 7
Conclusion	☐	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	☒	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
	As there is no change of the baseline comparing the 1 st crediting period, and no new comments proposed by stakeholders, hence the monitoring plan is almost same to the registered GS passport. The monitoring parameters are same, only the current situation of parameter updated based on the latest data source.	

	The DOE hereby confirms that the project participants are able to implement the revised SD monitoring plan.
--	---

SECTION E. Internal quality control

Before the submission of the final VAL RCP report a technical review of the whole validation procedure was carried out. The technical reviewers are competent GHG auditors being appointed for the scope this project falls under. The technical reviewers are not considered to be part of the validation team and thus not involved in the decision making process up to the technical review.

As a result of the technical review process the validation opinion and the topic specific assessments as prepared by the validation team leader may have been confirmed or revised. Furthermore reporting improvements might have been achieved.

After the successful technical review an overall (esp. procedural) assessment of the complete validation has been carried out by a senior assessor located in the accredited premises of TÜV NORD.

After this step the submission for requesting the renewal of crediting period is conducted.

SECTION F. Validation opinion

Nanjitan Asset Management Ltd. has commissioned the TÜV NORD JI/CDM Certification Program to re-validate the GS project “Miaoli 49.8MW Wind Farm Project” for the purpose of renewal of the crediting period. The validation is based on the relevant GS requirements.

The Gold Standard Documentation and supporting documents were reviewed against the criteria as set out in the Gold Standard Requirements, the Gold Standard Toolkit, respective Annexes and CDM requirements, as applicable. The subsequent background investigation, follow-up interviews and review of comments by parties, stakeholders and NGOs have provided TÜV NORD JI/CDM Certification Program with sufficient evidence to validate the fulfillment of the stated criteria applicable for RCP.

In detail the conclusions can be summarized as follows:

The current baseline of the project is in line with the national and/or sectoral policies and circumstances at the time of requesting renewal of crediting period.

The project meets all requirements of procedures set by the Gold Standard Procedures For The Renewal of a Crediting Period.

The monitoring plan of GHG parameters is transparent and adequate and in line with the applicable monitoring methodology (ACM0002 ver. 17.0).

The revised monitoring plan of SD parameters is transparent and adequate.

The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of **842,086 tCO₂e** are most likely to be achieved within the second renewable crediting period of 7 years.

The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the renewal of the crediting period.

Beijing, 22/01/2018



Zhao Xuejiao
TÜV NORD JI/CDM Certification Program
Validation Team Leader

Appendix 1. Abbreviations

BAU	Business as usual
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification Request
CO₂	Carbon dioxide
CO₂e	Carbon dioxide equivalent
CP	Certification Program // Crediting Period
DNA	Designated National Authority
EB	CDM Executive Board
ER	Emission Reductions
ETS	Emission Trading Scheme
FAR	Forward Action Request
GHG	Greenhouse gas(es)
GS	Gold Standard
GSR	Gold Standard Requirement
GST	Gold Standard Toolkit
IPCC	Intergovernmental Panel on Climate Change
MP	Monitoring Plan
MR	Monitoring Report
PA	Project Activity
PCP	CDM Project Cycle Procedure
PDD	Project Design Document
PP	Project Participant
PPA	Power Purchase Agreement
PRC	Post-registration changes
PS	CDM Project Standard
QC/QA	Quality control/Quality assurance
RCP	Renewal of Crediting Period
TPCG	Taiwan power grid
SD	Sustainability Development
SDM	SD Matrix
UNFCCC	United Nations Framework Convention on Climate Change
VER	Voluntary Emission Reduction
VVS	CDM Validation and Verification Standard

Appendix 2. Competence of team members and technical reviewers



Statement of Competence
Appointment and authorization according to the provisions
of the TUV NORD JRCOM Certification Program

Ms. Xue Jiao Fancy Zhao

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2019-11-01
VCS / ISO 14064-2	Senior Assessor	2019-11-01

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewables
13.2	Manufacture

230-Rev. 7, Date: 2017-03-22

230_VA010-F03_20170322_1x1 (3x)

2017-03-22 14:01:10



Statement of Competence
Appointment and authorization according to the provisions
of the TUV NORD JRCOM Certification Program

Mr. David Lubanga

SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor (Validation, Verification)	2018-10-20
VCS / ISO 14064-2	Lead Assessor	2018-10-20

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewables
2.1	Energy demand

251-Rev. 4, Date: 2015-10-21

251_VA010-F03_20151021_1x1 (3x)

2015-10-21 14:01:10



Statement of Competence
Appointment and authorization according to the provisions
of the TUV NORD JRCOM Certification Program

Mr. Stefan Winter

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2017-07-21
VCS	Senior Assessor (Validation, Verification) Technical Reviewer	2017-07-21

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA	TECHNICAL SUB-AREAS
1.1	Thermal energy generation	1.1.1 Hydro 1.1.2 Wind 1.1.3 Geothermal 1.1.4 Solar 1.1.5 Other
1.2	Renewable Energy	
2.2	Heat distribution	
3.1	Energy demand	
12.1	Waste handling and disposal	12.1.1 Waste management 12.1.2 Waste water management
13.2	Animal waste management	
15.2	Animal waste management	

183-Rev. 3, Date: 2014-07-28

183_VA010-F03_20140728_1x1 (3x)

2014-07-28 14:01:10

Documents reviewed or referenced

No.	Author	Reference	Title	References to the document	Provider
1	Taiwan Ministry of Economy	/AP/	Approval to the project	Approval to the project issued by Taiwan Ministry of Economy to InfraVest (the PO at that time) dated 20/60/2005	PP
2	PP	/CLSC/	Complementary Local Stakeholder Consultation	Complementary local stakeholder consultation for the renewal of the crediting period on 16/03/2017 1. Complementary local stakeholder consultation Report dated 16/03/2017 2. Invitation Letter 3. Meeting Minutes 4. Evaluation Forms 5. Photo of the meeting	PP
3	Bureau of Energy, Ministry of Economic Affairs	/CPC/	Construction Permit of Chunan site	Construction Permit of Chunan site issued by Bureau of Energy, Ministry of Economic Affairs dated 20/05/2005	PP
4	Project Owner of Chunan II/Tongyuan, Houlong, and Long Gang power plant	/EIAN/	EIA report of neighbouring wind farms	Neighboring wind farms “Chunan II/Tongyuan, Houlong, and Long Gang” power plant EIA report	PP
5	Macquarie International Infrastructure Fund Limited (MIIF) and Whitehelm Capital Limited	/ETA/	Equity Transfer Agreement	Equity Transfer agreement between Macquarie International Infrastructure Fund Limited (MIIF) and Whitehelm Capital Limited in 2016	PP
6	Taiwan Power Company Grid	/FCL/	Feed-in Confirmation Letter	Dated 10/02/2006	PP
7	PP	/FSR/	Feasible Study Report (FSR)	FSR completed by North Taiwan Power Engineering (Beijing) Co., Ltd. in September 2007	PP
8	Nanjitan Asset Management Ltd.	/GSP/	RCP GS Passport	RCP GS Passport “Miaoli 49.8MW Wind Farm Project” - Version No. 1.0, dated 14/12/2016 - Version No. 2.0, dated 07/06/2017 - Version No. 3.0, dated 08/09/2017 - Version No. 4.0, dated 19/01/2018 after GS 1 st round review	PP
9	PP	/LC/	Labor contracts	Labor contracts of the employment	PP
10	Miaoli County Government	/LMCG/	Letter issued by Miaoli County Government (07/08/2002)	Stating that the project area is not defined as a Nature Conservation Area or an Important Habitat Area, as regulated by the Wildlife Conservation Act	PP
11	TUV NORD	/MAIL/	Mail sent to GS	Mail sent to GS by the DOE on 18/12/2016 for sending the workplan, which is the formal application of renewal of the crediting period is submitted to Gold Standard	

No.	Author	Reference	Title	References to the document	Provider
12	Nanjitan Asset Management Ltd.	/PDD/	RCP Project Design document	RCP Project Design document "Miaoli 49.8MW Wind Farm Project" - Version No. 1.0, dated 14/12/2016 - Version No. 2.0, dated 07/06/2017 - Version No. 3.0, dated 07/09/2017 - Version No. 4.0, dated 12/12/2017 after GS 1 st round review	PP
13	PP	/PPA/	Power Purchase Agreement	Latest version of the Power Purchase Agreement dated in Jan. 2016 signed by PP and Miaoli County Electrivity Power (Group) Co., Ltd.	PP
14	Enercon GmbH	/TAWT/	Technical Agreement of wind turbines	Technical Agreement of wind turbines issued by Enercon GmbH	PP
15	PP	/XLS/	Emission reduction calculation spreadsheet	RCP Emission reduction calculation spreadsheet - 2 nd Crediting Period	PP
16	UNFCCC	/ACM0002/	ACM0002	ACM0002 ver.17.0- Grid-connected electricity generation from renewable sources https://cdm.unfccc.int/methodologies/DB/8W400U6E7LFHHYH2C4JR1RJWWO4PVN	UNFCCC
17	UNFCCC	/BPLe/	Methodological tool	Methodological tool: "Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation" (Version 02.0)	UNFCCC Website
18	TÜV NORD	/CPM/	Certification Program Manual	TÜV NORD JI / CDM Certification Program Manual (incl. procedures and forms)	TÜV NORD
19	Bureau of Energy	/EBT/	Energy Balance in Taiwan-New Format,	http://web3.moeaboe.gov.tw/ecw/populare/web_book/WebReports.aspx?book=B_CH&menu_id=145	Public website
20	Environmental Protection Administration (EPA)	/EFI/	GHG Emission Factor Inventory v.6.0.2 – Executive Yuan, Taiwan	http://ghgregistry.epa.gov.tw/upload/Tools/%E6%BA%AB%E5%AE%A4%E6%B0%A3%E9%AB%94%E6%8E%92%E6%94%BE%E4%BF%82%E6%95%B8%E7%AE%A1%E7%90%86%E8%A1%A86.0.2%E7%89%88.rar	Website
21	PP	/GSP-R/	Registered GS Passport	Registered GS Passport named "Miaoli 49.8MW Wind Farm Project" (Version No. 8, dated 11/07/2012)	PP
22	GS	/GSR/	Gold Standard Requirements Version 2.2	http://www.goldstandard.org/resources/energy-requirements	GS website
23	GS	/GST/	Gold Standard Toolkit Version 2.2	http://www.goldstandard.org/resources/energy-requirements	GS website
24	IPCC	/IPCC/	IPCC	- IPCC Good Practice Guidance & Uncertainty Management in National Greenhouse Gas Inventories, 2000 - Revised 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Reference Manual	IPCC Website
25	UNFCCC	/KP/	Kyoto Protocol (1997)	-	UNFCCC
26	PP	/LSCR/	Local Stakeholder Consultation Report	Gold Standard Local Stakeholder Consultation Report of 1 st crediting period	PP

No.	Author	Reference	Title	References to the document	Provider
27	UNFCCC	/MA/	Marrakesh – Accords	Decision 3/CMP. 1 (Marrakesh – Accords & Annex to decision (17/CP.7))	UNFCCC
28	UNFCCC	/PCP/	CDM project cycle procedure	CDM project cycle procedure, version 9.0 https://cdm.unfccc.int/Reference/Standards/index.html	UNFCCC
29	PP	/PDD-R/	Registered GS PDD	Registered GS Project Design Document named “Miaoli 49.8MW Wind Farm Project” (Version No. 6, dated 14/03/2012)	PP
30	UNFCCC	/PDD-T/	CDM Project Design Document Form	Project Design Document Form (CDM-PDD-FORM) - Version 08.0 including Attachment: Instructions for filling out the project design document form for CDM project activities https://cdm.unfccc.int/Reference/PDDs_Forms/index.html	UNFCCC
31	PP	/PHT/	Photographs	Photographs of power plant site, Central Control Room, power wiring diagram, monitoring meters, DCS System and nameplate of the equipment taken by PP	PP
32	GS	/PRCP/	GS 2.2 ANNEX-Z Gold Standard Procedures for the renewal of a crediting period	http://www.goldstandard.org/resources/energy-requirements	GS website
33	UNFCCC	/PS/	CDM project standard	CDM project standard, version 9.0 https://cdm.unfccc.int/Reference/Standards/index.html	UNFCCC
34	Environmental Protection Administration (EPA), Executive Yuan – Taiwan R.O.C.	/SEIA/	Standards for Determining Specific Items and Scope of Environmental Impact Assessments for Development Activities	http://law.moj.gov.tw/lawclass/lawoldver.aspx?pcode=o0090012&lnndate=20021231&lser=001	Public website
35	UNFCCC	/TA/	Methodological Tool	Methodological Tool: “Tool for the demonstration and assessment of additionality”, version 7.0.0	UNFCCC
36	UNFCCC	/TEF/	Methodological Tool	Methodological Tool: “Tool to calculate the emission factor for an electricity system”, version 05.0	UNFCCC
37	PP	/TP/	Technical Particulars	Technical Particulars of wind turbine and generator – the annex of equipment purchase contract	PP
38	PP	/TSVI/	Weight and Measures Act, Regulation no. CNMV 46, ‘Technical Specification for Verification and Inspection of Electricity Meters’	The Weight and Measures Act www.bsmi.gov.tw/wSite/public/Attachment/f1224657229438.doc Technical Specification for Verification and Inspection of Electricity Meters http://www.bsmi.gov.tw/wSite/public/Attachment/f1224657229438.doc Clause 3.9.3	Website
39	UNFCCC	/TVB/	Methodological Tool	Methodological Tool: “Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period” version 03.0.1	UNFCCC

No.	Author	Reference	Title	References to the document	Provider
40	PP	/VAL/	Validation Report of 1 st CP	Validation Report for GS project "Miaoli 49.8MW Wind Farm Project" Revision no. 01, dated 01/05/2012	PP
41	DOE and PP	/VER/	Previous periodic Verification Documents	Previous periodic Monitoring Reports and Verification Reports for CDM project "Miaoli 49.8MW Wind Farm Project" https://mer.markit.com/br-reg/public/project.jsp?project_id=103000000001998	GS website
42	UNFCCC	/VVS/	CDM Validation and Verification Standard	CDM Validation and Verification Standard, Version 09.0 https://cdm.unfccc.int/Reference/Standards/index.html	UNFCCC
43	Taiwan Ministry of Labour	/erosha /	Enforcement Rules of the Occupational Safety and Health Act	http://law.moj.gov.tw/Eng/LawClass/LawAll.aspx?PCode=N0060002	Public Website
44	GS website	/gs/	Gold Standard Website	http://www.goldstandard.org/	GS website
45	GS website	/gspw/	GS Miaoli Wind project webpage	https://mer.markit.com/br-reg/public/project.jsp?project_id=103000000001998	GS website
46	Freedom World	/hrr/	Human Rights Report	2016 report: (https://freedomhouse.org/report/freedom-world/2016/taiwan) 2015 report: (https://freedomhouse.org/report/freedom-world/2015/taiwan) 2014 report: (https://freedomhouse.org/report/freedom-world/2014/taiwan)	Public Website
47	Taiwan Ministry of Labour	/lsa/	Labour Standard Act	http://law.moj.gov.tw/Eng/LawClass/LawAll.aspx?PCode=N0030001	Public Website
48	Taiwan Ministry of Labour	/ml/	Ministry of Labor	http://www.mol.gov.tw/topic/3067/5990/13171/19154/	Public Website
49	Nanjitan Asset Management Ltd.	/njt/	Nanjitan Website	http://www.nanjitan.com/	Public Website
50	Taipower grid	/tpgc/	Taipower grid composition	http://www.taipower.com.tw/content/new_info/new_info-b31.aspx?LinkID=8	Public Website
51	Taipower grid	/tps/	Taipower statics	http://www.taipower.com.tw/content/govern/govern01.aspx?MType=5&MSType=14	Public Website

Appendix 3. Clarification requests, corrective action requests and forward action requests

Table 1. CL from this validation

CL ID	1	Section no.	A.1	Date: 09/01/2017
Description of CL				
The descriptions in section A.1 is not completely in accordance with the requirement of "Instructions for filling out the project design document form for CDM project activities" of CDM-PDD-FORM version 08.0.				
Project participant response				Date: 07/06/2017
The relevant description has been supplemented accordingly. The scenario existing prior to the implementation of the project activity is electricity delivered to the grid by the project activity would have been generated by the operation of grid-connected power plants and by the addition of new generation sources of TPCG, as reflected in the combined margin (CM) calculations described in the latest "Tool to calculate the emission factor for an electricity system". The baseline scenario is the same as the scenario existing prior to the implementation of the project activity. The project is not a CPA that has been excluded from a registered CDM PoA as a result of erroneous inclusion of CPAs.				
Documentation provided by project participant				
☒	Changes in the PDD	Section(s): A.1	New version No.: 2.0	
☐	Changes in MR	Section(s):	New version No.:	
☐	Changes in XLS	Worksheet(s):	New version No.:	
☐	Other:			
DOE assessment				Date: 12/06/2017
The revised PDD has been checked, the full description of the technologies and measures, project boundary and baseline scenario are provided and it is confirmed that the proposed CDM project activity is not a CPA that has been excluded from a registered CDM PoA as a result of erroneous inclusion of CPAs. Hence, it is confirmed that the descriptions in section A.1 are in accordance with the requirement of "Instructions for filling out the project design document form for CDM project activities" of CDM-PDD-FORM version 08.0.				
Conclusion <i>Tick the appropriate checkbox</i>		☐ Additional action should be taken (finding remains open) ☒ The finding is closed		

CL ID	2	Section no.	A.3	Date: 09/01/2017
Description of CL				
The lifetime of equipment is missing in section A.3 and the value of operating hours is not in line with the registered PDD.				
Project participant response				Date: 07/06/2017
The lifetime of equipment is 20 years added into section A.3. And the value of operating hours is revised to 3,745h which is same to the registered PDD.				
Documentation provided by project participant				
☒	Changes in the PDD	Section(s): A.3	New version No.: 2.0	
☐	Changes in MR	Section(s):	New version No.:	
☐	Changes in XLS	Worksheet(s):	New version No.:	
☒	Other:	/TP/		
DOE assessment				Date: 12/06/2017
The revised PDD has been checked, the full description information about the age and average lifetime of the equipment based on manufacturer's specifications ^{TP/} and industry standards has been added. And the revised value of operating hours is confirmed as in line with the registered PDD. Hence, it is confirmed that the descriptions in section A.3 are in accordance with the requirement of "Instructions for filling out the project design document form for CDM project activities" of CDM-PDD-FORM version 08.0.				
Conclusion <i>Tick the appropriate checkbox</i>		☐ Additional action should be taken (finding remains open) ☒ The finding is closed		

CL ID	3	Section no.	A.4 & Appendix 1	Date: 09/01/2017
Description of CL				
1. The name of the project participant in the updated PDD is not consistent with the registered PDD. 2. The contact information of project participant is missing in Appendix 1.				
Project participant response				Date: 07/06/2017

1. The original project participant made the transfer of equity in 2016, so the new project owner (Whitehelm Capital limited) was updated in PDD.			
2. Added a contact information for project participant.			
Documentation provided by project participant			
☒ Changes in the PDD	Section(s): Appendix 1	New version No.: 2.0	
☐ Changes in MR	Section(s):	New version No.:	
☐ Changes in XLS	Worksheet(s):	New version No.:	
☒ Other:	/ETA/		
DOE assessment			Date: 12/06/2017
1. The PDD is checked as revised, via checking the Equity Transfer Agreement ^{/ETA/} , it is confirmed that the original project participant made the transfer of equity in 2016 to the current owner Whitehelm Capital limited, hence the name in the revised PDD is correct.			
2. The contact information of project participant and responsible person/ entity for application of the selected methodology are checked as added in Appendix 1. Via on-site investigation, it is confirmed that the information is correct.			
Conclusion <i>Tick the appropriate checkbox</i>		☐ Additional action should be taken (finding remains open) ☒ The finding is closed	

CL ID	4	Section no.	E	Date: 09/01/2017
Description of CL				
The reason of the PP did not conduct a complementary stakeholder consultation is not clarified as per the GS requirement.				
Project participant response				Date: 07/06/2017
The Complementary Local Stakeholder Consultation was held on 16 March 2017, and all information was recorded in the second LSC report. The relevant information has been added into the section E of the Passport.				
Documentation provided by project participant				
☒ Changes in the Passport	Section(s): E	New version No.: 2.0		
☐ Changes in MR	Section(s):	New version No.:		
☐ Changes in XLS	Worksheet(s):	New version No.:		
☒ Other:	/CLSC/			
DOE assessment				Date: 12/06/2017
The revised Passport is checked, it is confirmed that the relevant information has been added into the section E.				
The complementary stakeholder consultation report ^{/CLSC/} has been checked. Refer to the section D.9 of this report for details assessment.				
Conclusion <i>Tick the appropriate checkbox</i>		☐ Additional action should be taken (finding remains open) ☒ The finding is closed		

CL ID	5	Section no.	F.1	Date: 09/01/2017
Description of CL				
The justification of Do-No-Harm criteria 4, 5 is only state the relevant laws and regulations, the actual situation of the project is not assessed.				
Project participant response				Date: 07/06/2017
The justification of Do-No-Harm criteria 4, 5 have been revised. The actual situation of the project is assessed based on the local laws and regulations.				
For 4, Labor contract protected employee's freedom and right and won't be limited. All employees of this project signed the labor contract with the company, and respect their right and freedom.				
For 5, Employees of this project won't be asked to do any illegal works.				
Documentation provided by project participant				
☒ Changes in the Passport	Section(s): F.1	New version No.: 2.0		
☐ Changes in MR	Section(s):	New version No.:		
☐ Changes in XLS	Worksheet(s):	New version No.:		
☒ Other:	/LC/			
DOE assessment				Date: 12/06/2017
The revised Passport is checked, it is confirmed that the justification of Do-No-Harm criteria 4, 5 is regarding the actual situation of the project. via checking the labor contract ^{/LC/} comparing the relevant laws and regulations, it is confirmed that the Do-No-Harm criteria 4, 5 is fulfilled.				
Conclusion <i>Tick the appropriate checkbox</i>		☐ Additional action should be taken (finding remains open) ☒ The finding is closed		

CL ID	6	Section no.	F.2	Date: 09/01/2017
Description of CL				
The justification of Sustainable Development matrix criteria "Water quality and quantity" is not complete, the measurements taken to deal with the sanitary waste water is not clarified.				
Project participant response				Date: 07/06/2017
This project is a wind farm project and no employees lived near to the project, so it won't produce any wastewater or water pollution. The project won't affect the water quality and quantity.				
Documentation provided by project participant				
☒	Changes in the Passport	Section(s): F.2	New version No.: 2.0	
☐	Changes in MR	Section(s):	New version No.:	
☐	Changes in XLS	Worksheet(s):	New version No.:	
☒	Other:			
DOE assessment				Date: 12/06/2017
During on-site investigation and interview with the PP ^{/11/} , it is confirmed that no employees of this project lived near to the project and no sanitary waste water is created, thus no impact to the water quality and quantity.				
Conclusion <i>Tick the appropriate checkbox</i>		☐ Additional action should be taken (finding remains open) ☒ The finding is closed		

CL ID	7	Section no.	F.2	Date: 09/01/2017
Description of CL				
The justification of Sustainable Development matrix criteria "Livelihood of the poor" is not clear, the function of InfraVest is not illustrated and the function of cash incentives is not justified.				
Project participant response				Date: 07/06/2017
Two footnotes have been added to illustrate the issues as below				
(1) InfraVest is a wind power company who was established and developed Miaoli 49.8 wind farm, the first project owner.				
(2) Miaoli wind company provide cash to Miaoli county and government every year, and they would use these cash to maintain public construction and built environment.				
Documentation provided by project participant				
☒	Changes in the Passport	Section(s): F.2	New version No.: 2.0	
☐	Changes in MR	Section(s):	New version No.:	
☐	Changes in XLS	Worksheet(s):	New version No.:	
☒	Other:	/AP/		
DOE assessment				Date: 12/06/2017
The revised Passport is checked, it is confirmed that the function of InfraVest is illustrated and the function of cash incentives is justified. Via checking the approval to the project ^{/AP/} , it is confirmed that the InfraVest established and developed Miaoli 49.8 wind farm. Via checking the registered Passport and interview with the PP ^{/11/} , it is confirmed that the InfraVest and Miaoli wind company provide cash to Miaoli county and government every year, and the cash was used by the local government to maintain public construction and built environment.				
Conclusion <i>Tick the appropriate checkbox</i>		☐ Additional action should be taken (finding remains open) ☒ The finding is closed		

Table 2. CAR from this validation

CAR ID	1	Section no.	B.2	Date: 09/01/2017
Description of CAR				
The demonstration of applicability of methodology is not completely as per the applied methodology.				
Project participant response				Date: 07/06/2017
The demonstration of applicability of methodology is added into a table in section B.2 of the PDD.				
Documentation provided by project participant				
☒	Changes in the PDD	Section(s): B.2	New version No.: 2.0	
☐	Changes in MR	Section(s):	New version No.:	
☐	Changes in XLS	Worksheet(s):	New version No.:	
☒	Other:	/FSR/, /PPA/		
DOE assessment				Date: 12/06/2017
The revised PDD has been checked, it is confirmed that the assessment of the project meets applicability of the applied methodology is revised. Through checking the applied methodology ^{/ACM0002/} , it is confirmed that the applicability assessment is totally in line with the requirement of the methodology, and the status of the project is actual via checking the FSR ^{/FSR/} and PPA ^{/PPA/} .				

Conclusion <i>Tick the appropriate checkbox</i>	☐ Additional action should be taken (finding remains open)
	☒ The finding is closed

CAR ID	2	Section no.	B.3	Date:	09/01/2017
Description of CAR					
The figure of project boundary is not complete as per the definition of the project boundary.					
Project participant response					Date: 07/06/2017
The figure of project boundary is revised in section B.3 of the PDD as per the definition of the project boundary.					
Documentation provided by project participant					
☒	Changes in the PDD	Section(s):	B.3	New version No.:	2.0
☐	Changes in MR	Section(s):		New version No.:	
☐	Changes in XLS	Worksheet(s):		New version No.:	
☒	Other:	/PPA/			
DOE assessment					Date: 12/06/2017
The revised PDD has been checked. Via checking the latest signed power purchase agreement ^{/PPA/} and the photograph of power wiring diagram ^{/PHT/} , it is confirmed that the figure of project boundary is correct and in line with the actual situation of the project and consistent with the definition of the project boundary.					
Conclusion <i>Tick the appropriate checkbox</i>	☐ Additional action should be taken (finding remains open)				
	☒ The finding is closed				

CAR ID	3	Section no.	B.4	Date:	09/01/2017
Description of CAR					
The section B.4 'Establishment and description of baseline scenario' is not demonstrated as per the methodological tool "Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period" (version 03.0.1) for renewable of crediting period project.					
Project participant response					Date: 07/06/2017
The section B.4 is updated according to the methodological tool "Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period" (version 03.0.1). Two steps have been added and the assessment has been conducted based on the actual situation of the project.					
Documentation provided by project participant					
☒	Changes in the PDD	Section(s):	B.4	New version No.:	2.0
☐	Changes in MR	Section(s):		New version No.:	
☐	Changes in XLS	Worksheet(s):		New version No.:	
☐	Other:				
DOE assessment					Date: 12/06/2017
The revised PDD is checked, it is confirmed that the section B.4 has been updated based on the methodological tool "Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period" (version 03.0.1). Refer the section D.3 of this report for detail assessment.					
Conclusion <i>Tick the appropriate checkbox</i>	☐ Additional action should be taken (finding remains open)				
	☒ The finding is closed				

CAR ID	4	Section no.	B.6	Date:	09/01/2017
Description of CAR					
It is observed that the calculation of ER is not completely correct as following findings					
1. The determination of LE _y is not in line with the methodology. 2. The total estimated amount of GHG emission reductions of the project during the second crediting period is not correct.					
Project participant response					Date: 07/06/2017
1. According to the methodology, LE _y is no need to consider, all the description has been revised in the PDD. 2. It was a rounding error by spreadsheet but now it is revised.					
Documentation provided by project participant					
☒	Changes in the PDD	Section(s):	B.6	New version No.:	2.0
☐	Changes in MR	Section(s):		New version No.:	
☐	Changes in XLS	Worksheet(s):		New version No.:	
☐	Other:				
DOE assessment					Date: 12/06/2017

1. The determination of LE_y is checked as in line with the applied methodology. 2. The revised PDD has been checked, and the validation team re-produced the ER calculation, it is confirmed that the total estimated amount of GHG emission reductions of the project during the second crediting period is correct.	
Conclusion Tick the appropriate checkbox	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CAR ID	5	Section no.	B.7.1 & B.7.3	Date:	09/01/2017	
Description of CAR						
For the section B.7, 1. The name and description of monitoring parameters in section B.7.1 and B.7.3 is not consistent. 2. $EG_{facility,y}$ is determined based on the methodological tool, which is not demonstrated. 3. There is no sampling plan observed, hence the contents in B.7.2 is not correct. 4. The organizational structure and roles and responsibilities of personnel is missing.						
Project participant response					Date:	07/06/2017
1. The parameters are confirmed in line between B.7.1 and B.7.3. 2. Corrected in the PDD. 3. Removed the paragraph to B.7.3. 4. Added both the organizational structure and roles and responsibilities of personnel.						
Documentation provided by project participant						
☒	Changes in the PDD	Section(s):	B.7.1&B.7.3	New version No.:	2.0	
☐	Changes in MR	Section(s):		New version No.:		
☐	Changes in XLS	Worksheet(s):		New version No.:		
☐	Other:					
DOE assessment					Date:	12/06/2017
1. The name and description of monitoring parameters in section B.7.1 and B.7.3 are checked as consistent and in line with the applied methodology. 2. The determination of parameters $EG_{facility,y}$ has been checked as revised in the PDD, and it is confirmed that the descriptions are in line with the applied methodology and methodological tool. 3. The section B.7.2 is checked as revised to N/A as it is confirmed that no sampling plan is used for monitoring. And the monitoring plan is removed to section B.7.3. 4. The revised PDD has been checked, it is confirmed that the organizational structure and roles and responsibilities of personnel are added in section B.7.3, via on-site investigation and checking against the registered PDD, it is confirmed that the organizational structure and roles and responsibilities of personnel are correctly demonstrated.						
Conclusion Tick the appropriate checkbox		☐ Additional action should be taken (finding remains open) ☒ The finding is closed				

CAR ID	6	Section no.	C.2.1	Date:	09/01/2017	
Description of CAR						
The description in C.2.1 of the PDD is not in line with the requirement of the PDD-FORM.						
Project participant response					Date:	07/06/2017
The description in C.2.1 of the PDD is revised to 1. Renewable 2. The second crediting period						
Documentation provided by project participant						
☒	Changes in the PDD	Section(s):	C.2.1	New version No.:	2.0	
☐	Changes in MR	Section(s):		New version No.:		
☐	Changes in XLS	Worksheet(s):		New version No.:		
☐	Other:					
DOE assessment					Date:	12/06/2017
The revised PDD is checked, it is confirmed that the description in C.2.1 of the PDD is in line with the requirement of the PDD-FORM, i.e 1. State the type of crediting period chosen for the project activity (renewable or fixed). 2. For a renewable crediting period, indicate whether it is the first, second or third.						
Conclusion Tick the appropriate checkbox		☐ Additional action should be taken (finding remains open) ☒ The finding is closed				

CAR ID	7	Section no.	G	Date:	09/01/2017
Description of CAR					

The description in G of the Passport is not in line with the requirement of the GS requirement as follow:			
1. The evidence of 310 kg of SO _x and 302 kg of NO _x are generated from every 1000 MWh electricity produced in 2015 is not provided and described in footnote. 2. The accurate value of local required minimum wage is not specified. 3. The monitoring parameter 4 is not assessed in SD Matrix "Biodiversity" table.			
Project participant response			Date: 07/06/2017
1. The data was got from Taipower comapny (National Grid) public statistics and footnote is added. 2. Added a description and source link of minimum wage in the Passport that will update by Minster of Labor. 3. Added the description for chosen parameter (landscaping at Bantianliao) in "Biodiversity" table.			
Documentation provided by project participant			
☒	Changes in the Passport	Section(s): G	New version No.: 2.0
☐	Changes in MR	Section(s):	New version No.:
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:	/tps/	
DOE assessment			Date: 12/06/2017
1. The evidence of 310 kg of SO _x and 302 kg of NO _x are generated from every 1000 MWh electricity produced in 2015 is not provided as a website and listed in the footnote. Via checking the website ^{/tps/} , it is confirmed that the values are correct. 2. The revised Passport is checked, it is confirmed that the accurate value of local required minimum wage is specified as NTD\$21,009 per month in 2017, via checking the website of Ministry of Labor ^{/ml/} , it is confirmed that the value is correct. 3. The revised Passport is checked, it is confirmed that the monitoring parameter 4 is assessed in SD Matrix "Biodiversity" table. It is verified that the Landscaping at Bantianliao (Haowangjiao) can be chosen as a SD monitoring parameter. Refer to section D.11 of this report for detail assessment.			
Conclusion <i>Tick the appropriate checkbox</i>		☐ Additional action should be taken (finding remains open) ☒ The finding is closed	

Table 3. FAR from this validation

N/A