GOLD STANDARD VALIDATION REPORT

SOUTH POLE CARBON ASSET MANAGEMENT LTD.

INFRAVEST TAIWAN WIND FARMS BUNDLED PROJECT 2012

GOLD STANDARD REF. NO.: GS1350

Report No: 8000456605 - 15/190

Date: 2016-07-11

TÜV NORD CERT GmbH
JI/CDM Certification Program
Langemarckstraße, 20
45141 Essen, Germany
Phone: +49-201-825-3335
Fax: +49-201-825-2139
www.tuev-nord.de
www.global-warming.de

Validation Report:	***Report No.***	***Rev. No.***	***Date of 1st issue:***	***Date of this rev.***
	8000456605 - 15/190	0	2016-07-11	2016-07-11
Project:	***Title:***		***Initial PDD Version: Initial GS passport Version:***	***Final PDD Version: Final GS passport Version:***
	InfraVest Taiwan Wind Farms Bundled Project 2012		2015-11-30(V1.0) 2015-12-30(V2.0)	2016-06-21(V3.0) 2016-06-21(V4.0)
Project Participant(s):	***Client:***			
	South Pole Carbon Asset Management Ltd.			
Applied methodology/ies:	***Title:***		***No.:***	***Scope / TA:***
	Grid-connected electricity generation from renewable sources		ACM0002, version 17.0	1 / 1.2
Validation team / Technical Review and Final Approval	***Validation Team:***		***Technical review:***	***Final approval:***
	Zhao Xuejiao(TL) Li Yongjun(TM) Tsai River(TE)		David Lubanga Stefan Winter	Stefan Winter
Expected Emission reductions: [t CO_2e]	***Expected emission reductions over the fixed crediting period:***			
	882,840			
Confidential content:	☐ Yes		☒ No	
Key dates of validation:	***Project Listed:***	***Draft Report issued:***	***On-site (from):***	***To***
	2012-12-03	***2016-04-10***	***2016-01-13***	***2016-01-19***
Summary of Validation Opinion:	South Pole Carbon Asset Management Ltd. has commissioned the TÜV NORD JI/CDM Certification Program (CP) to validate the project: "InfraVest Taiwan Wind Farms Bundled Project 2012" with regard to the relevant requirements of the Gold Standard requirements version 2.2, host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting. The project meets all relevant host country criteria, all the relevant requirements of the Gold Standard requirements and correctly applies the baseline and monitoring methodology ACM0002, version 17.0. Additionally the assessment team reviewed the estimation of the projected emission reductions. It can be confirmed that the indicated amount of emission reductions of 882,840 tonnes CO_2e over the fixed crediting period of ten years, resulting in a calculated annual average of 126,120 tCO_2e represent a reasonable estimation using the assumptions given by the project documents. In summary, it is TÜV NORD JI/CDM Certification Program (CP)'s opinion that the project, as described in the revised Gold Standard Passport dated 2016-06-21, meets all relevant Gold Standard version 2.2 requirements for CDM projects. TÜV NORD JI/CDM Certification Program (CP) thus requests the registration of the project as a Gold Standard version 2.2 CDM project activity.			
Document information:	*Filename:*			*No. of pages:*
	2016-07-11 GS FValR_Taiwan Infravest Wind_TR1 basis			133

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
CO_2	Carbon dioxide
CO_{2e}	Carbon dioxide equivalent
CP	Certification Program
DNA	Designated National Authority
DOE	Designated Operational Entity
DvalR	Draft Validation Report
EB	CDM Executive Board
EIA	Environmental Impact Assessment
EPA	Environmental Protection Bureau
ER	Emission reduction
ERPA	Emission reduction purchase agreement
FAR	Forward Action Request
FSR	Feasibility Study Report
GHG	Greenhouse gas(es)
GS	Gold Standard
GSP	Gold Standard Passport
GS-TAC	Gold Standard Technical Advisory Committee
GSTK	Gold Standard Toolkit
EIRR	Internal Rate of Return
IPCC	Intergovernmental Panel on Climate Change
LSC	Local Stakeholder Consultation
LSCR	Local Stakeholder Consultation Report
MDG	Millennium Development Goals
NGO	Non-Government Organisation
PA	Project Activity
PDD	Project Design Document
PP	Project Participant
QC/QA	Quality control/Quality assurance
SD	Sustainable Development
SFR	Stakeholder Feedback Round

TPG	Taipower Grid
UNDP	United nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
VER	Voluntary Emission Reduction
VT	Validation Team
VVS	Validation and Verification Standard
WWF	World Wide Fund for Nature
WTG	Wind Turbine Generator
XLS	Emission Reduction Calculation Spread Sheet

Table of Contents *Page*

1 OBJECTIVE / SCOPE

The purpose of a validation is to have an independent third party assess the project design and compliance with the GS requirements as described in the Gold Standard documentation and supporting documents by the client.

The Gold Standard documentation and supporting documents were reviewed against the criteria as set out in the Gold Standard Requirements version 2.2, the Gold Standard Toolkit version 2.2 and respective Annexes. The findings and conclusions on the project's compliance with the Gold Standard are recorded in this document.

In particular the project's baseline, the monitoring plan (MP), the eligibility with relevant GS criteria, technology transfer, Do No Harm Assessment, contribution to Sustainable Development, compliance with GS requirements w.r.t. additionality justification, application of conservative assumptions, monitoring of sustainable development parameters, environmental impacts, stakeholder consultation requirements and the project's compliance with

- The GS Requirements;
- The GS Toolkit and its Annexes;
- GS Methodologies;
- Any other decision taken by the Technical Advisory Committee of GS;
- the requirements of Article 12 of the Kyoto Protocol, if applicable;
- the CDM modalities and procedures as agreed in the Marrakech Accords under decision 3/CMP.1, if applicable;
- the annex to the decision, if applicable;
- subsequent decisions made by COP/MOP & CDM Executive Board, if applicable; and
- other relevant rules, including the host country legislation

are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is seen as necessary to provide assurance to stakeholders on the quality of the project and its intended generation of certified emission reductions (CERs) or Voluntary Emission Reductions (VERs).

Latest CDM requirements will be considered as far as applicable.

The validation is based on the information made available to TÜV NORD JI/CDM CP and on the contract conditions.

The validation scope is given as a thorough independent and objective assessment of the project design including especially: the correct application of the methodology, the project's baseline study, additionality justification, sustainable development, local stakeholder commenting process, environmental impacts and monitoring plan, which are included in the PDD / GS Passport and other relevant supporting documents, to

ensure that the proposed GS project activity meets all relevant and applicable GS criteria.

The information included in the PDD / GS Passport and the supporting documents were reviewed against the requirements as set out by the Gold Standard. The validation team has, based on the requirements in the Gold Standard Requirements, the Gold Standard Toolkit and the CDM Validation and Verification Standard/VVS/ carried out a full assessment of all evidence.

The validation is based on the information made available to TÜV NORD JI/CDM CP and on the contract conditions.

The validation is not meant to provide any consulting to the project participants. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

2 GHG PROJECT DESCRIPTION

2.1 Project Characteristics

Essential data of the project is presented in the following Table 2-1.

Table 2-1: **Project Characteristics**

Item	Data		
Project title	**InfraVest Taiwan Wind Farms Bundled Project 2012**		
Project size	☒ Large Scale ☐ Small Scale ☐ Micro Scale		
Project Scope *(according to UNFCCC sectoral scope numbers for CDM)*	☒	1	Energy Industries (renewable- /non-renewable sources)
	☐	2	Energy distribution
	☐	3	Energy demand
	☐	4	Manufacturing industries
	☐	5	Chemical industry
	☐	6	Construction
	☐	7	Transport
	☐	8	Mining/Mineral production
	☐	9	Metal production
	☐	10	Fugitive emissions from fuels (solid, oil and gas)
	☐	11	Fugitive emissions from production and consumption of halocarbons and hexafluoride
	☐	12	Solvents use
	☐	13	Waste handling and disposal
	☐	14	Afforestation and Reforestation
	☐	15	Agriculture
Applied Methodology	ACM0002 Ver. 17.0: Grid-connected electricity generation from renewable sources		
Technical Area(s)	1.2 Energy generation from renewable energy sources		
Crediting period	☒ Renewable Crediting Period (7 y) ☐ Fixed Crediting Period (10 y)		
Start of crediting period	2014-06-30		
End of crediting period	2021-06-29		

2.2 Project Location

The details of the project location are given in table 2-2 and table 2-3:

Table 2-2: **Project Location**

No.	Project Location	
Host Country	Taiwan	
Region:	Hsinchu County, Miaoli County, Taichung County	
Project location address:	Chubei township, Tongxiao Township, Yuanli Township, Da-an Township and Da-jia Township, Chingshui Township	
Latitude:	Chubei Wind Farm Project	24°51'47"N
	Zhaowei Wind Farm Project	24°29'57''N
	Tongyuan Wind Farm Project	24°25'37"N
	Taichung III Wind Farm Project	24°22'32''N
	Taichung Chingfeng Wind Farm Project	24°18'21"N
	Taichung Anwei Wind Farm Project	24°24'14"N
Longitude:	Chubei Wind Farm Project	120°56'23"E
	Zhaowei Wind Farm Project	120°40'28"E

No.	Project Location	
	Tongyuan Wind Farm Project	120°36'57"E
	Taichung III Wind Farm Project	120°34'49"E
	Taichung Chingfeng Wind Farm Project	120°32'55"E
	Taichung Anwei Wind Farm Project	120°36'40"E

2.3 Technical Project Description

The project is a regular project, the project was listed on GS website dated on 03/12/2012 (as defined under time of first submission), and the feedback from GS on the LSC report was received on 06/12/2012, which before the start date of the project.

The GS-VER-PDD for the project is in compliance with the template format provided by Gold Standard. The project proponent has approved the project design document for its completeness and the GS-VER-PDD gives a complete and comprehensive description of the project.

The project is a bundled wind power project with a total installed capacity of 78.2 MW, consisting of 34 units of 2.3 MW WTG (Wind Turbine Generator).

Including following sub-projects:

Sub-projects	Location	Installed Capacity	Units of WTG
Chubei Wind Farm Project	Chubei township, Hsinchu County	11.5 MW	5
Zhaowei Wind Farm Project	Tongxiao Township, Miaoli County	13.8 MW	6
Tongyuan Wind Farm Project	Tongxiao & Yuanli Township, Miaoli County	27.6 MW	12
Taichung III Wind Farm Project	Da-an Township and Da-jia Township,Taichung County	11.5 MW	5
Taichung Chingfeng Wind Farm Project	Chingfeng Township, Taichung County	2.3 MW	1
Taichung Anwei Wind Farm Project	Da'an Township, Dajia Township, and Chingshui Township, Taichung County	11.5 MW	5
Total		78.2 MW	34

The project is a renewable wind electricity generation project activity that will deliver the electricity to Taipower Grid (TPG). The project activity will displace electricity generation in the TPG by displacing fossil fuel dominated electricity generation and thus resulting in greenhouse gases emission reductions. The electricity generated by the project will be supplied to TPG via outlet circuit. The details are as below:

Sub-projects	Bus line
Chubei Wind Farm Project	11.4kV or 22.8 kV
Zhaowei Wind Farm Project	11.4kV
Tongyuan Wind Farm Project	22.8 kV
Taichung III Wind Farm Project	22.8 kV
Taichung Chingfeng Wind Farm Project	11.4 kV
Taichung Anwei Wind Farm Project	11.4 kV

The estimated annual net electricity generation of the proposed project is determined as 187,680 MWh via checking the FSR of each sub-project/FSR/. The generated

electricity will be delivered to TPG[/PPA/]. The total estimated annual emission reductions are 126,120 tCO_2e.

The technical key data are provided in table 2-4 below

Table 2-4: **Technical data of the project activity**

Parameter	Unit	Value
Manufacturer	-	Enercon GmbH
Model	-	E-70
Number	Set	34
Rated Power	kW	2,300
Quantity of blades	-	3
Rotor diameter	m	71
Output Voltage	V	400
Generator	-	Enercon direct-drive synchronous annular generator
Grid feeding	-	ENERCON converter
Lifetime	year	20

3 METHODOLOGY AND VALIDATION SEQUENCE

3.1 Validation Steps

The validation of the project consisted of the following steps:

- Contract review
- Appointment of team members and technical reviewers
- Publication of the project design document (PDD)/ GS Passport
- Desk review of the PDD/ GS Passport and supporting documents
- Validation planning
- On-Site assessment
- Background investigation and follow-up interviews with personnel of the project developer and its contractors
- Draft validation reporting
- Resolution of corrective actions (if any)
- Final validation reporting
- Technical review
- Final approval of the validation

3.2 Contract review

To assure that

- the project falls within the scopes for which accreditation is held,
- the necessary competences to carry out the validation can be provided,
- Impartiality issues are clear and in line with the CDM accreditation requirements

a contract review was carried out before the contract was signed.

3.3 Appointment of team members and technical reviewers

On the basis of a competence analysis and individual availabilities, a validation team, consisting of one team leader and 2 additional team members, as well as the Technical Review personnel were appointed.

The list of involved personnel, the tasks assigned and the qualification status are summarized in the table 3-1 below.

Table 3-1: **Involved Personnel**

	Name	Company	Function [1]	Qualification Status [2]	Scheme competence [3]	Technical competence [4]	Host country Competence	On-site visit
☐ Mr. ☒ Ms.	Zhao Xuejiao		TL	LA	☒	1.2	☐	☒
☒ Mr. ☐ Ms.	Li Yongjun		TM	SA	☒	1.2	☐	-
☒ Mr. ☐ Ms.	Tsai River	TN Taiwan	TE	-	-	-	☒	-
☒ Mr. ☐ Ms.	David Lubanga		OR[B]	LA	☒	1.2	☐	-
☒ Mr. ☐ Ms.	Stefan Winter	TN CERT GmbH	TR/FA[B]	SA	☒	1.2	☐	-

1) TL: Team Leader; TM: Team Member, TR: Technical review; OT: Observer-Team, OR: Observer-TR; FA: Final approval
2) GHG Auditor Status: A: Assessor; LA: Lead Assessor; SA: Senior Assessor; T: Trainee; TE: Technical Expert
3) GHG auditor status (at least Assessor)
4) As per S01-MU03 or S01-VA070-A2 (such as 1.1, 1.2, …)
A) Team Member: GHG auditor (at least Assessor status), Technical Expert (incl. Host Country Expert or Verification Expert), not ETE
B) No team member

Team Leader and team members contributed to the review of documents, the assessment of the project activity and to the preparation of this report.

Team Leader and team members contributed to the assessment of special aspects of the project activity, e.g. technical or host country aspects.

Statements of competence for the above mentioned team members are enclosed in annex 2 of this report.

3.4 Consideration of Public Stakeholder Comments

The Gold Standard Passport and Local Stakeholder Consultation Report (LSCR) of the project were available for the stakeholders on the Gold Standard during two months period (from 2012-12-03 to 2013-02-02).

3.5 Validation Protocol

In order to ensure consideration of all relevant assessment criteria, a validation protocol is used. The protocol shows, in a transparent manner, criteria and requirements, means of validation and the results from pre-validating the identified

criteria. The validation protocol reflects the generic CDM / GS requirements each project has to meet as well as project specific issues as applicable. The validation protocol serves the following purposes:

- It organises, details and clarifies the requirements that a CDM / GS project is expected to meet;
- It ensures a transparent validation process where the validating entity will document how a particular requirement has been validated and the result of the determination.

The validation protocol is described in Figure 1.

Validation Protocol Table A-1: Requirement checklist				
Checklist Item	***Validation Team Comment***	***Reference***	***Draft Conclusion***	***Final Conclusion***
The checklist items in Table A-1 are linked to the various requirements the project should meet. The checklist is organised in various sections. Each section is then further sub-divided as per the requirements of the topic and the individual project activity.	*The section is used to elaborate and discuss the checklist item in detail. It includes the assessment of the validation team and how the assessment was carried out. The reporting requirements of the VVS and GS requirements shall be covered in this section.*	*Gives reference to the information source on which the assessment is based on*	*Assessment based on evidence provided if the criterion is fulfilled (OK), or a CAR, CL or FAR (see below) is raised. The assessment refers to the draft validation stage.*	*In case a corrective action or a clarification the final assessment at the final validation stage is given.*

Figure 1: Validation protocol table

The completed validation protocol is enclosed in Annex 1 to this report.

3.6 Review of Documents

The Project Design Document (PDD), Country Law, Approved methodology, Kyoto Protocol, Clarifications on Validation Requirements, LSCR, GS Passport and supporting background documents related to the project design and baseline were reviewed.

Furthermore, the validation team used additional documentation by third parties like host party legislation, technical reports referring to the project design or to the basic conditions and technical data.

3.7 Site Visit and Follow-up Interviews

The validation team has carried out a site visit in order to assess the information included in the project documentation and to gain additional information regarding the compliance of the project with the relevant criteria applicable for CDM / GS.

The schedule of the on-site audit is summarized in table 3-2.

Date	Time	Auditor	Topic
2016-01-13	10:00-12:00	Fancy	Opening meeting, incl.: Introduction of each party Introduction of this validation purpose Inform the schedule of this audit
	13:00-18:00	Fancy	Interview Local stakeholders, including 1. Representative from Project Owner 2. Representative from Taipower Grid 3. Representative from the local Environmental Protection Department 4. Local Residents
2016-01-14	09:00-12:00	Fancy	On-site Visit of Chubei Wind Farm Project
	14:00-18:00	Fancy	On-site Visit of Zhaowei Wind Farm Project
2016-01-15	10:00-18:00	Fancy	On-site Visit of Tongyuan Wind Farm Project(12 turbines)
2016-01-16	09:00-12:00	Fancy	On-site Visit of Taichung III Wind Farm Project
	14:00-18:00	Fancy	On-site Visit of Taichung Chingshui Wind Farm Project
2016-01-17	13:00-18:00	Fancy	On-site Visit of Taichung Anwei Wind Farm Project
2016-01-18	09:00-18:00	Fancy	Document check as per above table
2016-01-19	09:00-12:00	Fancy	Finding summary
	13:00-15:00	Fancy	Close meeting.

During validation the validation team has performed interviews to confirm selected information and to resolve issues identified in the document review. The main topics of the interviews are summarized in table 3-2.

Table 3-2: **Interviewed persons and interview topics**

Interviewed Persons / Entities	Interview topics
Project proponent representatives: /IM01/ VER Buyer: /IM02/ Local Stakeholders /IM03/	• Chronological description of the project activity with documents of key steps of the implementation. • Current status of plant design • Technical details of the project realization, project feasibility, designing, operational life time, monitoring of the project • Environmentally safe and sound technology to be employed by the proposed project activity • Host Government Approval • Approval procedures and status • Monitoring and measurement equipment and system.

Interviewed Persons / Entities	Interview topics
	• Financial aspects • Crediting period • Project activity starting date • GS CER allocation / ownership • Baseline study assumptions • Additionality • Sustainable development issues • Monitoring • Stakeholder Consultation Meeting • Analysis of local stakeholder consultation • Roles & responsibilities of the project participants w.r.t. project management, monitoring and reporting • National Legislation • Environmental Acceptance Approval • Editorial issues of the PDD and Passport

A comprehensive list of all interviewed persons is part of section 7 'References'.

3.8 Project comparison

The validation team has compared the proposed CDM/ GS project activity with similar projects or technology that have similar or comparable characteristics and with similar projects in the host country in order to achieve additional information esp. regarding:

- Project technology
- Additionality issues
- Reasons for reviews, requests for reviews and rejections within the CDM/GS registration process.

3.9 Resolution of Clarification and Corrective Action Requests

3.9.1 Definition

A **Corrective Action Request (CAR)** will be established where:

- mistakes have been made in assumptions, application of the methodology or the project documentation which will have a direct influence the project results,
- the requirements deemed relevant for validation of the project with certain characteristics have not been met or
- there is a risk that the project would not be registered by the Gold Standard or that emission reductions would not be able to be verified and certified.

A **Clarification Request (CL)** will be issued where information is insufficient, unclear or not transparent enough to establish whether a requirement is met.

A **Forward Action Request (FAR)** will be issued when certain issues related to project implementation should be reviewed during the first verification.

3.9.2 Draft Validation

After reviewing all relevant documents and taken all other relevant information into account, the validation team issues all findings in the course of a draft validation report and hands this report over to the project proponent in order to respond on the issues raised and to revise the project documentation accordingly.

3.9.3 Final Validation

The final validation starts after issuance of the proposed corrective action (CA) of the CARs, CLs and FARs by the project proponent. The project proponent has to reply on those and the requests are “closed out” by the validation team in case the response is assessed as sufficient. In case of raised FARs the project proponent has to respond on this, identifying the necessary actions to ensure that the topics raised in this finding are likely to be resolved at the latest during the first verification. The validation team has to assess whether the proposed action is adequate or not.

In case the findings from CARs and CLs cannot be resolved by the project proponent or the proposed action related to the FARs raised cannot be assessed as adequate, no positive validation opinion can be issued by the validation team.

The CAR(s) / CL(s) / FAR(s) are documented in chapter 4.

3.10 Technical review

Before submission of the final validation report a technical review of the whole validation procedure is carried out. The technical reviewer is a competent GHG auditor being appointed for the scope this project falls under. The technical reviewer is 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 be confirmed or revised. Furthermore reporting improvements might be achieved.

3.11 Final approval

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

Only after this step the request for registration can be started (in case of a positive validation opinion).

4 VALIDATION FINDINGS

In the following table the findings from the desk review of the published PDD, visits, interviews and supporting documents are summarised**:**

Table 4-1: **Summary of CARs, CLs and FARs issued**

Validation topic [1)]	No. of CAR	No. of CL	No. of FAR
Project Title (A): • Project Title	0	0	0
Project Description (B): • Project Description • Start date	1	1	0
Proof of project eligibility (C) • Scale of project • Host Country • Project Type • Greenhouse Gas • Project registration type	0	2	0
Unique project identification (D) • GPS-coordinates of project location	0	0	0
Outcome stakeholder consultation process (E) • Assessment of stakeholder comments • Stakeholder Feedback Round	1	0	0
Outcome Sustainability assessment (F): • 'Do no harm' assessment • Sustainable Development matrix	0	2	0
Sustainability Monitoring Plan(G):	1	0	0
Additionality and conservativeness(H): • Additionality assessment • Conservativeness	3	0	0
Annex 1 ODA declaration	0	0	0
SUM	**6**	**5**	**0**

[1)] The letters in brackets refer to the validation protocol

The following tables include all raised CARs, CLs and FARs. For an in depth evaluation of all validation items it should be referred to the validation protocols (see Annex 1).

The findings of validation process are summarized in the tables below.

Finding	1		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	It is observed that the purpose and general description of project activity is not complete in the PDD section A.1 and Passport section B as below: 1. The measurement of the emission reduction is missing. 2. The value of annual electricity output of each sub-project is missing. 3. The value of annual emission reduction is not consistent in the PDD and passport.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.*	1. The detailed information of the measurement of emission reduction has been added in the PDD and Passport section B. The project supplied power to the state-owned power grid, Taipower Grid (TPG), displacing part of the electricity supplied by the power grid currently dominated by fossil fuel-fired power plants. Accordingly, the project will lead to carbon dioxide emission reduction. 2. The value of annual electricity output of each sub-project has been added in the PDD and Passport section B. Chubei Wind Farm Project: The annual electricity generated is 27,600 MWh with emission reductions of 18,547 tCO_2e/year. Zhaowei Wind Farm Project: The annual electricity generated is 33,120 MWh with emission reductions of 22,257 tCO_2e/year. Tongyuan Wind Farm Project: The annual electricity generated is 66,240 MWh with emission reductions of 44,513 tCO_2e/year. Taichung III Wind Farm Project: The annual electricity generated is 27,600 MWh with emission reductions of 18,547 tCO_2e/year. Taichung Chingfeng Wind Farm Project: The annual electricity generated is 5,520 MWh with emission reductions of 3,709 tCO_2e/year. Taichung Anwei Wind Farm Project: The annual electricity generated is 27,600 MWh with emission reductions of 18,547 tCO_2e/year. 3. The value of annual emission reduction has been corrected in the PDD and Passport.		
	☒ Changes in PDD	Section(s): A	New version No.: 3.0
	☐ Changes in ER sheet	Section(s): -	New version No.:
	☒ Changes in Passport	Section(s): B	New version No.: 4.0
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	1. The methods of emission reduction by the project activity are checked as added into the revised PDD and Passport. Via verified the FSR[/FSR/] and the PPA[/PPA/] of all the sub-projects, it is confirmed that the methods of emission reduction is correct and the emission reduction can be achieved. 2. The value of annual electricity output of each sub-project is		

Finding	1
	checked as added into the revised PDD and passport. Via checking the FSR/FSR/ and the FSR approval/AFSR/ of all the sub-projects, it is confirmed that all the values are correct and approved by the local government. 3. The value of annual emission reduction has been checked as corrected in the PDD and Passport. It is confirmed that the ER values in the whole PDD and Passport are consistent and correct through cross check the ER sheet/XLS/.
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

Finding	2		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	It is observed that the evidence of start date of project activity is not stated in section C of the PDD and section B of the passport.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.*	The start date of project activity is the construction starting date of Tongyuan Wind Farm. The relevant information has been added in the PDD and Passport.		
	☒ Changes in PDD	Section(s): C	New version No.: 3.0
	☐ Changes in ER sheet	Section(s): -	New version No.:
	☒ Changes in Passport	Section(s): B	New version No.: 4.0
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The information of the start date has been checked as added into the PDD and Passport. Via verified the timeline and relevant evidence in the PDD, especially the evidence of start date/PSD/, it is confirmed that for each sub project, the starting date of the project was derived from the Construction Daily Report/PSD/. And the construction starting date of Tongyuan Wind Farm is the earliest date among all the sub-projects. Through document review, interview and on-site visit, this is confirmed to be the earliest date of project construction, implementation or real action, in compliance with the latest glossary of CDM terms.		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed		

Finding	3		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	The statement if the host country does have a cap on its GHG emissions is missing in the passport.		

Finding	3		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.*	The relevant statement of Taiwan does not have a cap on its GHG emissions has been added in the Passport.		
	☐ Changes in PDD	Section(s):	New version No.:
	☐ Changes in ER sheet	Section(s): -	New version No.:
	☒ Changes in Passport	Section(s): C	New version No.: 4.0
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	Via checking the revised Passport, it is confirmed that a statement has been added. The host country does not have a cap on its GHG emissions. It is therefore not applicable to this GS CDM project.		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed		

Finding	4		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	It is observed that the project didn't provide a preannouncement statement under section C.3 in the Gold Standard Passport, attesting that no such previous announcement has been made.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.*	The information of preannouncement statement has been added in the section C.3 in the Gold Standard Passport.		
	☐ Changes in PDD	Section(s):	New version No.:
	☐ Changes in ER sheet	Section(s): -	New version No.:
	☒ Changes in Passport	Section(s): C.3	New version No.: 4.0
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	Via checking the revised Passport, it is confirmed that the statement of no such previous announcement has been added into. And no such previous announcement has been made by the project is confirmed as correct and applicable to the project.		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed		

Finding	5		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	The relevant information of Stakeholder Feedback Round is missing.		

Finding	5		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.*	The description of Stakeholder Feedback Round has been added in the Passport. During the consultation meeting, the stakeholders were informed that they are invited for the feedback round. Since no significant issue has been identified in the consultation meeting, the stakeholder feedback round was not conducted as a physical meeting, instead, the relevant documents including PDD, LSC report, passport, IEE which includes the information collected from the first round LSC were made public available by the project owner. Hard copies of the stakeholder consultation report, PDD and Passport were sent to the stakeholders through the leader of the village community since Jun, 2016. Besides, the relevant documents were also published at website of VER buyer and GS since Jun 2016 to invite further comments form local and global stakeholders. After the 2-month long feedback round. There was no further comments received from the stakeholders regarding to the documents or other related factors of the project activity. Thus the stakeholder consultation process has been completed as the guideline of GS and the all the comments received and the follow up response by the project entity.		
	☐ Changes in PDD	Section(s):	New version No.:
	☐ Changes in ER sheet	Section(s): -	New version No.:
	☒ Changes in Passport	Section(s): E.2	New version No.: 4.0
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	*As the SFR will be conducted after the client make the draft validation report, PDD and Passport public on the website. Hence, there is no assessment of the SFR in this version of the report. The conclusion will be added after the 2-month long feedback round finished.* *This CAR is still open.*		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☒ Additional action should be taken (finding remains open) ☐ The finding is closed		

Finding	6		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	The 'Do No Harm' Assessment is not based on accurate information of the project.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the*	The relevant evidence has been provided and the description has been revised accordingly in the Passport.		
	☐ Changes in PDD	Section(s):	New version No.:

Finding	6		
revised sections as well as the new version No.	☐ Changes in ER sheet	Section(s): -	New version No.:
	☒ Changes in Passport	Section(s): E.2	New version No.: 4.0
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The revised Passport has been checked, it is confirmed that the description of relevance to the project has been demonstrated according to the relevant evidence. And all the evidence are provided by the PP and verified by the validation team. Refer to the section 5.7 of this report for the assessment of all the safeguarding principles.		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed		

Finding	7		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	The reason for choice of the parameters is not correctly described, especially for the indicators of Air quality, Water quality and quantity, Other pollutants, Biodiversity, Quality of employment.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.*	The reason for choice of the parameters has been described in detail according to the requirement in the revised Passport.		
	☐ Changes in PDD	Section(s):	New version No.:
	☐ Changes in ER sheet	Section(s): -	New version No.:
	☒ Changes in Passport	Section(s): F.2	New version No.: 4.0
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The revised Passport has been checked, it is confirmed that the reason for choice of the parameters have been correctly described according to the relevant evidence. For the indicators of Air quality, Water quality and quantity, Other pollutants, Biodiversity, Quality of employment, the chosen parameter and explanation is checked as correctly addressed. And all the evidence are provided by the PP and verified by the validation team. Refer to the section 5.7 of this report for the assessment of the Sustainable Development matrix.		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed		

Finding	8		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	Not all the non-neutral indicators are included in the monitoring plan.		

Finding	8		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.*	The monitoring parameters have been added accordingly in the Passport. The parameter of Biodiversity has been added and the re-plantation records is defined as chosen parameter.		
	☐ Changes in PDD	Section(s):	New version No.:
	☐ Changes in ER sheet	Section(s): -	New version No.:
	☒ Changes in Passport	Section(s): G	New version No.: 4.0
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	Via checking the Sustainable Development Matrix in the Passport, it is confirmed that all the non-neutral indicators, such as air quality, Quantitative employment and income generation, Biodiversity are included in the monitoring plan. Refer to the section 5.6.2 of this report for the assessment of the Sustainable Development Monitoring Plan.		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed		

Finding	9		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	It is observed that for the additionality assessment: 1. The EIRR is not calculated for each sub-project. 2. The Sensitive analysis and threshold analysis are not sufficiently addressed in the PDD.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.*	1. The EIRR of each sub-project has been calculated and provided. 2. The sensitive analysis and threshold analysis has been added in the PDD.		
	☒ Changes in PDD	Section(s): B.5	New version No.: 3.0
	☐ Changes in ER sheet	Section(s): -	New version No.:
	☐ Changes in Passport	Section(s): -	New version No.:
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	1. PP has calculated EIRR in spreadsheet for the each sub-project and compared the same with the benchmark. PP has demonstrated that each sub-project EIRR is lower than the benchmark and hence the project is not financially attractive. The EIRR calculation was reproduced by the validation team. The parameters used for the EIRR calculation were derived from the FSR/FSR/, which was approved by local government/AFSR/. The assumptions stated in the report are assessed to be reasonable. Each parameter is assessed individually by the validators in Annex 4 of this report according to the GS requirement. The assessment is strictly following the latest Guidelines on the Assessment of Investment Analysis. 2. The sensitivity analysis added into the PDD has been checked, it concludes that the project activity is unlikely to be financially		

Finding	9
	attractive. Threshold analysis is also used in sensitivity analysis. The sensitivity analysis was reproduced by the validation team and evaluated to be correct. The sensitivity analysis and threshold analysis of each parameter is assessed individually by the validation team in Annex 4 of this report.
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed

Finding	10		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	It is observed that for the ER calculation: 1. The value of $EF_{gird,CM,y}$ is not consistent in the whole PDD. 2. The description of the ER calculation parameters is not in line with the methodology. 3. The ER calculation process especially for each sub-project is missing in section B.6.3.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.*	1. The value of $EF_{gird,CM,y}$ has been corrected in the whole PDD. 2. The description of the ER calculation parameters has been revised in line with the methodology. 3. The ER calculation process especially for each sub-project has been added in section B.6.3.		
	☒ Changes in PDD	Section(s): B.6	New version No.: 3.0
	☐ Changes in ER sheet	Section(s): -	New version No.:
	☐ Changes in Passport	Section(s): -	New version No.:
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	1. Via checking the revised PDD, it is confirmed that the value of $EF_{gird,CM,y}$ has been corrected and consistent in the whole PDD. The $EF_{gird,CM,y}$ calculation is reproduced by the validation team, the data sources used to calculate $EF_{grid,CM,y}$ were latest, transparent and accessible and the application of "Tool to calculate the emission factor for an electricity system" was correct in the PDD. 2. Via checking the revised PDD, it is confirmed that the description of the ER calculation parameters is correct and in line with the methodology. 3. Via checking the revised PDD, it is confirmed that the ER calculation process especially for each sub-project has been added in section B.6.3. And the calculation process is confirmed as in accordance with the applied methodology and the result is reproduced by the validation team as correct.		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed		

Finding	11		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	It is observed that the version of methodology that applied to the proposed project activity is not the latest one available at time of fist submission to the Gold Standard.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.*	The version of the applied methodology is revised to the latest version 17.0 in the revised PDD.		
	☒ Changes in PDD	Section(s): All	New version No.: 3.0
	☐ Changes in ER sheet	Section(s): -	New version No.:
	☐ Changes in Passport	Section(s): -	New version No.:
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The revised PDD has been checked, it is confirmed that the version of the applied methodology is updated to 17.0, which is the latest one available at time of fist submission to the Gold Standard through checking the UNFCCC website/unfccc/.		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Additional action should be taken (finding remains open) ☒ The finding is closed		

5 VALIDATION ASSESSMENT SUMMARY

5.1 General Description of the GHG Project Activity

5.1.1 Technology to be employed

The purpose of the InfraVest Taiwan Wind Farms Bundled Project 2012 is to utilize wind resources for electricity generation through the construction of a wind farm with a total capacity of 78.2 MW and to deliver the electricity generated from the project to Taipower Grid. By replacing the electricity of the TPG, which is heavily dominated by fossil fuel fired power plants, with electricity generated from wind power the proposed project activity will achieve obvious greenhouse gas (GHG) emission reductions by avoiding CO_2 emissions.

Prior to the start of implementation of the project activity, there is no power generation unit at the site of the proposed project. The electricity grid is dominated by fossil fuel-fired power plants.

According to the PDD/PDD/ and GS Passport/GSP/, the project activity involves installation of 34 number of WTGs (Wind Turbine Generators) of capacity 2.3 MW each (Model: E-70) and delivers to national grid. The project activity will supply an average annual generation of 187,680 MWh to the TPG.

Including following sub-projects:

Sub-projects	Installed Capacity	Units of WTG	Annual Power Generation
Chubei Wind Farm Project	11.5 MW	5	27,600 MWh
Zhaowei Wind Farm Project	13.8 MW	6	33,120 MWh
Tongyuan Wind Farm Project	27.6 MW	12	66,240 MWh
Taichung III Wind Farm Project	11.5 MW	5	27,600 MWh
Taichung Chingfeng Wind Farm Project	2.3 MW	1	5,520 MWh
Taichung Anwei Wind Farm Project	11.5 MW	5	27,600 MWh
Total	**78.2 MW**	**34**	**187,680 MWh**

The electricity generated from the project activity is expected to substitute the power supplied from TPG which is mainly composed of thermal power plants. The main greenhouse gas (GHG) emission will be CO_2 emissions from electricity generation in fossil fuel fired plants that will be displaced due to the project activity, in which CO_2 is one of the GHG that are eligible under the Gold Standard. The expected average GHG emission reductions of the project activity are 126,120 tCO_2e annually during the first renewable crediting period.

The operational lifetime of the proposed project is expected to be 20 years as per the Technical Agreement of wind turbines/TA/. The project also improves air quality and local livelihoods and promotes sustainable renewable energy industry development. It creates local employment opportunity during the construction phase and the operational period, and thus achieve economic growth in the region. It reduces pollutants, such as SO_2 and soot.

By adopting foreign manufacturer wind turbines, the project activity promotes important transfer of technical know-how to Taiwan, and can act as a pioneer in

promoting the spread of this technology to other wind power projects.

The project proponent applies for Gold Standard under the regular project cycle type requirements. The project activity fits in Renewable Energy Supply category as the generation and delivery of energy services from wind energy resources. Thus the type of project activity is eligible for the Gold Standard.

5.1.2 Design Change

Design change occurring under following conditions:

The LSC report and Passport report of GS1350 were uploaded by South Pole Carbon Asset Management Ltd. to GS on 03/12/2012. And the feedback from GS on the LSC report was received on 06/12/2012.

In the original version of the LSC report (version 01) and Passport report (version 01), the total installed capacity of the project is 78.2MW, each sub-project is listed as below:

Sub-projects	Location	Installed Capacity	Units of WTG
Chubei Wind Farm Project	Chubei township, Hsinchu County	11.5 MW	5
Zhaowei Wind Farm Project	Tongxiao Township, Miaoli County	13.8 MW	6
Tongyuan Wind Farm Project	Tongxiao Township, Miaoli County	52.9 MW	23
Total		**78.2 MW**	**34**

The LSC report and Passport was published to the GS on 2012-12-03. However, after uploading, during the preparation of Tongyuan wind farm, the project owner felt some wind turbines are a little bit near to the local residential area, although the location of 11 wind turbines already met the distance regulations set by Taiwan government. Hence, the project owner decided to move the 11 wind turbines to the other locations (Qingfeng wind farm, Taichung III wind farm and Anwei wind farm). Then, 11 wind turbines of Tongyuan wind farm changed the locations.

The latest information of each sub-project is listed as below:

Sub-projects	Location	Installed Capacity	Units of WTG
Chubei Wind Farm Project	Chubei township, Hsinchu County	11.5 MW	5
Zhaowei Wind Farm Project	Tongxiao Township, Miaoli County	13.8 MW	6
Tongyuan Wind Farm Project	Tongxiao & Yuanli Township, Miaoli County	27.6 MW	12
Taichung III Wind Farm Project	Da-an Township and Da-jia Township,Taichung County	11.5 MW	5
Taichung Chingfeng Wind Farm Project	Chingfeng Township, Taichung County	2.3 MW	1
Taichung Anwei Wind Farm Project	Da'an Township, Dajia Township, and Chingshui Township, Taichung County	11.5 MW	5
Total		**78.2 MW**	**34**

Via checking the EIA and FSR approval of Tongyuan Wind Farm Project, Taichung III Wind Farm Project, Taichung Chingfeng Wind Farm Project and Taichung Anwei Wind Farm Project/EIA/&/AFSR/, it is confirmed that the distance from the new location to the local community is much further than before. And the noise impact to the local residents would be reduced significantly. Accordingly, the level of the environmental impact in the new locations is much better than before, which is confirmed via checking the approval of EIA/AEIA/.

Review results and conclusion:

A design change memo/DCM/ was provided by the PP to DOE, in line with the Gold Standard requirements and Annex-AA. Gold Standard Procedures for Approval of Design Changes/PADC/, the design change memo was verified stepwise by the validation team as follow:

a. Additionality

The design change occurs prior to registration review, via checking the PDD/PDD/, it is confirmed that the sites change has been reflected in the latest version of the PDD and Passport, and the analysis of the additionality was based on the actual situation of the project location. Hence, it is confirmed that sites removed will not impact the validity of investment analysis or barrier analysis established at the time of project registration, thus affecting the additionality of the project. Refer to the section 5 of this report for the assessment of additionality.

b. Scale of project

Via checking the original version of the passport/GSP/ and LSC report/LSCR/, it is confirmed that the installed capacity of the project is not changed, remains same as 78.2 MW. The location change did not change the installed capacity. Hence, the scale of the project is not affected.

c. Applicability of methodology

The latest approved version of methodology ACM0002-Grid-connected electricity generation from renewable sources (version 17.0) was applied by the project, due to the design change occurs prior to registration review, hence, it means that the location change has no impact to the applicability of methodology. The actual project situation is still in compliance with the applicability of methodology ACM0002-Grid-connected electricity generation from renewable sources (version 17.0). Refer to the section 5 of this report for the assessment of applicability of methodology.

d. Stakeholder feedback on design change

Before the original LSC Report (19/11/2012 and version 1.0) submitted to GS, the PP held the Local stakeholder consultation meeting on 3 September and 4 September 2012 at Tongxiao County according to the Gold Standard requirements.

Due to the project location was changed, the PP decided to conduct a stakeholder consultation with respect to changes that have occurred in the project location. Via checking the latest version of the LSC Report (18/03/2016 and version 2.0) and individual invitation letter, the public invitation and the non-technical summary/QUE/ and Evaluation Forms/SEF/, it is confirmed that the relevant stakeholders from these new locations have been invited for comments as per Gold Standard guidelines

through a physical meeting held on 27/11/2015 at Taichung County. Totally 26 stakeholders participated the stakeholder consultation meeting on 27/11/2015, all of them filled the Evaluation Forms during the meeting. The details have been added into the latest version of the LSC Report. Refer to the section 5 of this report for the assessment of the local stakeholder consultation.

e. Sustainable Development Assessment

Due to the project location was changed, the project definitely need to call for a re‐assessment of the SD criteria. The design change occurs prior to registration review, via checking the PDD/PDD/, it is confirmed that the sites change has been reflected in the latest version of the PDD, and the Sustainable Development Assessment was based on the actual situation of the project location. Refer to the section 5 of this report for the assessment of the Sustainable Development and Do-No Harm.

f. Sustainable Development Monitoring Plan

The design change occurs prior to registration review, via checking the PDD/PDD/, it is confirmed that the sites change has been reflected in the latest version of the PDD, and the Sustainable Development Monitoring Plan was based on the actual situation of the project location. Refer to the section 5 of this report for the assessment of the Sustainable Development Monitoring Plan.

g. Legislation

Due to the change of the project location, the EIA and FSR/EIA/&/FSR/, approval of the EIA and FSR/AEIA/&/AFSR/ for Tongyuan Wind Farm Project, Taichung III Wind Farm Project, Taichung Chingfeng Wind Farm Project and Taichung Anwei Wind Farm Project has been provided by the PP and verified by validation team.

Conclusion – The validation team opinion is that the design change proposed is in line with the Gold Standard requirements and Annex-AA - Gold Standard Procedures for Approval of Design Changes/PADC/, and there is no effect to the project registration information due to the design change occurs prior to registration review.

5.1.3 Small Scale/ Micro scale Projects

N/A

5.2 Project Baseline

5.2.1 Application of the Methodology

According to the response of the GS, the date of the project listed was on 2012-12-03, while according to the PDD/PDD/, the project applies the CDM methodology ACM0002. “Grid-connected electricity generation from renewable sources” (Version 17.0), thus it is confirmed that the project followed the GS Requirement III.f.1 in

which the latest valid version of the methodology available (i.e. version 17.0) of the project activity for Gold Standard is correctly applied.

According to the GS PDD, applicability criteria for the applied baseline methodology ACM0002 version 17.0 are fully met by the project activity as described below:

1. The project activity is a Greenfield wind energy based grid-connected renewable power generation project activity which does not involve usage or switching of fossil fuels, hence the project activity meets the applicability conditions of approved applied methodology ACM0002.
2. The project activity involves the installation of wind power plant and does not include installation, capacity addition, retrofit or replacement of geothermal power plant, solar power plant, biomass power plant, hydro power plant that result in new reservoirs / increase in existing reservoirs, wave power plant or tidal power plant.

All the applicability criteria has been checked and confirmed through checking the FSR/FSR/ of the proposed project and via on-site investigation. Hence, it can be concluded that the project is applicable to the methodology.

5.2.2 Project Boundary

As stated in the CDM Methodology ACM0002, the project boundary encompasses the physical, geographical site of the renewable generation source.

The PDD has been checked as in line with the Methodology ACM0002. The spatial extent of the project boundary is assessed through the description in the PDD and the grid structure in Taiwan as known from the official data available for the TPG in "Energy Balances in Taiwan-New Format"/EBT/ published by Bureau of Energy, Ministry of Economic Affairs in Taiwan.

The project activity boundary therefore includes the project activity wind turbine generators and all power plants connected physically to the Taipower grid/PPA/ that the CDM project power plant connected to. Taiwan is island with a single power grid with no cable connection with the continent. Thus there is no other connected electricity system in Taiwan, besides Taipower Grid (TPG).

Therefore, the project boundary is defined as the InfraVest Chubei, Zhaowei, Tongyuan, Taichung III, Taichung Chingfeng, Taichung Anwei wind farm and all power plants connected to Taipower grid.

The validation team confirms that the only greenhouse gas relevant to the project activity is CO_2. This gas is addressed by the applied methodology. Based on the above assessment, the validation team hereby confirms that the identified boundary and the selected sources and gases are justified for the project activity.

5.2.3 Baseline Identification

The project activity is the installation of a new grid-connected renewable power plant. The baseline scenario in accordance with ACM0002 “Grid-connected electricity generation from renewable sources” (Ver.17.0).

As prescribed in ACM0002, the baseline for wind power is electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the “Tool to calculate the emission factor for an electricity system”.

As the baseline scenario is prescribed in the applied methodology, the validation team confirms that the baseline has been determined in a transparent and conservative manner.

For this project, the baseline is the continued operation of the existing power plants and the addition of new generation sources within TPG to meet the electricity demand. The emission reduction for this project activity will be the amount of net electricity (MWh) supplied to grid multiplied with the emission factor of TPG.

5.3 Project Eligibility Assessment

5.3.1 Scale of project

Via checking the GS-VER-PDD, it is confirmed that the project is a wind power generation project, and total installed capacity of the project is 78.2 MW which is higher that the 15MW. In accordance with the Toolkit, for the renewable energy project whose capacity is higher than 15MW, the project belongs to the large scale category.

Hence, the project is a large scale GS project.

5.3.2 Host Country or State

Via checking the PDD and through on-site survey, it is confirmed that the host country of the project is Taiwan which does not have a quantitative reduction target under the KP. Hence, this eligibility criterion is fulfilled.

5.3.3 Type of Project

The proposed project uses a renewable energy technology, namely wind energy. Hence, the project belongs to the renewable energy supply category. This project adopts an ecologically sound electricity generation technology and the emission reductions due to replacement of electricity generated mainly by grid connected coal-fired power plants count towards the project’s overall emission reductions. Hence, the project is eligible under the Gold Standard.

5.3.4 Greenhouse Gases

Via checking the GS-VER-PDD and through on-site survey, it is confirmed that the emission reduction of greenhouse gases (GHG) intended to be achieved by the project includes carbon dioxide (CO_2), which is eligible under Gold Standard Toolkit.

5.3.5 Official Development Assistance (ODA)

As per the definition of ODA, since Taiwan is non-OECD country, this issue should not be applicable to Taiwan. Hence, it is confirmed that the Projects in Taiwan are therefore not eligible for receiving ODA funding.

According to the GS Toolkit Section 3.5.1, the validation team considers that the project is eligible for GS-CDM project.

5.3.6 Project Timeframe

The project is a regular project cycle under Gold Standard.

The project chooses the renewal crediting period of 21 years. The project has started operation on 2013-05-30 (Tongyuan commission start date which is the earliest commission start date among all the sub-projects). According to the GS requirement, for VER project activities proceeding under the regular project cycle, the start date of the Gold Standard Crediting Period shall be the date of start of operation or a maximum of two years prior to Gold Standard registration, whichever occurs later.

Hence, the crediting period of GS started from 2014-06-30, which is within the two years prior to Gold Standard registration and later than the date of start of operation.

5.3.7 Double Counting Assessment

GS has raised a FAR#2: “The PP is requested to provide a declaration in writing that states no RECs are being issued for the project under consideration for GS VERs. The DOE is required to check for double counting during validation by reviewing all relevant registries that could hold RECs from the considered project activity. The list of registries examined by the DOE shall be reported in the Validation Report. Please refer to GS Rule update 22/01/2015: Revisions to Gold Standard rules on double counting in the context of green certificate schemes”.

Based on above FAR, the DOE has checked for double counting by reviewing all relevant registries including CDM[/unfccc/], VCS[/vcs/] and other GHGs programs such as EU ETS or subnational, various regional schemes such as the Chinese, Canadian and American provincial/state-based schemes, it is confirmed that there is no potential exists for Double Counting of emissions reductions due to issuance of Gold Standard VERs/CO2-certificates from the considered project activity.

Furthermore, the Letter of confirmation on avoiding double counting[/LCDC/] provided by PP was verified by the validation team, it is confirmed that the project only submitted for registration to the Gold Standard VER stream. Other Certification Schemes is not involved.

The project does not claim any other certification schemes, only GS VERs are claimed. Hence no double counting would occur from the issuance of Gold Standard carbon credits originating from this project.

5.4 Additionality Determination

5.4.1 Consideration of VER profit in decision making (if project start before validation)

For each sub-project, the prior consideration is assessed as below:

Chubei Wind Farm Project

Date	Event
12/2001-12/2002	InfraVest was already aware of carbon credit financing support and had approached several interested buyers for its future CDM and VER wind projects in China and in Taiwan/ME/
09/2006-05/2007	InfraVest contacts with several potential carbon buyers for its upcoming VER wind projects in Taiwan/ME/&/gs/
10/07/2007	Cooperation agreement between InfraVest and South Pole/CA/
07/2011	FSR completed/FSR/
05/03/2012	Board Decision/BD/
16/11/2015	ERPA signed/ERPA/
05/2017	Expected starting date/IM01/

Zhaowei Wind Farm Project

Date	Event
12/2001-12/2002	InfraVest was already aware of carbon credit financing support and had approached several interested buyers for its future CDM and VER wind projects in China and in Taiwan/ME/
09/2006-05/2007	InfraVest contacts with several potential carbon buyers for its upcoming VER wind projects in Taiwan/ME/&/gs/
10/07/2007	Cooperation agreement between InfraVest and South Pole/CA/
12/2011	FSR completed/FSR/
05/03/2012	Board Decision/BD/
16/11/2015	ERPA signed/ERPA/
05/2017	Expected starting date/IM01/

Tongyuan Wind Farm Project

Date	Event
12/2001-12/2002	InfraVest was already aware of carbon credit financing support and had approached several interested buyers for its future CDM and VER wind projects in China and in Taiwan/ME/
09/2006-05/2007	InfraVest contacts with several potential carbon buyers for its upcoming VER wind projects in Taiwan/ME/&/gs/

Date	Event
10/07/2007	Cooperation agreement between InfraVest and South Pole/CA/
07/2011	FSR completed/FSR/
05/03/2012	Board Decision/BD/
13/12/2012	Construction Daily Report (starting date)/PSD/
30/05/2013	Commission start/CS/
16/11/2015	ERPA signed/ERPA/

Taichung III Wind Farm Project

Date	Event
12/2001-12/2002	InfraVest was already aware of carbon credit financing support and had approached several interested buyers for its future CDM and VER wind projects in China and in Taiwan/ME/
09/2006-05/2007	InfraVest contacts with several potential carbon buyers for its upcoming VER wind projects in Taiwan/ME/&/gs/
10/07/2007	Cooperation agreement between InfraVest and South Pole/CA/
11/2011	FSR completed/FSR/
05/03/2012	Board Decision/BD/
06/08/2014	Construction Daily Report (starting date)/PSD/
04/11/2014	Commission start/CS/
16/11/2015	ERPA signed/ERPA/

Taichung Chingfeng Wind Farm Project

Date	Event
12/2001-12/2002	InfraVest was already aware of carbon credit financing support and had approached several interested buyers for its future CDM and VER wind projects in China and in Taiwan/ME/
09/2006-05/2007	InfraVest contacts with several potential carbon buyers for its upcoming VER wind projects in Taiwan/ME/&/gs/
10/07/2007	Cooperation agreement between InfraVest and South Pole/CA/
10/2011	FSR completed/FSR/
05/03/2012	Board Decision/BD/
14/09/2014	Construction Daily Report (starting date)/PSD/
07/05/2015	Commission start/CS/
16/11/2015	ERPA signed/ERPA/

Taichung Anwei Wind Farm Project

Date	Event
12/2001-12/2002	InfraVest was already aware of carbon credit financing support and had approached several interested buyers for its future CDM and VER wind projects in China and in Taiwan/ME/
09/2006-05/2007	InfraVest contacts with several potential carbon buyers for its upcoming VER wind projects in Taiwan/ME/&/gs/

Date	Event
10/07/2007	Cooperation agreement between InfraVest and South Pole/CA/
11/2011	FSR completed/FSR/
05/03/2012	Board Decision/BD/
13/08/2014	Construction Daily Report (starting date)/PSD/
04/05/2015	Commission start/CS/
16/11/2015	ERPA signed/ERPA/

GS has raised a FAR#1: "As per GS2.2 requirements, start date of the project means the earliest date at which either the implementation or construction or real action of a project begins (further, the guidance provided in paragraph 67 of CDM EB 41 report is applicable). The PP shall provide the evidence regarding the project start date during validation". Based on the above FAR, via verified the above timeline and relevant evidence in the table, especially the evidence of start date/PSD/, it is confirmed that for each sub project, the starting date of the project was derived from the Construction Daily Report/PSD/. Through document review, interview and on-site visit, this is confirmed to be the earliest date of project construction, implementation or real action, in compliance with the GS2.2 requirements.

Furthermore, through checking the board decision/BD/, it is confirmed that the project entity decided to seek VER to overcome the financial risk on 2012-03-05. It can prove that the project investment decision was carried out basing on the VER consideration/BD/. Hence, the VER was prior considered and a decisive factor in the decision to proceed with the project.

Signed cooperation agreement/CA/ and ERPA/ERPA/ between South Pole and InfraVest were validated by validation team. Those two documents were used to prove the continuing and real actions were taken by PP to secure GS status for the project in parallel with its implementation.

All the original documents indicated in the table above have been checked by the validation team. All the documents were stamped by the project owner or other involved company. Hence, the evidence are confirmed as authentic and reliable.

Hence, the validation team confirmed the VER was seriously considered in the decision to implement the project activity.

5.4.2 Alternatives

The baseline scenario is determined in the methodology ACM0002 Ver.17.0.

5.4.3 Investment analysis

The project investment analysis is demonstrated by applying the "Tool for the demonstration and assessment of additionality" (version 07.0.0) according to ACM0002 and latest version of the Methodological tool "Investment Analysis" (Version 06.0)/IA/.

A step-wise assessment is presented in Table 5-1.

Table 5-1 Investment Analysis

Step	Argument by PP	Assessment of the validation team
A	Option III: benchmark analysis is selected for the investment analysis. According to the Additionality Tool, Option II or Option III can be selected if Option I is not applicable. Simple cost analysis (Option I) is not applicable because this project will produce financial/economic benefits other than CDM related income, through sale of generated electricity to the Northeast China Power Grid. In this case the investment comparison analysis (Option II) is not applicable because baseline scenario isn't a specific investment project.	In accordance with the Additionality Tool, the option III benchmark analysis is selected and the options I and II were not applied. Compared to other wind power projects already registered under CDM the applied approach option III is usually chosen. The exclusion of option I and II is reasonable and hence assessed as OK.
B	PP chose benchmark analysis and identified equity IRR as an indicator.	There is no appropriate benchmark in Taiwan for electricity generation and hence PP used model from Professor Aswath Damodaran of New York University to derive the appropriate benchmark. Professor Aswath Damodaran is a globally well-known scholar in finance especially in investment valuation. Validators checked his paper "Measuring Company Exposure to Country Risk: Theory and Practice"/MCECR/, p18 proposed by PP, and confirmed the following model which can derive the cost of equity for specific industry and specific country: Cost of equity = Risk free rate + Beta x (Country risk Premium + Mature Market Premium) The Taiwan Treasury bond rate (Risk free rate) is taken as the average of US treasury 10 years bond rates in the period of 3 months prior to the earliest investment decision time (05/03/2012) and confirmed is 1.97%/rfr/. The beta value for electric-generation, which was deemed the most appropriate scope to the project, was validated against website/beta/ and confirmed Taiwan's beta is 1.35. The "Estimating Country Risk Premiums" was validated against through website/ecrp/ and confirmed Taiwan's "Country risk Premium + Mature Market Premium" is 7.05%. The validators have recalculated the benchmark and confirmed the value is 11.50% which is identical with the benchmark EIRR 11.50% described in the GS-VER-PDD. The benchmark is appropriate for Equity IRR as per Methodological tool "Investment Analysis" (version 06.0).

<table>
<tr><th>Step</th><th>Argument by PP</th><th>Assessment of the validation team</th></tr>
<tr><td>c</td><td>The project EIRR of each sub-project are listed as below
<table><tr><th>Project Name</th><th>EIRR</th></tr><tr><td>Chingfeng</td><td>4.31%</td></tr><tr><td>Chubei</td><td>5.53%</td></tr><tr><td>Zhaowei</td><td>5.86%</td></tr><tr><td>Taichung III</td><td>5.45%</td></tr><tr><td>Anwei</td><td>6.13%</td></tr><tr><td>Tongyuan</td><td>5.89%</td></tr></table>Hence, the EIRR of each sub-project is less than the identified benchmark of 11.50%.</td><td>PP has calculated EIRR in spreadsheet for the each sub-project activity and compared the result with the benchmark 11.50%.
PP has demonstrated that the EIRR for the each sub-project is lower than the benchmark and hence the project is not financially attractive.
The EIRR calculation was reproduced by the validation team.
The parameters used for the EIRR calculation were derived from the FSR of each sub-project/FSR/, which was approved by local government/AFSR/. The assumptions stated in the report are assessed to be reasonable.
Each parameter is assessed individually by the validators in Annex 4 according to the VVS.
The assessment is strictly following the latest version of Guidelines on the Assessment of Investment Analysis.</td></tr>
<tr><td>D</td><td>The sensitivity analysis was demonstrated through two manners:
1. Varying ± 10 % of four critical parameters (Static total investment, Annual electricity output, Electricity price and Annual O&M cost). The selection is checked as in line with the requirements in Guidelines on the assessment of investment analysis (version 06.0) of “Only variables, including the initial investment cost, that constitute more than 20% of either total project costs or total project revenues should be subjected to reasonable variation”, the Static total investment is checked as constitutes more than 20% of total project costs. The product of electricity price and Annual electricity output is checked as constitute more than 20% of the total revenue of the project. The total O&M throughout the project lifetime is checked as accounts for more than 20% of the project cost.
2. Threshold analysis by varying the above four parameters to make the EIRR meet benchmark.
Based above, it can confirm that the financial unattractiveness of the project is robust.</td><td>The sensitivity analysis concludes that the project activity is unlikely to be financially attractive. Threshold analysis is also used in sensitivity analysis. The sensitivity analysis was reproduced by the validation team and evaluated to be correct.
The sensitivity analysis and threshold analysis of each parameter is assessed individually by the validation team in Annex 4.</td></tr>
</table>

5.4.4 Barrier analysis

N/A

5.4.5 Common practice analysis

The common practice analysis was checked strictly followed "Tool for the demonstration and assessment of additionality" (version 07.0.0)/TDAA/ and Guidelines on common practice (Version 03.1)/GCP/.

Step 1: calculate applicable capacity or output range as +/-50% of the design capacity or output of the proposed project activity

The installed capacities of each wind power sub-project are between 2.3 MW to 27.6 MW. Therefore, the applicable capacity range is from 1.15 MW to 41.4 MW.

Step 2: identify similar projects (both CDM and non-CDM) which fulfill all of the following conditions:

(a) The projects are located in the applicable geographical area;
(b) The projects apply the same measure as the proposed project activity;
(c) The projects use the same energy source/fuel and feedstock as the proposed project activity, if a technology switch measure is implemented by the proposed project activity;
(d) The plants in which the projects are implemented produce goods or services with comparable quality, properties and applications areas (e.g. clinker) as the proposed project plant;
(e) The capacity or output of the projects is within the applicable capacity or output range calculated in Step 1;
(f) The projects started commercial operation before the project design document (CDM-PDD) is published for global stakeholder consultation or before the start date of proposed project activity, whichever is earlier for the proposed project activity.

Demonstration as follow,

(a) The region selected for common practice of Taiwan is assessed as appropriate and reasonable. Taiwan is an island with a single power grid with no cable connection with the continent. Thus there is no other connected electricity system in Taiwan, besides Taipower Grid (TPG). The unique geological conditions in Taiwan results in the different wind resources, compared to wind plants in other regions or countries, and the investment environments are different among regions and countries;
(b) Same measures is defined as measure (b) Switch of technology with or without change of energy source including energy efficiency improvement as well as use of renewable energies (example: energy efficiency improvements, power generation based on renewable energy);
(c) Project uses wind energy source;
(d) Project for power generation;
(e) Out range from 1.15 MW to 41.4 MW;
(f) Commercial operation started before 13/12/2012.

Step 3: within the projects identified in Step 2, identify those that are neither GS-VER-PDD project activities, project activities submitted for registration, nor project activities undergoing validation. Note their number N_{all}.

Thus, the projects operated before 13/12/2012 with an installed capacity of between 1.15 MW and 41.4 MW in Taiwan are determined as "N_{all}". Projects have been applied to CDM were excluded.

The information source Energy Statistics Hand Book 2014 published by Bureau of Energy, Ministry of Economics Affairs/ESHB/ for the common practice analysis is publicly available and checked by the validation team. The information used is evaluated to be credible.

15 wind projects in Taiwan before 13/12/2012 have not applied for CDM or GS project. Hence $N_{all.}$=15.

Step 4: within similar projects identified in Step 3, identify those that are different to the technology applied in the proposed project activity. Note their number N_{diff}.

As per the Guidelines on common practice, different technologies are technologies that deliver the same output and differ by at least one of the following (as appropriate in the context of the measure applied in the proposed CDM project and applicable geographical area):
(a) Energy source/fuel;
(b) Feed stock;
I Size of installation (power capacity):
(i) Micro;
(ii) Small;
(iii) Large;
(d) Investment climate on the date of the investment decision, inter alia:
(i) Access to technology;
(ii) Subsidies or other financial flows;
(iii) Promotional policies;
(iv) Legal regulations;
I Other features, inter alia:
(i) Nature of the investment (example: unit cost of capacity or output is considered different if the costs differ by at least 20%);

The 15 project has the different technologies comparing to the proposed project. The reason has been elaborated in the PDD and the evidence is checked by the validation team as reasonable and credible/cp/.

Hence, N_{diff} = 15.

Step 5: calculate factor $F=1-N_{diff}/N_{all}$ representing the share of similar projects (penetration rate of the measure/technology) using a measure/technology similar to the measure/technology used in the proposed project activity that deliver the same output or capacity as the proposed project activity.

For this project, F=1-15/15=1-1=0<0.2. It can be concluded that the project is not a common practice.

The statistics presented above clearly indicates that the project is not a common practice in this appropriate region at the time of PDD preparation.

In conclusion, the project activity did face significant barriers which would have prevented the implementation of the project if it was not developed as a VER project. The project activity itself is not common practice and is additional to the baseline scenario.

5.5 Algorithms and formulae used to determine emission reductions

Methodologies for calculating emission reductions were documented. The project intends to reduce CO_2 emissions by generating electricity from wind power, which will be exported to TPG.

Baseline emission:

The baseline emissions 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 CO_2/yr)
$EG_{PJ,y}$	=	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/yr)
$EF_{grid,CM,y}$	=	Combined margin CO_2 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 CO_2/MWh)

As the project activity is the installation of a green-field power plant, then:

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

Where:

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

The grid emission factor was determined ex-ante and estimated as a combined margin emission factor ($EF_{grid,CM,y}$) combined of operating margin emission factor ($EF_{grid,OM,y}$) and built margin emission factor ($EF_{grid,BM,y}$).

The project participant following the "Tool to calculate the emission factor for an electricity system" version 05.0 has calculated combined margin emission factor, consisting of the simple average of the operating margin emission factor (OM) by utilizing an ex-ante 3-year data period and the build margin (BM) emission factor as follows:

$EF_{grid,CM,y} = EF_{grid,OM,y} \times w_{OM} + EF_{grid,BM,y} \times w_{BM}$

Via checking the Appendix 4 in the PDD, it is confirmed that the $EF_{grid,CM,y}$ is calculated in line with the "Tool to calculate the emission factor for an electricity system" version 05.0 as stepwise:

STEP 1: Identify the relevant electric system

Taiwan is an island with no cable connection with the continent. Thus there is not any connected electricity system in Taiwan. TPG which is a national grid in Taiwan is identified as the project electricity system in the GS-VER-PDD.

STEP 2: Choose whether to include off-grid power plants in the project electricity system (optional)

According to "Tool to calculate the emission factor for an electricity system (Version 05.0)", project participants choose option I.

STEP 3: Select a method to determine the operating margin (OM)

It was validated that the low cost/must run resources constitute less than 50% of total grid generation in average of the five most recent years. As per *"Tool to calculate the emission factor for an electricity system"*, the opinion of simple OM and the ex-ante option with a 3-year generation-weighted average are chosen based on the most recent data available at the time of submission of the GS-VER-PDD to the DOE for validation, without requirement to monitor and recalculate the emissions factor during the crediting period were selected for the project.

STEP 4: Calculate the operating margin emission factor according to the selected method

Since data on net electricity generation of each power plant / unit and the average efficiency of each power unit are unavailable, as per *"Tool to calculate the emission factor for an electricity system"*, it was validated that Simple OM is calculated using option C, based on data 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. The ex-ante baseline calculation reflects the most recent data.

The data source of $EF_{grid,OM,y}$ calculation is in according to "Energy Balances in Taiwan-New Format" published by Bureau of Energy, Ministry of Economic Affairs in Taiwan/EBT/. The conservative assumptions have been used to calculate emission factor. As per the emission factor a sufficiently conservative baseline scenario was chosen by ensuring that an appropriate baseline approach and methodology have been used together with conservative parameters.

STEP 5: Calculate the build margin (BM) emission factor

As per the method of Chinese NDRC accepted by CDM EB, since there is no way to separate the different generation technology capacities based on coal, oil or gas fuel etc from the generic term "thermal power" in the present energy statistics, the following calculation measures will be taken. According to the energy statistics of the selected period in which approximately 20% capacity has been added to the grid first. Second, determine the ratio of CO_2 emissions produced by solid, liquid, and gas fuel consumption for power generation. Third, multiply this ratio by the respective emission factors based on the best commercially available technology in terms of efficiency. Finally, this emission factor for thermal power is multiplied with the ratio of thermal power identified within the approximation for the latest 20% installed capacity addition to the grid.

It was validated with reference to Energy Balance in Taiwan- New Format of Bureau

of Energy/EBT/.

Step 6: Calculate the combined margin emissions factor

It was validated that the baseline emission factor, i.e, the combined margin emissions factor was calculated as follow:

$EF_{Grid,OM,y}$ = 0.688 tCO_2e/MWh,
$EF_{Grid,BM,y}$= 0.625 tCO_2e/MWh

Thus, $EF_{grid,CM,y} = 0.75 \times EF_{Grid,OM,y} + 0.25 \times EF_{Grid,BM,y}$
$= 0.672\ tCO_2e/MWh$

The grid emission factor $EF_{grid,CM,y}$ will be fixed in the first crediting period.

The validation team is convinced of the result of the emission factor calculation. It is deemed to be adequate and transparent. All data required for emission factor calculation were derived from publicly available data of Taiwan government/EBT/.

Thus, the calculation of the grid emission factor is in compliance with the requirements of the "Tool to calculate the emission factor for an electricity system (Version 05.0)" and in line with the VVS.

BE_y is calculated by multiplying the grid emission factor ($EF_{Gird,CM,y}$) and the net electricity exported to TPG ($EG_{facility,y}$).

The annual net electricity exported to TPG from the project is estimated to be 187,680 MWh as defined in the PDD and FSR. So,

$BE_y = EF_{Gird,CM,y} \times EG_{facility,y}$
= 0.672 tCO_2e/MWh × 187,680 MWh
= 126,120 tCO_2e/yr

Project emission:

As the project generates electricity by utilizing wind power, the project emissions is Zero in compliance with ACM0002 Ver.17.0.

Leakage:

According to the methodology, the leakage is neglected.

Emission reduction:

ER_y of the project activity during the crediting period is the difference between the baseline emission (BE_y) and project emission (PE_y). The calculated result as follows:

$ER_y = BE_y - PE_y$
= 126,120 tCO_2e/yr – 0
= 126,120 tCO_2e/yr

The emission reduction calculation was checked by the validation team. Altogether the project activity reduces emissions of 882,840 tCO_2e over the first crediting period (7 years).

Hence, all the assumptions and parameters used in the GS-VER-PDD and GS validation report follow a transparent and conservative approach.

5.6 Monitoring Plan

5.6.1 Emission Reductions monitoring parameters:

The proposed project correctly applied the monitoring methodology ACM0002 Ver.17.0: "*Grid-connected electricity generation from renewable sources"* for large scale CDM project activities.

The monitoring plan elaborated in the PDD is found conforming with the approved methodology and in a complete and transparent manner.

The emission factor is determined *ex-ante*, then only the net electricity generated will be monitored.

As noted in the PDD, according to ACM0002 Ver.17.0, the monitoring plan covers the following parameters required to be monitored,

- $EG_{facility,y}$: Quantity of net electricity generation supplied by the project plant/unit to the grid in year *y*;
- $EG_{export,y}$: Quantity of electricity generation supplied by the project plant/unit to the grid in year *y*;
- $EG_{import,y}$: Quantity of electricity consumption of the project plant/unit from the grid in year *y*.

The Quantity of net electricity generation supplied by the project plant/unit to the grid ($EG_{facility,y}$) will be determined by means of calculating the

$$EG_{facility,y} = EG_{export,y} - EG_{import,y}$$

For each sub-project, the monitoring of $EG_{export,y}$, $EG_{import,y}$ and calculating of $EG_{facility,y}$ will be conducted at each project site. The project participant of each sub-project will perform continuous measurement of $EG_{export,y}$ and $EG_{import,y}$ in MWh through energy meters. Continuous measurements will be performed and monthly recording will be taken.

The metering points to record $EG_{export,y}$ and $EG_{import,y}$ of each sub-project will be installed in accordance with the PPA/PPA/. The readings of electricity meters in Taipower's substation are recorded on paper by the monitoring staff of Taipower. The accuracy class of the electricity meters used for the project activity would be at least 0.5%.

As per Power Purchase Agreement/PPA/, the electricity meters will undergo maintenance/calibration according to Taiwan national standards (based on The Weight and Measures Act, Regulation no. CNMV 46 'Technical Specification for Verification and Inspection of Electricity Meters')/CNMV/, accordingly, meter calibration is conducted every 8 years period.

Sales receipts are used for double check purpose. Sales receipts are considered to be a reliable data source of electricity import and electricity export. The uncertainty

level of the values is considered to be low. It is unlikely data provisions will result in a tendency of overestimating emission reductions.

The selection of data undergoing quality control and quality assurance procedures were complete. Quality control procedures and quality assurance procedures were sufficiently described to ensure the delivery of high quality data in the GS-VER-PDD.

The monitoring manual/MM/ was available to be verified by validation team. And detailed procedures have been elaborated and are in place. These will be maintained and implemented to enable subsequent verification of emission reductions.

The monitoring approach is in line with current good practice. It will deliver high quality monitored data. All formulae used to determine project emission are clearly indicated and in compliance with ACM0002.

The validation team considers that the description of the monitoring plan contains all necessary parameters, that they are described and that the means of monitoring described in the plan complies with the requirements of the methodology including applicable tool(s).

Hence, it is confirmed that the monitoring plan complies with the requirements of the methodology including applicable tool(s), the monitoring arrangements described in the monitoring plan are feasible within the project design and the project participants are able to implement the described monitoring plan.

5.6.2 Sustainable Development monitoring parameters:

The DOE hereby confirms that the sustainability monitoring plan complies with the requirements of the Gold Standard version 2.2. DOE has validated the sustainability monitoring plan in section G of the Gold Standard Passport and confirms that the 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 Passport version 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 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:

No	Indicator	Validation Opinion
1	Air Quality	*GS Passport Section G indicator no. 1:* The SO_x, NO_x emissions will be decreased by wind power generation compared to the fossil fuel. 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.

No	Indicator	Validation Opinion
2	Quantitative employment and income generation	*GS Passport Section G indicator no. 2:* The job opportunities could not be created for wind power engineering works before the project implementation. The validation team agrees that "Number of jobs created during the implementation of the Project" and "the staff 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.
3	Biodiversity	*GS Passport Section G indicator no. 3:* The validation team considers that the project owner takes measures of re-plantation to mitigate the impact of biodiversity during project construction. Via checking the EIA, above mitigation measures have been verified and confirmed. And via on-site investigation, it is further confirmed that the project owner has already completed replantation for the commission project. All these areas replanted with native grass species of plants. Hence the project has little impact to the biodiversity. The validation team agrees that the monitoring of re-plantation records can directly reflect the ability of the project takes measures to protect the biodiversity. Annually monitoring of the re-plantation 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.

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

5.7 Sustainable Development

'Do no harm" assessment

'Do no harm" assessment was carried out by the project proponent as indicated in the GS Passport. According to the GS Toolkit Section 2.2, the "Do no harm" assessment is based on the safeguarding principles of the UNDP in four aspects: Human Rights, Labour Standards, Environmental Protection and Anti-Corruption.

The potential risks alongside the safeguarding principles are listed in the Section F of the GS Passport. And the assessments are listed as below table:

No	Indicator	Risks breaching in GS Passport	Mitigation measure in GS Passport	Validation Opinion
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.	Low	N/A	By reviewing the FSR of proposed Project/FSR/ and on-site interview/IM01/, the Validation Team confirmed that Infra Vest Co., Ltd., being an enterprise, completely obeys the nation and local laws. Furthermore, the project respects internationally proclaimed human rights. Taiwan has its own legislation in place prohibiting the violation of human rights principle and it actively enforces the compliance of such principle. Taiwan ratified two UN human rights treaties—the International Covenant on Civil and Political Rights and the International Covenant on Economic, Social, and Cultural Rights—and passed the implementing law to bring relevant regulations and practice into line with the treaties. There is no complain and accusation regarding human right happens in Infra Vest Co., Ltd. so far. Thus, the Project is not complicit in Human Rights abuses. The risk is low and mitigation measure is not applicable.
2	The project does not involve and is not complicit in involuntary resettlement.	Low	N/A	Via checking the land use agreement/LUA/, it is confirmed that the project does not result in any resettlement or relocation of population, buildings, or public services. Furthermore, via verified the EIA/EIA/, it is confirmed that the

No	Indicator	Risks breaching in GS Passport	Mitigation measure in GS Passport	Validation Opinion
				physical survey of entire area and information collected from local population shows that there are no permanent structure / houses before the project construction, hence, it means that the land acquisition is not done on a private land or estate. Thus, the risk is low and mitigation measure is not applicable.
3	The project does not involve and is not complicit in the alteration, damage or removal of any critical cultural heritage.	Low	N/A	Via checking the EIA/EIA/, it is confirmed that no critical cultural heritage is found in the project area. Thus, the risk is low and mitigation measure is not applicable.
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	Low	N/A	Via checking the FSR/FSR/ and employment contract of the wind power plant/EC/, it is confirmed that the project was constructed and implemented by who is voluntary to work. Furthermore, via the on-site interview/IM01/, it is confirmed that the employees are involved based on volunteer principle and the freedoms and rights are not limited. Thus, the risk is low and mitigation measure is not applicable.
5	The project does not involve and is not complicit in any form of forced or	Low	N/A	Via checking the FSR/FSR/ and employment contract of the wind power plant/EC/, it is confirmed that the project was constructed and implemented

No	Indicator	Risks breaching in GS Passport	Mitigation measure in GS Passport	Validation Opinion
	compulsory labour			by who is voluntary to work. Furthermore, via the on-site interview/IM01/, it is confirmed that the employees are involved based on volunteer principle and not complicit in any form of forced or compulsory labour. Thus, the risk is low and mitigation measure is not applicable.
6	The project does not employ and is not complicit in any form of child labour	Low	N/A	Via checking the FSR/FSR/ and employment contract of the wind power plant/EC/, it is confirmed that the project was constructed and implemented by adult employee. Children are not allowed to be employed in the project. Furthermore, via the on-site interview/IM01/ and checking the labor certificates/TCR/, it is confirmed that the employees involved are adults, not child labor. Thus, the risk is low and mitigation measure is not applicable.
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.	Low	N/A	Via the on-site interview/IM01/ and checking the labor certificates/TCR/, it is confirmed that the employees involved is based on qualifications and skills of candidates rather than gender, race, religion, sexual orientation or any other basis. Thus, the risk is low and mitigation measure is not applicable.
8	The project provides workers with a safe and	Low	N/A	Via the on-site investigation and interview/IM01/, and checking the Technical Agreement of wind turbines/TA/, it is confirmed that

No	Indicator	Risks breaching in GS Passport	Mitigation measure in GS Passport	Validation Opinion
	healthy work environment and is not complicit in exposing workers to unsafe or unhealthy work environments			the project applies an automated wind power generating facility, equipped with a remote controlling system and the wind turbine tower is insulated. And there is no danger during the wind turbine operation. Via checking the EIA/EIA/, it is confirmed that most of the employees work in indoor environment (at the office), instead of having to standby at the wind farm site. In case of on-site monitoring and device maintenance – since wind turbine does not generate any type of pollutants, employees are not exposed to unsafe or unhealthy environment. 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. Thus, the risk is low and mitigation measure is not applicable.
9	The project takes a precautionary approach in regard to environmental challenges and is not complicit in practices contrary to the precautionary principle.	Low	N/A	Via checking the EIA/EIA/ and the approval of the EIA/AEIA/, it is confirmed that the proposed project creates the obvious positive effect on the local environment Hence, it is confirmed that the project takes a precautionary approach in regard to environmental challenges and is not complicit in practices contrary to the precautionary principle.

No	Indicator	Risks breaching in GS Passport	Mitigation measure in GS Passport	Validation Opinion
				Thus, the risk is low and mitigation measure is not applicable.
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	Low	N/A	Via checking the EIA/EIA/ and the approval of the EIA/AEIA/, it is confirmed that the proposed project does not involve any effect on degradation, conversion of any critical natural habitat. Thus, the risk is low and mitigation measure is not applicable.
11	The project does not involve and is not complicit in corruption	Low	N/A	Via the on-site investigation and interview/IM01/, and checking the bank loan agreement/LA/ and business license of the project owner/BL/, it is confirmed that the project is owned by a private equity company, and there is no governmental subsidy disbursed to the project. Therefore, the project does not involve and is not complicit in corruption and is not prone to entrusted power abuse nor

No	Indicator	Risks breaching in GS Passport	Mitigation measure in GS Passport	Validation Opinion
				corruption. 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. Thus, the risk is low and mitigation measure is not applicable.

The "Do no harm" assessment is carried out according to the relevance to the project activity, such as labour force, construction work safety and environmental habitat etc. Various documents such as FSR/FSR/, EIA report/EIA/ and relevant national law regulations/LR/ were referenced and checked. The validation team considers the "Do no harm" assessment has been based on the accurate information and the reference sources are included in the GS Passport.

During the site interview, the representative from the PP/IM01/ stated that they will monitor the design, construction, operation and maintenance of wind power plants in order to check whether the project proponent can implement the project according national policy such as land occupation, plantation recovery and environmental mitigation measures etc.

The plant technical staff will be trained by the project proponent for plant operation and maintenance. 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.

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.

Sustainable development assessment matrix

The following three components are assessed to indicate whether the proposed project complies with the requirements of the GS in terms of sustainable development: local/global environment sustainability, social sustainability and development and economic and technological development.

The validation of sustainable development (SD) matrix is tabulated below:

No	Indicator	Score in GS Passport	Validation Opinion
1	Air quality	+	If the project was not implemented, the electricity would be imported from fossil fuel dominated grid. Since the fuel combustion power generation produces air pollutants besides GHG, such as NO_x and SO_x, the project considerably facilitates air quality improvement by producing clean electricity to the national grid. Via checking the EIA/EIA/ and the approval of the EIA/AEIA/, it is confirmed that during the construction period, and the operation period, the wind project do not produce air emissions. Furthermore, via checking the latest statistic data (2015 data) conducted by Taipower Grid/sn/, it is confirmed that 310 kg of SO_x and 302 kg of NO_x were generated per GWh power generation in the baseline. Hence, the project will eliminate the emission of pollutions, thus improve the air quality. The indicator is scored +.
2	Water quality and quantity	0	The project is wind power project. As per the EIA/EIA/, the occupied land of project is located without any nearby water resources such as rivers. The industrial wastewater and sanitary wastewater will be generated during the construction period. The wastewater during operation period is mainly sanitary water. Via checking the EIA/EIA/ and the approval of the EIA/AEIA/, it is confirmed that the project owner applies treatment to discharged wastewater to make sure it is complied with the local regulation. The indicator is scored 0.
3	Solid condition	0	Via checking the EIA/EIA/ and the approval of the EIA/AEIA/, it is confirmed that the proposed project will not cause any kind of land occupation and no deforestation/plantation removal was necessary since the wind farm construction was in erection-point basis and the will not produce any pollutants to the solid during both the construction and operation phase. Hence the solid condition will not be affected. The indicator is scored 0.

No	Indicator	Score in GS Passport	Validation Opinion
4	Other pollutants	0	As per the EIA/EIA/ and the approval of the EIA/AEIA/, it is confirmed that the proposed project complies with the noise level standard. Via on-site investigation, it is confirmed that the main construction sites are not adjacent to the local communities, thus the impact of noise is limited. And the projects site is far away from the village and mitigation measures implemented during construction work. In addition, during the construction period, no special materials or processing procedure will be added. During the operation period, no any harmful pollutants can be produced. The indicator is scored 0.
5	Biodiversity	0	As per the EIA/EIA/ and the approval of the EIA/AEIA/, the project owner takes measures of re-plantation to mitigate the impact of biodiversity during project construction. Via checking the EIA, above mitigation measures have been verified and confirmed. And via on-site investigation, it is further confirmed that the project owner has already completed replantation for the commission project. All these areas replanted with native grass species of plants. The indicator is scored 0.
6	Quality of employment	0	According to the training records/TCR/, through the trainings the technicians will obtain the necessary knowledge. In addition, emergency and safety procedures will be included in Operation and Maintenance Procedure/O&M/ to ensure safe working condition for the staff, so the quality of employment can be improved from the trainings to the project staff. The project leads to employment generation in the construction and in the operation and maintenance of the project. It will bring permanent job positions to the local area. However, since the training programmes were held annually, and the labor insurance is in compliance with the law, thus in a conservative standpoint, this indicator scores a “0”.
7	Livelihood of the poor	0	There is no significant impact on this aspect resulting from the project development. The indicator is scored 0.

No	Indicator	Score in GS Passport	Validation Opinion
8	Access to affordable and clean energy services	0	The validation team considers that the project activity uses clean energy source (i.e. wind power) to generate electricity and would increase the share of clean energy in the local power supply. Wind farm development in Taiwan is also particularly important in its efforts to reduce dependency on imported fuel. However, the impact of this indicator on a local level is rather difficult to quantify and monitor. The indicator is scored 0.
9	Human and institutional capacity	0	The project does not have any impact on gender equality, social structures, and access to schooling or distribution of assets. Therefore, the indicator is scored 0.
10	Quantitative employment and income generation	+	The validation team agrees that “Number of jobs created during the implementation of the Project“ and “the staff 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. The indicator is scored +.
11	Balance of payments and investment	0	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. However, it requires complex quantification and monitoring. The indicator is scored 0.
12	Technology transfer and technological self-reliance	0	The foreign manufacturer wind turbines was used by the proposed project, hence, the technical know-how is transferred to Taiwan. 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. Thus, no capacity buildings are conducted for participants outside the project boundary. The indicator is scored 0.

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

Based on the conclusions from the EIA/EIA/ and the results from the stakeholder consultation/LSCR/, the validation team assessed the Sustainable Development Matrix in the GS Passport including Gold Standard validation requirements/GSR/. The project contributes positively to the three categories i.e. Environmental; Economic and technological development. Therefore the project is eligible under the Gold Standard.

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 accessed 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, including EIA, 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.

Technology transfer and / or knowledge innovation Summary

The project adopts foreign manufacturer wind turbines. However, via checking the Energy Balances in Taiwan/EBT/, it is confirmed that the wind energy is well developed in Taiwan. Though the equipments are imported, the project owner had organized capacity building for the local staffs/TCR/, so that it is no longer necessary to import the skilled foreign workers. Hence, no technology and knowledge transferred by the project. . Thus, no capacity buildings are conducted for participants outside the project boundary.

Environmental Impacts

The project participants conducted an analysis of the environmental impacts of the proposed project activity, including trans-boundary impacts.

The Environmental Impact Assessment (EIA) for each sub-project was performed/EIA/. Environmental approval was granted by Taiwan Executive Environmental Protection Bureau/AEIA/. The project participants have undertaken an environmental management plan and a monitoring plan in order to mitigate and compensate any environmental impact/ degradation caused during the construction and operation phase.

Project participant has obtained Environmental approval from Taiwan Executive Environmental Protection/AEIA/ and it is confirmed by the authority that the project contributes to sustainable development in Taiwan. The project activity is in compliance with all current applicable legislations.

Hence the validation team confirms that the project participants have undertaken an analysis of environmental impacts and an environmental impact assessment in accordance with procedures as required by the host Party.

5.8 Comments by Local Stakeholders

The Gold Standard process includes two rounds of Stakeholder Consultation under the regular project cycle, i.e. Local Stakeholder Consultation (LSC) and Stakeholder Feedback Round (SFR).

Local Stakeholder Consultation (LSC)

Via checking the Local Stakeholder Consultation Report (19/11/2012, version 1.0) submitted to GS on 03/12/2012, it is confirmed that the first Local Stakeholder Consultation meeting was conducted on 3 to 4 Sep. 2012 in Tongxiao County, Chubei Township.

However, due to the real location of the Tongyuan Wind Farm project is changed, according to the Gold Standard Procedures for Approval of Design Changes/PADC/, another stakeholder consultation meeting with respect to changes that have occurred in the project location was conducted by the project owner. The second Local Stakeholder Consultation meeting was conducted on 27 Nov. 2015 in TaiChuang County, Dajia Township.

Defined and invited stakeholder groups are local residents and the community representatives, local, national, especially GS supporting NGOs and project developers. All GS NGO supporters and local GS expert located at the nearest region to the project are invited to the meeting through email invitations. The local NGO invited at the stakeholder consultation is NEAT Taiwan (New Energy Association of Taiwan), which is an independent local NGO focusing on the climate sustainability, and the development of the clean, efficient energy technologies in the region.

All participants were invited without any type of prejudice, pre-selection, filtering-out or other criteria. This mixture of participants on local stakeholder consultation is confirmed as sufficient and representative; governmental as well as non-governmental parties were involved, individuals from municipalities as well as regional authorities.

During first LSC, the consultation meeting was attended by 33 local stakeholders and 33 evaluation forms are delivered and received for project. During the meeting the project owner introduced the project design and answering the questions raised by the stakeholders, the SD matrix and the corresponding social and environmental

impacts were discussed. All of participates hold positive attitude towards the project and believe that it will have an overall positive impact on the local area. No due account needs to be made on comments received.

During second LSC, the consultation meeting was attended by 26 local stakeholders and 26 evaluation forms are delivered and received for project. During the meeting the project owner introduced the project design and answering the questions raised by the stakeholders, the SD matrix and the corresponding social and environmental impacts were discussed. According to this stakeholder consultation process, it is clear that the stakeholders are very supportive towards the development of the proposed project.

During the local stakeholder consultation, the following concerns were raised by the stakeholders. The following table summarizes the concerns and the response made by the project owner:

Stakeholder comment	**Was comment taken into account (Yes/ No)?**	**Explanation (Why? How?)**
Noise problem might occur for some of the residents from a wind turbine. Is there any approach planned to overcome this problem?	Yes	Monitoring of noise will be monitored who is affected by the project participants if needed.
Traffic conditions and soil condition	Yes	The project participants promised that a good maintenance would be done for the road if it is impacted by the constructions of the project activity. And replantations could be considered according to EIA report if there are any.
Public safety	No	As the project activity will be constructed and operated strictly according to the design and EIA assessment, therefore no public safety issues would be involved. And this has been explained to the stakeholders during the meeting, and a consensus has been made that.

Via on-site interview with the local stakeholders, it is confirmed that above comments are very minor issues and mitigation measures had already been planned in the earliest stage of project design/EIA/.

A list of invited organizations as well as of the attendants of the meeting is included in the LSC Report/LSCR/.

Relevant supporting documents as e.g. copies of questionnaires, list of participants and correspondence were assessed. All are included in the detailed LSC report.

GS has raised a FAR#3: “All the original evaluation forms shall be submitted for DOE check during validation stage”.

Based on the above FAR, all the original evaluation forms/SEF/ have been provided by PP to DOE for check during validation stage.

Stakeholder Feedback Round (SFR)

The assessment of SFR will be added after the Stakeholder Feedback Round finished upon CAR 5 is closed.

6 VALIDATION OPINION

South Pole Carbon Asset Management Ltd. has commissioned the TÜV NORD JI/CDM Certification Program (CP) to validate the project: "InfraVest Taiwan Wind Farms Bundled Project 2012" with regard to the relevant requirements of the Gold Standard for GS project activities, as well as criteria for consistent project operations, monitoring and reporting. 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. This document must be seen in conjunction with the CDM validation report/VAL/.

In the course of the validation 6 Corrective Action Requests (CARs) and 5 Clarification Requests (CLs) were raised and successfully closed. No Forward Action Request (FAR) was raised.

The review of the project design documentation and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and review of comments by parties, stakeholders and NGOs have provided TÜV NORD JI/CDM CP with sufficient evidence to validate the fulfilment of the stated criteria.

In detail the conclusions can be summarised as follows:

- The project meets all eligibility criteria set by the GS.
- The project involves the adaption of a new technology.
- The project does not result in negative social, environmental and/or economic impacts.
- The project contribution to Sustainable Development is determined.
- The project additionality is sufficiently justified in the PDD and GSP.
- The project does not result in diversion of ODA.
- Conservative assumptions were applied in the project description.
- The monitoring plan of SD parameters is transparent and adequate.
- The project meets the stakeholder consultation requirements.
- The calculated emission reductions of 882,840 tCO_2e are most likely to be achieved within the first 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 validation.

Shanghai, 2016-07-11

Zhao Xuejiao
TÜV NORD JI/CDM CP
Validation Team Leader

Essen, 2016-07-11

Stefan Winter
TÜV NORD JI/CDM CP
Final Approval

7 REFERENCES

Table 7-1: Documents provided by the project participant

Reference	Document
/AEIA/	Approval of Environment Impact Assessment 1. Approval of Environment Impact Assessment of Chubei Wind Farm Project dated on 29/12/2008 issued by Executive Environmental Protection Bureau of Taiwan. 2. Approval of Environment Impact Assessment of Zhaowei Wind Farm Project dated on 21/09/2010 issued by Executive Environmental Protection Bureau of Taiwan. 3. Approval of Environment Impact Assessment of Tongyuan Wind Farm Project dated on 13/04/2015 issued by Executive Environmental Protection Bureau of Taiwan. 4. Approval of Environment Impact Assessment of Taichung III Wind Farm Project dated on 12/02/2014 issued by Executive Environmental Protection Bureau of Taiwan. 5. Approval of Environment Impact Assessment of Taichung Chingfeng Wind Farm Project dated on 28/12/2011 issued by Executive Environmental Protection Bureau of Taiwan. 6. Approval of Environment Impact Assessment of Taichung Anwei Wind Farm Project dated on 21/09/2010 issued by Executive Environmental Protection Bureau of Taiwan.
/AFSR/	Approval of Feasibility Study Report 1. Approval of Feasibility Study Report of Chubei Wind Farm Project dated on 22/07/2014 issued by Ministry of Economic Affairs of Taiwan. 2. Approval of Feasibility Study Report of Tongyuan Wind Farm Project dated on 07/10/2014 issued by Ministry of Economic Affairs of Taiwan. 3. Approval of Feasibility Study Report of Taichung III Wind Farm Project dated on 14/09/2013 issued by Ministry of Economic Affairs of Taiwan. 4. Approval of Feasibility Study Report of Taichung Chingfeng Wind Farm Project dated on 11/11/2014 issued by Ministry of Economic Affairs of Taiwan. 5. Approval of Feasibility Study Report of Taichung Anwei Wind Farm Project dated on 19/11/2013 issued by Ministry of Economic Affairs of Taiwan.
/BD/	Board Decision issued by InfraVest dated 05/03/2012
/BL/	Business License of project owner
/CA/	Cooperation agreement between InfraVest and South Pole dated on 10/07/2007

Reference	Document
/CS/	Commission start evidence 1. Commission start approval of Tongyuan wind project issued by TPG company dated 30/05/2013 2. Commission start approval of Taichung III wind project issued by TPG company dated 04/11/2014 3. Commission start approval of Taichung Chingfeng wind project issued by TPG company dated 07/05/2015 4. Commission start approval of Taichung Anwei wind project issued by TPG company dated 04/05/2015
/DCM/	Design change memo dated 2016-04-20 version 1.0 provided by South Pole
/EC/	Employment contract of the wind power plant
/EIA/	Environment Impact Assessment 1. Environment Impact Assessment of Tongyuan Wind Farm Project dated in Apr. 2015. 2. Environment Impact Assessment of Taichung III Wind Farm Project dated in Jan. 2014 (3 units) and Sep. 2014 (2 units). 3. For Chubei, Zhaowei, Qingfeng, Anwei projects, according to the EIA approval of each project, it is confirmed that the EIA is not necessary according to the local regulation “Judging Standards of carrying out EIA for project development”
/EIRR/	Draft version of EIRR calculation spreadsheet ver. 1.0 dated 2016-03-31 submitted to DOE for validation Final version of EIRR calculation spreadsheet ver. 2.0 dated 2016-06-21 submitted to GS for registration
/ELAR/	Electricity Licence Application Report of Tongyuan Wind Farm dated in May 2014.
/ERPA/	Emission Reduction Purchase Agreement signed between InfraVest and South Pole dated on 16/11/2015
/FSR/	Feasibility Study Report 1. Feasibility Study Report of Chubei Wind Farm Project dated in Jul. 2011. 2. Feasibility Study Report of Zhaowei Wind Farm Project dated in Dec. 2011 3. Feasibility Study Report of Tongyuan Wind Farm Project dated in Jul. 2011. 4. Feasibility Study Report of Taichung III Wind Farm Project dated in Nov. 2011. 5. Feasibility Study Report of Taichung Chingfeng Wind Farm Project dated in Oct. 2011 6. Feasibility Study Report of Taichung Anwei Wind Farm Project dated in Nov. 2011

Reference	Document
/GSP/	Gold Standard Passport, draft version 1.0 dated 2012-11-20 submitted to GS for list first time Gold Standard Passport, draft version 2.0 dated 2015-12-30 submitted to DOE for validation Gold Standard Passport, draft version 3.0 dated 2016-05-30 submitted to TR Gold Standard Passport, final version 4.0 dated 2016-06-21 submitted to GS
/LA/	Bank Loan Agreement signed between Infravest and KFW IPEX-Bank GmbH dated 19/09/2012 Bank Loan Agreement signed between Infravest and Deutsche Bank AG, Taipei Branch, Standard Chartered Bank (Taiwan) Limited and King's Town Bank dated 24/02/2015
/LCDC/	Letter of confirmation on avoiding double counting provided by PP
/LSCR/	Local Stakeholder Consultation Report, draft version 1.0 dated 2012-11-19 submitted to GS for list first time Local Stakeholder Consultation Report, final version 2.0 dated 2016-03-18
/LUA/	Land Use Agreement signed between Infra Vest Co., Ltd. and Branch Agnecy in Central District of State Property Agency of Finance Ministry dated 24/04/2015
/ME/	Mail Exchange between the project owner and general carbon market brokers, during year 2001 to 2002, and 2006 to 2007
/MM/	Monitoring manual
/O&M/	Project Operation and Maintenance Records 1. Sample copy of O&M records 2. Wind power Operation Safety Management Regulations
/PDD/	Draft version of Project Design Document named "InfraVest Taiwan Wind Farms Bundled Project 2012" ver. 1.0 dated 2016-03-31 submitted to DOE for validation. Draft version of Project Design Document named "InfraVest Taiwan Wind Farms Bundled Project 2012" ver. 2.0 dated 2016-05-27 submitted to TR. Final version of Project Design Document named "InfraVest Taiwan Wind Farms Bundled Project 2012" ver. 3.0 dated 2016-06-21 submitted to GS.
/PPA/	Power Purchasing Agreement 1. Power Purchasing Agreement of Chubei Wind Farm Project dated on 15/05/2012 signed between the project owner and TPG 2. Power Purchasing Agreement of Tongyuan Wind Farm Project dated in May. 2012 and Sep. 2014 signed between the project owner and TPG 3. Power Purchasing Agreement of Taichung III Wind Farm Project dated in Jan. 2014 and Jan. 2015 signed between the project owner and TPG

Reference	Document
	4. Power Purchasing Agreement of Taichung Chingfeng Wind Farm Project dated on 13/02/2015 signed between the project owner and TPG 5. Power Purchasing Agreement of Taichung Anwei Wind Farm Project dated on 03/07/2014, 27/03/2015, 07/07/2015, 09/07/2015 signed between the project owner and TPG
/PSD/	Project starting date evidence 1. Construction Daily Report of Taichung Anwei wind project dated 13/08/2014 2. Construction Daily Report of Taichung Chingfeng wind project dated 14/09/2014 3. Construction Daily Report of Taichung III wind project dated 06/08/2014 4. Construction Daily Report of Tongyuan wind project dated 13/12/2012
/QUE/	Local stakeholder consultation: Individual invitation letter The public invitation The non-technical summary Minutes of the meetings
/RA/	Records Abstracts by InfraVest during the Renewable Energy Electricity Purchase Rate Calculation Formula Hearing http://web3.moeaboe.gov.tw/ECW/renewable/content/wHandMenuFile.ashx?menu_id=2903
/SEF/	All the original evaluation forms filled by attendance in Stakeholder Consultation Meeting
/SR/	Salary Record of all the staffs
/TA/	Contract agreement and Technical Agreement of wind turbines Contract agreement for wind turbine supply between Infra Vest Co., Ltd. and InfraVest Wind GmbH, dated 01/07/2014 Technical specifications of Enercon E-70
/TAX/	Tax report of Tongyuan wind farm
/TCR/	Project Responsibilities, Training and Competence Records of each sub-project 1. Project Organization Chart and responsibilities 2. Staff Training Records 3. Sample Copy of Labor/Operator Certificates
/TRWE/	Tester Report of the Wind Energy for Chubei Wind Farm
/XLS/	Draft version of Emission reduction calculation spreadsheet ver. 1.0 dated 2016-03-31 submitted to DOE for validation

Reference	Document
	Final version of Emission reduction calculation spreadsheet ver. 2.0 dated 2016-06-21 submitted to GS for registration

Table 7-2: Background investigation and assessment documents

Reference	Document
/ACM0002/	ACM0002 Ver.17.0: Grid-connected electricity generation from renewable sources
/Annex-GS/	Gold Standard Annexes http://www.cdmgoldstandard.org/project-certification/rules-and-toolkit
/CDM M&P/	CDM Modalities and Procedures
/CNMV/	Taiwan national standards (based on The Weight and Measures Act, Regulation no. CNMV 46 'Technical Specification for Verification and Inspection of Electricity Meters')
/CPM/	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)
/EBT/	"Energy Balances in Taiwan-New Format" published by Bureau of Energy, Ministry of Economic Affairs in Taiwan
/ESHB/	Energy Statistics Hand Book 2014 published by Bureau of Energy, Ministry of Economics Affairs web3.moeaboe.gov.tw/ECW/populace/content/wHandMenuFile.ashx?menu_id=682 page 114
/GCP/	Guidelines on common practice (Version 03.1)
/GSR/	Gold Standard Requirement version 2.2
/GSTK/	Gold Standard Toolkit version 2.2
/IA/	Methodological tool "Investment Analysis" (Version 06.0)
/IPCC-GP/	IPCC Good Practice Guidance & Uncertainty Management in National Greenhouse Gas Inventories, 2000
/IPCC-RM/	Revised 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Reference Manual
/ITL/	Income Tax Law of Taiwan http://news.ifeng.com/taiwan/1/detail_2010_05/28/1563866_0.shtml

Reference	Document
/KP/	Kyoto Protocol (1997)
/LR/	1. Labour Standards Act (http://law.moj.gov.tw/eng/LawClass/LawAll.aspx?PCode=N0030001) 2. Labor Union Law: http://laws.cla.gov.tw/Eng/FLAW/FLAWDAT01.asp?lsid=FL014918 3. '*Gender Equality in Employment Act*' (http://laws.cla.gov.tw/Eng/FLAW/FLAWDAT01.asp?lsid=FL015149 http://laws.cla.gov.tw/Eng/FLAW/FLAWDAT01.asp?lsid=FL015150) 4. '*Regulations for Providing Legal Aid in Lawsuits Concerning Gender Equality in Employment Act*' (http://laws.cla.gov.tw/Eng/FLAW/FLAWDAT01.asp?lsid=FL015152) 5. '*Enforcement Rules of Labour Safety and Health at Workplace*, Taiwan R.O.C.' http://law.moj.gov.tw/LawClass/LawAllIf.aspx?PCode=N0060001 6. International's Worldwide Corruption Perceptions Index http://en.wikipedia.org/wiki/Corruption_Perceptions_Index
/MA/	Decision 3/CMP. 1 (Marrakesh – Accords & Annex to decision (17/CP.7))
/MCECR/	"Measuring Company Exposure to Country Risk: Theory and Practice" issued by Professor Aswath Damodaran of New York University
/PADC/	Annex-AA. Gold Standard Procedures for Approval of Design Changes
/PDD-F/	Project Design Document Form (PDD) – VVS Track, Version 07.0
/PHT/	Photographs of Project Site, Wind turbine, Central Control Room, DCS System, all the meters and nameplate of the equipments took by the validation team during on-site
/PS/	UNFCCC Project Standard (Version 09.0)
/RA/	Records Abstracts of the Draft Renewable Energy Electricity Purchase Rate Calculation Formula Hearing in 2015 http://web3.moeaboe.gov.tw/ECW/renewable/content/wHandMenuFile.ashx?menu_id=2903
/RRED/	Regulations of Renewable Energy Development in Taiwan web3.moeaboe.gov.tw/ECW/renewable/content/wHandMenuFile.ashx?menu_id=1203&http://mepopedia.com/forum/read.php?198,3265
/TDAA/	"Tool for the demonstration and assessment of additionality", version 7.0.0
/TEF/	"Tool to calculate the emission factor for an electricity system", Ver.05.0

Reference	Document
/VVS/	UNFCCC Validation and Verification Standard (Version 09.0)

Table 7-3: Websites used

Reference	Link	Organisation
/beta/	http://people.stern.nyu.edu/adamodar/pc/archives/betas11.xls	Stern School of Business_Beta Value
/cd4cdm/	www.cd4cdm.org	UNEP Riso Centre
/cp/	http://www.fhi.com.tw/english/wind.htm http://old.npf.org.tw/PUBLICATION/SD/092/SD-C-092-086.htm https://mer.markit.com/br-reg/public/project.jsp?project_id=103000000001929 http://www.thesouthpolegroup.com/uploads/docs/832_SFR_nontech_CN.pdf	Common Practice
/ecrp/	http://people.stern.nyu.edu/adamodar/pc/archives/ctryprem11.xls	Stern School of Business_ Estimating Country Risk Premiums
/fohs/	web3.moeaboe.gov.tw/ECW/renewable/content/wHandMenuFile.ashx?menu_id=2158	Full operation hour for the secondary wind farm
/ipcc/	www.ipcc-nggip.iges.or.jp	IPCC publications
/rfr/	https://research.stlouisfed.org/fred2/graph/?g=5SD	Taiwan Treasury bond rate (Risk free rate)
/sn/	http://www.taipower.com.tw/content/govern/govern01.aspx?MType=5&MSType=14	Taipower Grid_SOx and NOx data
/unfccc/	http://cdm.unfccc.int	UNFCCC

Table 7-4: List of interviewed persons

Reference	MoI[1]		Name	Organisation / Function
/IM01/	V	☐ Mr. ☒ Ms	Liu Tong	Infra Vest Co., Ltd./ Manager
/IM01/	V	☒ Mr. ☐ Ms	Nils Casemir	Infra Vest Co., Ltd./ Director
/IM01/	V	☒ Mr. ☐ Ms	Gao Chuansheng	Infra Vest Co., Ltd. /Design Manager
/IM02/	V	☐ Mr. ☒ Ms	Fang Qun	South Pole Carbon Asset Management Ltd. /Project Manager
/IM03/	V	☒ Mr. ☐ Ms	Chen Renxian	Local Resident
/IM03/	V	☒ Mr. ☐ Ms	Guo Mingfu	Local Resident/Da-Jia District
/IM03/	V	☒ Mr. ☐ Ms	Yi Guolong	Local Resident/Da-An District
/IM03/	V	☒ Mr. ☐ Ms	Shi Zhitian	Local Resident/Da-An District
/IM03/	V	☒ Mr. ☐ Ms	Jiang Yongcun	Local Resident/Da-An District
/IM03/	V	☒ Mr. ☐ Ms	Guo Changtian	Local Resident/ Da-Jia District
/IM03/	V	☒ Mr. ☐ Ms	Liu Shengzhang	Local Resident/ Da-Jia District
/IM03/	V	☒ Mr. ☐ Ms	Zhao Weiguang	Local Resident/ Qingshui District
/IM03/	V	☒ Mr. ☐ Ms	Li Youxiong	Local Resident/ Qingshui District

[1] Means of Interview: (**T**elephone, **E**-Mail, **V**isit)

ANNEX

A1: Validation Protocol

A2: Statement of competence of involved Personnel

ANNEX 1: VALIDATION PROTOCOL

Table A-1: **Requirements Checklist based on the Gold Standard Version 2.2**

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidence)	**Ref.**	**Draft Concl.**	**Final Concl.**
A. Project Title				
Is the Project title given in the Passport the same as in the PDD? (GS Toolkit-1.6)	*Description:* The project title is "InfraVest Taiwan Wind Farms Bundled Project 2012" as same as in the PDD. *Validator's action:* The passport is checked against the GS-VER-PDD. *Conclusion:* The Project title given in the Passport is checked as same as in the PDD.	/GSP/ /PDD/	OK	OK
B. Project Description				
B.1. Is the Project description given in the Passport consistent with the one given in the PDD? (GS Toolkit-1.6)	*Description:* It is confirmed that most of the Project description given in the Gold Standard Passport consistent with the one given in the PDD. However, the Project description given in the PDD is not complete. *Validator's action:* The passport is checked against the GS-VER-PDD. *Conclusion:* CAR 1 was raised.	/GSP/ /PDD/	~~CAR 1~~	OK
B.2. Has the estimated start date of project been	*Description:*	/GSP/	~~CL 2~~	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidence)	Ref.	Draft Concl.	Final Concl.
given under the Project description? (GS Rules & Toolkit Annex R)	The project is the regular cycle project, the start date of the project has been determined. The start date of the Project is 13/12/2012, when the Tongyuan Wind Farm Project started construction. The date is the earliest date of project construction, implementation or real action of all the sub-project. *Validator's action:* The passport is checked against the GS-VER-PDD and the evidence of project start date. *Conclusion:* The start date of project has been given under the project description and is checked as in line with the PDD and the evidence of project start date. However, CL 2 was raised.	/PDD/ /PSD/		
C. *Proof of project eligibility*				
C.1. Scale of project				
C.1.1. Has the scale of the Project activity been defined as per Gold Standard Toolkit Section 1.2.1? (GS Toolkit-1.2.1)	*Description:* The selected scale of the project activity is CDM large-scale (>15MW). It is in line with the Gold Standard Toolkit version 2.2. *Validator's action:* The scale determination rule of the UNFCCC has been checked. *Conclusion:* The scale is defined as per the Gold Standard Toolkit version 2.2 and UNFCCC.	/GSP/ /unfccc/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidence)	Ref.	Draft Concl.	Final Concl.
C.1.2. Does the project proponent have a written statement (e.g. in the PDD) against de-bundling of the project? (De-bundling of small and large scale projects to create micro-scale projects is not allowed.) (GS Toolkit-3.5.1)	*Description:* N/A *Justification of evidence:* N/A *Conclusion:* N/A	/PDD/	N/A	N/A
C.2. Host Country				
C.2.1. Does the host country have cap on its GHG emissions? (GS Toolkit-1.2.2)	*Description:* The project is located in Taiwan, which does not have a quantitative reduction target under the KP. There is no cap on Taiwan GHG emissions. *Validator's action:* The relevant website was verified and confirmed. *Conclusion:* N/A.	/dna-HP/	N/A	N/A
C.2.2. If the answer to the above question is yes, then has the Project proponent provided an official approval from the relevant local authorities stating that an equivalent amount of allowances will be retired to back-up the GS VERs issued? (GS Toolkit-1.2.2)	*Description:* N/A. *Validator's action:* N/A. *Conclusion:* N/A.		N/A	N/A

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidence)	**Ref.**	**Draft Concl.**	**Final Concl.**
C.2.3. If the host country does not have a cap on its GHG emissions, has it been stated in the Passport? (GS Toolkit-1.2.2)	*Description:* The statement is missing. *Validator's action:* The passport is checked. *Conclusion:* CL 3 was raised.	/GSP/	~~CL 3~~	OK
C.3. Project Type				
C.3.1. Is the Project a Renewable Energy Supply Project or an End-use Energy Efficiency Improvement Project? (If not, the validation has to be aborted) (GS Toolkit-1.2.3)	*Description:* The project is a wind project which belongs to Renewable Energy Supply Project. *Validator's action:* The passport and PDD has been checked, and further confirmed by on-site investigation. *Conclusion:* The project is a Renewable Energy Supply Project.	/GSP/ /PDD/ /IM01/	OK	OK
C.3.2. Has the Project type and eligibility of the Project activity been defined as per Annex C of Gold Standard Toolkit? (GS Toolkit-1.2.3)	*Description:* The proposed wind project belongs to the category "renewable energy supply" defined as the generation and delivery of energy services (e.g. electricity) from non-fossil and non-depletable energy sources. The proposed project is replacing electricity generated from the fossil fuel dominated grid, so it reduces carbon dioxide that would have been emitted by grid connected coal fire power station. Carbon dioxide is one of the three greenhouse gases eligible under	/GSP/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidence)	Ref.	Draft Concl.	Final Concl.
	the Gold Standard. The proposed project is not receiving any ODA. *Validator's action:* The passport has been checked against the Gold Standard Toolkit 1.2.3 and Annex C of Gold Standard Toolkit. *Conclusion:* The Project type and eligibility of the Project activity is confirmed as defined according to Annex C of Gold Standard Toolkit.			
C.3.3. Has a previous announcement of the project going ahead without the revenues from carbon credits been made? (GS Toolkit-1.2.6)	*Description:* There has been no pre-announcement statement regarding the execution of the proposed project without the inclusion of carbon revenues. Carbon credits funds were a key element in the finance structure of the project activity. The incentive from carbon credits was seriously considered prior to the start of the project activity. The proposed project would not have happened without carbon credits. *Validator's action:* The passport has been checked against the PDD. *Conclusion:* There is no pre-announcement statement.	/GSP/ /PDD/	OK	OK
C.3.4. If the answer to the above question is yes, has the project subsequently been cancelled or the design has been significantly revised? (GS Toolkit-1.2.6)	*Description:* N/A. *Validator's action:* N/A. *Conclusion:*		N/A	N/A

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidence)	Ref.	Draft Concl.	Final Concl.
	N/A.			
C.3.5. If the answer to question (c) is no, have the Project provided a preannouncement statement under section C.3 in the Gold Standard Passport, attesting that no such previous announcement has been made? (GS Toolkit-1.2.6)	*Description:* The Project did not provide a pre-announcement statement under section C.3 in the Gold Standard Passport, attesting that no such previous announcement has been made. *Validator's action:* The passport has been checked. *Conclusion:* CL 4 was raised.	/GSP/	~~CL 4~~	OK
C.4. Greenhouse Gas				
C.4.1. Does the project reduce emissions of one or more of the following an GHG? Carbon dioxide, methane, nitrous oxide? (GS Toolkit-1.2.4)	*Description:* The project reduces emissions of CO_2. The electricity generated by the proposed project can displace part of the power from the fossil fuel-fired power plants of TPG, and then reduce emissions of CO_2. *Validator's action:* The passport has been checked, and confirmed through on-site investigation. *Conclusion:* The project reduces emissions of CO_2.	/GSP/ /IM01/	OK	OK
C.5. Project registration type				
C.5.1. Does the project apply the correct project	*Description:*	/GSP/	OK	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidence)	**Ref.**	**Draft Concl.**	**Final Concl.**
cycle (regular vs. pre-feasibility assessment)? (GS Toolkit-3.5.1)	The project applies the regular project cycle. *Validator's action:* The passport has been checked against the GS-VER-PDD. *Conclusion:* The project applies the correct project cycle.	/PDD/		
C.5.2. Is the Project activity a regular registration? (GS Toolkit-1.2.6)	*Description:* The Project activity is a regular registration project. *Validator's action:* The passport has been checked against the GS-VER-PDD. *Conclusion:* The Project activity is a regular registration project.	/GSP/ /PDD/	OK	OK
C.5.3. Is the Project activity a retroactive registration? (GS Toolkit-1.2.6)	*Description:* N/A *Validator's action:* N/A *Conclusion:* N/A		N/A	N/A
C.5.4. If the answer to the above question is yes, has the Project applied to the Gold Standard for the pre-feasibility assessment? (GS Toolkit-1.2.6)	*Description:* N/A *Validator's action:* N/A		N/A	N/A

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidence)	**Ref.**	**Draft Concl.**	**Final Concl.**
	Conclusion: N/A			
C.5.5. If the answer to the above question is yes, then has the Project proponent provided the Gold Standard pre-feasibility assessment feedback to the DOE? (GS Toolkit-2.5)	*Description:* N/A *Validator's action:* N/A *Conclusion:* N/A		N/A	N/A
C.5.6. Does the Project activity need preliminary evaluation? (Large hydro or palm-oil related project as defined in Annex C of the Toolkit) (GS Toolkit-2.5)	*Description:* No. The project is a wind project. *Validator's action:* N/A *Conclusion:* N/A		N/A	N/A
C.5.7. If the answer to the above question is yes, has the Project applied to the Gold Standard for the pre-feasibility assessment? (GS Toolkit-2.5)	*Description:* The answer to the above question is No. *Validator's action:* N/A *Conclusion:* N/A		N/A	N/A

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidence)	**Ref.**	**Draft Concl.**	**Final Concl.**
C.5.8. If the answer to the above question is yes, then has the Project proponent provided the Gold Standard pre-feasibility assessment feedback to the DOE? (GS Toolkit-2.5)	*Description:* The answer to the above question is No. *Validator's action:* N/A *Conclusion:* N/A		N/A	N/A
C.5.9. Has the Project activity been rejected by UNFCCC? (GS Toolkit-2.5)	*Description:* No. The project is not applied as a CDM project. *Validator's action:* The unfccc website has been checked. *Conclusion:* The project is not rejected by UNFCCC.	/unfccc/	N/A	N/A
C.5.10. If the answer to the above question is yes, has the Project applied to the Gold Standard for the pre-feasibility assessment? (GS Toolkit-2.5)	*Description:* The answer to the above question is No. *Validator's action:* N/A *Conclusion:* N/A		N/A	N/A
C.5.11. If the answer to the above question is yes, then has the Project proponent provided the Gold Standard pre-feasibility assessment	*Description:* The answer to the above question is No. *Validator's action:*		N/A	N/A

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidence)	Ref.	Draft Concl.	Final Concl.
feedback to the DOE? (GS Toolkit-2.5)	N/A *Conclusion:* N/A			
C.5.12. Are there any double counting occurring with other certification schemes? (GS Toolkit-3.5.1)	*Description:* No. The project only applies GS certification scheme. *Validator's action:* N/A *Conclusion:* N/A		N/A	N/A
D. Unique project identification				
D.1. GPS-coordinates of project location				
D.1.1. Has the Project proponent stated the exact GPS coordinates of Project location for point source activities and the boundaries for projects spread over a broader area? (GS Toolkit-1.6)	*Description:* The exact GPS coordinates of the project have been stated in the passport, and is in line with the PDD. *Validator's action:* The Physical address of site is confirmed by conducted site visit and cross checked with http://maps.google.co.th. It confirmed that the site location that state in PDD is correct. *Conclusion:* It is confirmed that the project proponent has stated the exact GPS coordinates of Project location	/GSP/ /PDD/ /IM01/ /PHT/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidence)	Ref.	Draft Concl.	Final Concl.
D.1.2. For Programme of Activity projects have the Project Proponent explained the reasoning behind the definition of the project location and coordinates carefully? (GS Toolkit-1.6)	*Description:* N/A *Validator's action:* N/A *Conclusion:* N/A		N/A	N/A
D.2. GPS-coordinates of project location				
D.2.1. Have the coordinates been illustrated with a map? (Optional) (GS Toolkit-1.6)	*Description:* Yes. There is a map used to illustrate the coordinates of the project. Validator's action: The passport and PDD has been checked. *Conclusion:* There is a map used to illustrate the coordinates of the project.	/GSP/ /PDD/	OK	OK
E. Outcome stakeholder consultation process				
E.1. Assessment of stakeholder comments				
E.1.1. Has the Project proponent inserted the "Table from C.3. iii-Assessment of Stakeholder Comments" which was given under section B.5 of the Local Stakeholder Consultation Report?	*Description:* Yes. As the proposed project is a regular cycle project, the local stakeholder consultation has been carried out by PP. The Local Stakeholder Consultation Report was provided, and the Project proponent inserted the "Table from C.3. iii - Assessment of	/GSP/ /LSCR/	OK	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidence)	**Ref.**	**Draft Concl.**	**Final Concl.**
(GS Rules & Toolkit Annex R, E.1)	Stakeholder Comments" which was given under section B.5 of the Local Stakeholder Consultation Report. *Validator's action:* The passport and Local Stakeholder Consultation Report has been checked. *Conclusion:* The Project proponent inserted the "Table from C.3. iii - Assessment of Stakeholder Comments" which was given under section B.5 of the Local Stakeholder Consultation Report.			
E.1.2. Has the Project proponent given a summary of alterations based on stakeholders comments? (GS Rules & Toolkit Annex R, E.1)	*Description:* Yes, the Project proponent has given a summary of stakeholders' comments in the passport. No alterations is identified. *Validator's action:* The passport and Local Stakeholder Consultation Report has been checked. *Conclusion:* A summary based on stakeholders' comments was listed in the passport. No alterations is identified.	/GSP/ /LSCR/	OK	OK
E.1.3. Has an invitation tracking table been filled out? (GS Toolkit-3.5.1)	*Description:* Yes, the invitation tracking table was filled out. *Validator's action:* The passport and Local Stakeholder Consultation Report has been checked. *Conclusion:*	/GSP/ /LSCR/	OK	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidence)	**Ref.**	**Draft Concl.**	**Final Concl.**
	The invitation tracking table was filled out			
E.1.4. Are copies of invitations published/sent out available? (GS Toolkit-3.5.1)	*Description:* Yes, the sent out/public invitation copies are available. *Validator's action:* The passport, individual invitation letter, the public invitation and Local Stakeholder Consultation Report has been checked. *Conclusion:* The sent out/public invitation copies are available and provided to validation team.	/GSP/ /LSCR/ /QUE/	OK	OK
E.1.5. Has a non-technical summary in local language been included in the Local Stakehlder Consultation report, as well as an English summary? (GS Toolkit-3.5.1)	*Description:* Yes, a non-technical summary in local language as well as an English summary is included in the Local Stakeholder Consultation report. *Validator's action:* The non-technical summary in local language and English and Local Stakeholder Consultation Report has been checked. *Conclusion:* A non-technical summary in local language as well as an English summary is included.	/GSP/ /LSCR/ /QUE/	OK	OK
E.1.6. Is a participant list presented? (GS Toolkit-3.5.1)	*Description:* Yes, a participant list is presented in both passport and Local Stakeholder Consultation Report. *Validator's action:*	/GSP/ /LSCR/ /QUE/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidence)	Ref.	Draft Concl.	Final Concl.
	The passport and Local Stakeholder Consultation Report has been checked. *Conclusion:* A participant list is presented.			
E.1.7. Are stakeholder evaluation forms available? (GS Toolkit-3.5.1)	*Description:* Yes, the stakeholder evaluation forms are available. *Validator's action:* The passport, stakeholder evaluation forms and Local Stakeholder Consultation Report has been checked. *Conclusion:* The stakeholder evaluation forms are available.	/GSP/ /LSCR/ /SEF/	OK	OK
E.1.8. Are minutes of the meeting(s) available? (GS Toolkit-3.5.1)	*Description:* Yes, the minutes of the meetings are available. *Validator's action:* The passport, minutes of the meetings and Local Stakeholder Consultation Report has been checked. *Conclusion:* The minutes of the meetings are available.	/GSP/ /LSCR/ /QUE/	OK	OK
E.1.9. Has due account been made on comments received? (GS Toolkit-3.5.1)	*Description:* Yes. The due account has been made on comments received. Some minor question about noise was raised; however this is a very minor issue and mitigation measures had already been planned in the earliest stage of project design.	/GSP/ /LSCR/ /SEF/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidence)	Ref.	Draft Concl.	Final Concl.
	Validator's action: The passport, stakeholder evaluation forms, minutes of the meetings and Local Stakeholder Consultation Report has been checked. *Conclusion:* The PP has taken appropriate measurements on comments received.	/IM03/		
E.1.10. If stakeholders required a revisit for the sustainable development assessment, has this been done? (GS Toolkit-3.5.1)	*Description:* No revisit for the sustainable development assessment was required by stakeholders. *Validator's action:* The passport, stakeholder evaluation forms, minutes of the meetings and Local Stakeholder Consultation Report has been checked. *Conclusion:* N/A.	/GSP/ /IM03/	OK	OK
E.1.11. Is the consolidated sustainable development matrix presented based on own 'preliminary' scoring and the matrix from the outcome of the blind stakeholder exercise. (GS Toolkit-3.5.1)	*Description:* Yes. The consolidated sustainable development matrix is presented based on own 'preliminary' scoring and the matrix from the outcome of the blind stakeholder exercise. *Validator's action:* The passport has been checked. *Conclusion:*	/GSP/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidence)	Ref.	Draft Concl.	Final Concl.
	Yes. The consolidated sustainable development matrix is presented as requirement.			
E.1.12. Were comments accepted and received by email or other means actually considered? (GS Toolkit-3.5.1)	*Description:* No, there is no comments received by email. *Validator's action:* The passport has been checked. *Conclusion:* There is no comments accepted and received by email	/GSP/	OK	OK
E.2. Stakeholder Feedback Round(Can be performed in parallel to the validation process)				
E.2.1. Has the Project proponent organized a stakeholder feedback round to give feedback to the stakeholders on how their comments have been taken into account? (GS Toolkit-2.10)	*Description:* The Stakeholder Feedback Round will be finalized after feedback round finished. *Validator's action:* The passport has been checked. *Conclusion:* CAR E1 was raised.	/GSP/	~~CAR 5~~	OK
E.2.2. Did the stakeholder feedback round include a physical meeting? (optional) (GS Toolkit-2.10)	*Description:* The Stakeholder Feedback Round will be finalized after feedback round finished. *Validator's action:*	/GSP/	~~CAR 5~~	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidence)	**Ref.**	**Draft Concl.**	**Final Concl.**
	The passport has been checked. *Conclusion:* CAR E1 was raised.			
E.2.3. Have all the stakeholders invited for participation in the Local Stakeholder Consultation been included in the Stakeholder Feedback Round? (GS Toolkit-2.10)	*Description:* The Stakeholder Feedback Round will be finalized after feedback round finished. *Validator's action:* The passport has been checked. *Conclusion:* CAR E1 was raised.	/GSP/	~~CAR 5~~	OK
E.2.4. Have all of the following documents been made available to the public for a period of at least two months prior to completion of the validation: *a. The Latest version of the complete PDD (including the EIA, if applicable);* *b. A non-technical summary of the project (in appropriate local language(s)); and English summary.* *c. The (revised) Passport* *d. if applicable, supporting documentation such as an environmental impact assessment (EIA) (if available, in appropriate local language(s)); in the case of an EIA, at least a one-page English summary is required* *e. Additional, non-translated information must be*	*Description:* All of the documents been made available to the public for a period of at least two months prior to completion of the validation. The Passport and PDD are revised after all CARs and CLs from validation has been closed. *Validator's action:* The passport, PDD and the EIA has been checked. *Conclusion:* The requirement of all of the following documents made available to the public for a period of at least two months prior to completion of the validation is achieved.	/GSP/ /PDD/ /EIA/	OK	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidence)	**Ref.**	**Draft Concl.**	**Final Concl.**
made available as well and shall be translated to the local language upon any justified request of a stakeholder. (GS Toolkit-3.5.1)				
E.2.5. Did the Project proponent also prepare hard copies to be publicly displayed at local places like the post Office, municipality, etc? (GS Toolkit-2.10)	*Description:* There are hard copies of the PDD, passport and technical summary displayed at the project office. *Validator's action:* Hard copies were checked during on-site validation. *Conclusion:* Hard copies were prepared accordingly.	/GSP/ /PDD/ /QUE/ /SEF/	OK	OK
E.2.6. If the Project is a retroactive Project, did the stakeholder feedback round include a site visit by the stakeholders participating in the process? (GS Toolkit-2.10)	*Description:* The Project is a regular cycle project. *Validator's action:* The passport has been checked. *Conclusion:* N/A	/GSP/	N/A	N/A
E.2.7. If the Project is a retroactive Project, did the Project proponent follow the guidance provided by the Gold Standard in the pre-feasibility assessment? (GS Toolkit-2.10)	*Description:* The Project is a regular cycle project. *Validator's action:* The passport has been checked. *Conclusion:*	/GSP/	N/A	N/A

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidence)	Ref.	Draft Concl.	Final Concl.
	N/A			
E.2.8. Does the stakeholder feedback round report given in the Passport include the following information: *a. How the feedback round was organized (A description of the procedure followed to invite comments, including addressing all the details of the oral hearing such as place, date, participants, language, local or national Gold Standard NGO supporters, etc.),* *b. What the outcomes of the feedback round are (All written or oral comments received.)* *c. How did the Project followed up on the feedbacks. (The argumentation on whether or not comments are taken into account and the respective changes to the project design.)* (GS Toolkit-2.10)	*Description:* The Stakeholder Feedback Round will be finalized after feedback round finished. *Validator's action:* The passport has been checked. *Conclusion:* CAR E1 was raised.	/GSP/	~~CAR 5~~	OK
F. Outcome Sustainability assessment				
F.1. 'Do no harm' assessment				
F.1.1. Has the Project considered the critical issues for their Project type that are listed in Annex C of Gold Standard? (GS Toolkit-2.4.1)	*Description:* Yes. With reference to Annex C of Gold Standard. The Renewable Energy Supply is one of the project type eligibility. However there is no critical issues relate with do no harm assessment. *Validator's action:* The passport is checked against the Annex C of GS. *Conclusion:*	/GSP/ /Annex-GS/	OK	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidence)	**Ref.**	**Draft Concl.**	**Final Concl.**
	There is no critical issues relate with do no harm assessment for the project type.			
F.1.2. Have the Project participants discussed all of the safeguarding principles with the stakeholders? (GS Toolkit-2.4.1)	*Description:* Yes, all of the safeguarding principles with the stakeholders have been discussed by PP for each sub-project. And by means of on-site interview with the local stakeholders, it is confirmed that all of the safeguarding principles with the stakeholders have been discussed. *Validator's action:* The passport is checked against the local stakeholder consultant record. *Conclusion:* All of the safeguarding principles with the stakeholders have been discussed by PP.	/GSP/ /LSCR/	OK	OK
F.1.3. Have the Project participants introduced mitigation measures for the safeguarding principles with a medium to high risk? (GS Toolkit-2.4.1)	*Description:* By means of on-site interview with the local stakeholders, it is confirmed that all of the safeguarding principles with a low risk, no medium to high risk is found. Thus, no mitigation measures is needed. *Validator's action:* The passport is checked against the local stakeholder consultant record. *Conclusion:* All of the safeguarding principles with a low risk.	/GSP/ /LSCR/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidence)	Ref.	Draft Concl.	Final Concl.
F.1.4. Does the 'Do No Harm' Assessment base on accurate information and have the reference sources been included? (GS Toolkit-3.5.1)	*Description:* With reference to the Gold Standard Passport section F.1. The 'Do No Harm' Assessment based on accurate information, and the reference sources have been included. However, the assessment is not accurate based on the project condition. *Validator's action:* The passport is checked against the FSR, EIA and their approval, and the related labor laws. *Conclusion:* CL 6 was raised.	/GSP/ /LSCR/ /FSR/ /AFSR/ /EIA/ /AEIA/ /LR/	~~CL 6~~	OK
F.2. Sustainable Development matrix				
F.2.1. Has the Sustainable Development Matrix table been inserted in the Passport? ***(GS Rules & Toolkit-Annex R, F.2)***	*Description:* With reference to the Gold Standard Passport section F.2. It is confirmed that the Sustainable Development Matrix table been inserted. *Validator's action:* The passport has been checked. *Conclusion:* It is confirmed that the Sustainable Development Matrix table been inserted.	/GSP/	OK	OK
F.2.2. Has the project been scored on the following indicators?: *a. Environmental* *b. Social*	*Description:* With reference to the Gold Standard Passport section F.2. The indicators are scored in line with Annex I of Gold Standard Toolkit.	/GSP/	OK	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidence)	**Ref.**	**Draft Concl.**	**Final Concl.**
c. Technological *d. Economic* (GS Toolkit-2.4.2)	*Validator's action:* The passport has been checked against the Gold Standard Toolkit. *Conclusion:* The indicators are scored in line with Annex I of Gold Standard Toolkit.			
F.2.3. Have the corresponding parameters to represent the status of each of the indicators been selected? (GS Toolkit-2.4.2)	*Description:* With reference to the Gold Standard Passport section F.2. It is confirmed that the corresponding parameters to represent the status of each of the indicators been selected for each sub-project. *Validator's action:* The passport has been checked against the Gold Standard Toolkit. *Conclusion:* It is confirmed that the corresponding parameters to represent the status of each of the indicators been selected for each sub-project.	/GSP/	OK	OK
F.2.4. Is the baseline situation and the situation aimed for the project described for each parameter? (GS Toolkit-2.4.2)	*Description:* With reference to the Gold Standard Passport section F.2. It is confirmed that the baseline situation and the situation aimed for the project described for each parameter of each sub-project. *Validator's action:* The passport has been checked against the Gold Standard Toolkit. *Conclusion:* It is confirmed that the baseline situation and the situation aimed for the project described for each parameter of each sub-project.	/GSP/	OK	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidence)	**Ref.**	**Draft Concl.**	**Final Concl.**
F.2.5. Are the indicators connected to the localized MDG's (Milenium Development Goals) when possible? (GS Toolkit-2.4.2)	*Description:* With reference to the Gold Standard Passport section F.2. It is confirmed that the indicators connected to the localized MDG's (Millennium Development Goals) for each sub-project. *Validator's action:* The passport has been checked against the Gold Standard Toolkit. *Conclusion:* It is confirmed that the indicators connected to the localized MDG's (Millennium Development Goals) for each sub-project.	/GSP/	OK	OK
F.2.6. Was the reason for choice of the parameters described? (GS Toolkit-2.4.2)	*Description:* With reference to the Gold Standard Passport section F.2. It is confirmed that the reason for choice of the parameters is not correctly described. *Validator's action:* The passport has been checked against the Gold Standard Toolkit. *Conclusion:* It is confirmed that the reason for choice of the parameters described.	/GSP/	~~CL 7~~	OK
F.2.7. Have all of the indicators been scored 'negative', 'positive' or 'neutral' in comparison with the baseline situation? (GS Toolkit-2.4.2)	*Description:* With reference to the Gold Standard Passport section F.2. It is confirmed that all of the indicators have been scored 'negative', 'positive' or 'neutral' in comparison with the baseline situation. *Validator's action:*	/GSP/	OK	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidence)	**Ref.**	**Draft Concl.**	**Final Concl.**
	The passport has been checked against the Gold Standard Toolkit. *Conclusion:* It is confirmed that all of the indicators have been scored 'negative', 'positive' or 'neutral' in comparison with the baseline situation.			
F.2.8. If there are any 'negative' indicators, are there any mitigation measures for these indicators? (GS Toolkit-2.4.2)	*Description:* With reference to the Gold Standard Passport section F.2. It is confirmed that there is no 'negative' indicators. *Validator's action:* The passport has been checked against the Gold Standard Toolkit. *Conclusion:* It is confirmed that there is no any 'negative' indicators.	/GSP/	OK	OK
F.2.9. Has the matrix been filled by the stakeholders during the Local Stakeholder Consultation? (GS Toolkit-2.4.2)	*Description:* By means of checking the questionnaires of Local Stakeholder Consultation, it is confirmed that the matrix had been filled by the stakeholders during the Local Stakeholder Consultation. *Validator's action:* The passport, questionnaires evaluation forms have been checked against the Local Stakeholder Consultation record. *Conclusion:* It is confirmed that the matrix had been filled by the stakeholders during the Local Stakeholder Consultation.	/GSP/ /LSCR/ /QUE/ /SEF/	OK	OK
F.2.10. Were there any negative scores during the stakeholder consultation?	*Description:* By means of checking the questionnaires of Local Stakeholder	/GSP/ /LSCR/	OK	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidence)	**Ref.**	**Draft Concl.**	**Final Concl.**
(GS Toolkit-2.4.2)	Consultation, it is found that there is no negative score during the stakeholder consultation. *Validator's action:* The passport has been checked against the Local Stakeholder Consultation record. *Conclusion:* It is found that there is no negative score during the stakeholder consultation.			
F.2.11. If the answer to the above question is yes, has the sustainability assessment been revisited? (GS Toolkit-2.4.2)	*Description:* N/A *Validator's action:* *Conclusion:*		N/A	N/A
F.2.12. Have the project indicators been classified in three categories namely "environment", "social development" and "economic and technological development" under the sustainable development matrix? (GS Rules & Toolkit-Annex I)	*Description:* With reference to the Gold Standard Passport section F.2. It is confirmed that the project indicators have been classified in three categories namely "environment", "social development" and "economic and technological development" under the sustainable development matrix. *Validator's action:* The passport has been checked against the GS toolkit and Annex I. *Conclusion:* It is confirmed that the project indicators have been classified in three categories namely "environment", "social development" and "economic and technological development" under the sustainable development matrix.	/GSP/	OK	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidence)	**Ref.**	**Draft Concl.**	**Final Concl.**
F.2.13. Does the project contribute positively to least at two of the three categories and neutral to the third category? (GS Toolkit-2.4.2)	*Description:* With reference to the Gold Standard Passport section F.2, it is confirmed that the project contribute positively to least at two of the three categories and neutral to the third category. *Validator's action:* The passport has been checked against the GS toolkit and Annex I. *Conclusion:* It is confirmed that the project contribute positively to least at two of the three categories and neutral to the third category.	/GSP/	OK	OK
F.2.14. Is the matrix based on existing sources of information? (can include data from existing reports, results from stakeholder consultations, and experiences with similar projects in similar situations, etc. Where data are unavailable or are of poor quality, or severely outdated, independent opinions and expert judgments can also be used.) (GS Toolkit-3.5.1)	*Description:* With reference to the Gold Standard Passport section F.2, it is confirmed that the matrix is stated based on existing sources of information. *Validator's action:* The passport is checked against the FSR, EIA and their approval, and the related laws. *Conclusion:* It is confirmed that the matrix is stated based on existing sources of information.	/GSP/ /LSCR/ /FSR/ /AFSR/ /EIA/ /AEIA/	OK	OK
F.2.15. Are the data or expert opinions presented in a sufficient degree of detail and transparency? (GS Toolkit-3.5.1)	*Description:* Yes. The data or expert opinions are presented in a sufficient degree of detail and transparency. *Validator's action:* The passport is checked against the FSR, EIA and their approval, and the related laws.	/GSP/ /LSCR/ /FSR/ /AFSR/ /EIA/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidence)	Ref.	Draft Concl.	Final Concl.
	Conclusion: The data or expert opinions are presented in a sufficient degree of detail and transparency.	/AEIA/		
F.2.16. Are the data uncertainties clearly stated, if possible with associated margins of error? (GS Toolkit-3.5.1)	*Description:* Yes. The data uncertainties are clearly stated if available. *Validator's action:* The passport is checked. *Conclusion:* The data uncertainties are clearly stated if available.	/GSP/	OK	OK
F.2.17. Is the scoring reproducible and verifiable? (GS Toolkit-3.5.1)	*Description:* Yes. The scoring can be reproducible and verifiable. *Validator's action:* The scoring is reproducible and verifiable by the validation team. *Conclusion:* The scoring can be reproducible and verifiable.	/GSP/	OK	OK
F.2.18. Does the project demonstrate clear benefits in terms of sustainable development? (GS Toolkit-2.4.2)	*Description:* Yes. The project has been demonstrated including clear benefits in terms of sustainable development. *Validator's action:* The passport is checked. *Conclusion:*	/GSP/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidence)	Ref.	Draft Concl.	Final Concl.
	The project has been demonstrated including clear benefits in terms of sustainable development.			
G. Sustainability Monitoring Plan				
G.1. Are the mitigation actions included in the monitoring plan? (GS Toolkit-2.4.3)	*Description:* With reference to the Gold Standard Passport section G. It is confirmed that the mitigation actions are included in the monitoring plan for each sub-project. *Validator's action:* The passport is checked. *Conclusion:* It is confirmed that the mitigation actions are included in the monitoring plan for each sub-project.	/GSP/	OK	OK
G.2. Are all the non-neutral indicators included in the monitoring plan? (GS Toolkit-2.4.3)	*Description*: With reference to the Gold Standard Passport section G. Not all the non-neutral indicators are included in the plan. *Validator's action:* The passport is checked. *Conclusion:* CAR 8 was raised.	/GSP/	~~CAR 8~~	OK
G.3. Is the current status (or expected status under the baseline) of the parameters, the future status and the way they will be monitored described in the monitoring plan?	*Description:* With reference to the Gold Standard Passport section G. It is confirmed that the current status (or expected status under the baseline) of the parameters, the future status and the way they will	/GSP/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidence)	Ref.	Draft Concl.	Final Concl.
(GS Toolkit-2.4.3)	be monitored described in the monitoring plan for each sub-project. *Validator's action:* The passport is checked. *Conclusion:* It is confirmed that the current status (or expected status under the baseline) of the parameters, the future status and the way they will be monitored described in the monitoring plan for each sub-project.			
G.4. Have the project identified parameters that can be used to properly monitor each non-neutral Sustainable Development Indicator according Annex I of the Toolkit? (GS Toolkit-2.4.3)	*Description:* With reference to the Gold Standard Passport section G. The project have identified parameters that can be used to properly monitor each non-neutral Sustainable Development Indicator according Annex I of the Toolkit. *Validator's action:* The passport is checked against the Annex I of the toolkit. *Conclusion:* It is confirmed that the project have identified parameters that can be used to properly monitor each non-neutral Sustainable Development Indicator according Annex I of the Toolkit.	/GSP/ /Annex-GS/	OK	OK
G.5. Are chosen parameters relevant to the indicators? (GS Toolkit-3.5.1)	*Description:* With reference to the Gold Standard Passport section G. It is confirmed that all the chosen parameters are relevant to the indicators. *Validator's action:* The passport is checked.	/GSP/	OK	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidence)	**Ref.**	**Draft Concl.**	**Final Concl.**
	Conclusion: It is confirmed that all the chosen parameters are relevant to the indicators.			
G.6. Are these parameters planned to be monitored over the crediting period and on a recurrent basis? (GS Toolkit-2.4.3)	*Description:* Yes. These parameters are planned to be monitored regularly whenever the proposed project is verified. *Validator's action:* The passport is checked. *Conclusion:* These parameters are planned to be monitored over the crediting period whenever the proposed project is verified.	/GSP/	OK	OK
G.7. Are all mitigation measures put in place to prevent violation or the risk of violating a safeguarding principle of the 'Do No Harm' Assessment or to 'neutralize' a Sustainable Development Indicator included in the monitoring plan? (GS Toolkit-2.4.3)	*Description:* With reference to the Gold Standard Passport section G. The mitigation measures have been put in place to prevent violation or the risk of 'neutralize' a Sustainable Development Indicator included in the monitoring plan. *Validator's action:* The passport is checked. *Conclusion:* The mitigation measures have been put in place to prevent violation or the risk of 'neutralize' a Sustainable Development Indicator included in the monitoring plan.	/GSP/	OK	OK
G.8. Is the sustainability monitoring plan clear	*Description:*	/GSP/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidence)	Ref.	Draft Concl.	Final Concl.
about who will monitor with what frequency? (GS Toolkit-3.5.1)	Yes, the sustainability monitoring plan clearly demonstrates about whom will monitor with what frequency. All the parameters will be monitored by the project owner and verified by DOE. *Validator's action:* The passport is checked. *Conclusion:* All the parameters will be monitored by the project owner and verified by DOE.			
G.9. Is the monitoring plan feasible? (GS Toolkit-3.5.1)	*Description:* The monitoring plan is checked as feasible by means of the on-site investigation. *Validator's action:* The passport is checked against the on-site investigation. *Conclusion:* The monitoring plan is confirmed as feasible.	/GSP/ /IM01/	OK	OK
H. Additionality and conservativeness				
H.1. Additionality assessment				
H.1.1. Does the Project proponent use one of the UNFCCC or Gold Standard approved additionality tools in line with scale and type of the project. (GS Toolkit-2.3)	*Description:* The Project proponent use UNFCCC approved additionality tools in line with scale and type of the project for additionality assessment in the PDD. *Validator's action:*	/PDD/ /TDAA/ /ACM0002/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidence)	Ref.	Draft Concl.	Final Concl.
	The PDD was checked against the tool *Conclusion:* The UNFCCC tool has been used.			
H.1.2. Identification of alternatives				
H.1.2.1. Does the Gold Standard Passport/PDD identify credible alternatives to the project activity in order to determine the most realistic baseline scenario? (VVS)	*Description:* The project activity is the installation of a new grid-connected renewable power plant. The baseline scenario in accordance with ACM0002 "Grid-connected electricity generation from renewable sources" (Ver.17.0). As prescribed in ACM0002, the baseline for wind power is electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system". As the baseline scenario is prescribed in the applied methodology, the validation team confirms that the baseline has been determined in a transparent and conservative manner. *Validator's action:* The PDD is checked against the applied methodology. *Conclusion:* The baseline is defined by the applying methodology and the PDD refers to it.	/PDD/ /ACM0002/	OK	OK
H.1.2.2. Does the list of alternatives given in the	*Description:*	/PDD/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidence)	Ref.	Draft Concl.	Final Concl.
Gold Standard Passport/PDD ensure that: - the list of alternatives includes as one of the options that the project activity is undertaken without being registered as a proposed project activity? (VVS)	The baseline is defined by the applying methodology and the PDD refers to it. *Validator's action:* - *Conclusion:* -	/ACM0002/		
- The list contains all plausible alternatives that the DOE, on the basis of its local and sectoral knowledge, considers to be viable means of supplying the outputs or services that are to be supplied by the proposed project activity? (VVS)	*Description:* The baseline is defined by the applying methodology and the PDD refers to it. *Validator's action:* - *Conclusion:* -	/PDD/ /ACM0002/	OK	OK
- the alternatives comply with all applicable and enforced legislation? (VVS)	*Description:* The baseline is defined by the applying methodology and the PDD refers to it. *Validator's action:* - *Conclusion:* -	/PDD/ /ACM0002/	OK	OK
H.1.3. Investment Analysis				

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidence)	**Ref.**	**Draft Concl.**	**Final Concl.**
H.1.3.1. Does the PDD provide evidence that the project would not be the most economically or financially attractive alternative or economically / financially feasable without the revenues from the sale of VERs/ CERs? (VVS, § 117) *In cases where the project activity would produce no financial or economic benefits other than CDM-related income, describe how it has been validated that at least one of the alternatives identified is less costly than the proposed project activity.*	*Description:* Yes, the project participant argues that the EIRR of each sub-project is less than the benchmark. *Validator's action:* The information provided in the PDD, EIRR spreadsheet, governmental guidelines and interview have been checked by the validation team. *Conclusion:* The EIRR spreadsheet and FSR shows that the EIRR of the project is lower than benchmark and therefore is not financial attractiveness.	/PDD/ /EIRR/	OK	OK
H.1.3.2. Is a clear, viewable and unprotected Excel spreadsheet available for the investment calculation? (EB 62 Annex 5, §8) *Describe the steps taken to validate this issue.*	☒ Yes, a clear, viewable and unprotected Excel spreadsheet is available. ☐ No, a respective Excel spreadsheet needs to be made available for investment calculation. In this context the following additional findings have been identified: N/A	/PDD/ /EIRR/	OK	OK
H.1.3.3. Does the period chosen for the investment analysis reflect the technical lifetime of the project activity or in case a shorter period is chosen, is the fair value of the project activity's assets at the end of the investment analysis period (as a cash inflow) included? (EB 62 Annex 5, § 3) *Describe how the technical lifetime / period chosen for calculating*	*Description:* The proposed project activity applies a project lifetime of 20 years. The value is derived from the FSR. The FSR has been provided by an independent third entity with the necessary qualification. It is consistent with the *Tool to determine the remaining lifetime of equipment*, which describes that the operation lifetime of wind turbine is 20 years. The investment analysis does also reflect 20 years.	/PDD/ /EIRR/	OK	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidence)	**Ref.**	**Draft Concl.**	**Final Concl.**
financial parameter(s) is reviewed and which documents were utilised in the course of review. Describe furthermore the approach used to check the inclusion of a potential fair value.	*Validator's action:* The FSR and the EIRR-calculation have been checked. *Conclusion:* The project lifetime as indicated in PDD and applied in cash flow analysis is assessed as appropriate.			
H.1.3.4. Is the fair value calculated in accordance with local accounting regulations (where available) or international best practice? (EB 62 Annex 5, § 4) *State the accounting regulations applied for calculating the fair value and describe why these are applicable under the project specific circumstances. Describe potential mismatches between regulations and the approach applied for calculating the fair value.*	*Description:* N/A *Validator's action:* - *Conclusion:* -		N/A	N/A
H.1.3.5. Is the book value as well as the expectation of the potential profit or loss included in the fair value calculation? (EB 62 Annex 5, § 4)	*Description:* N/A *Validator's action:* - *Conclusion:* -		N/A	N/A
H.1.3.6. Is an appropriate analysis method chosen for the project (simple cost analysis, investment comparison analysis or benchmark analysis)? (EB 70 Annex 8, EB 62, Annex 5, §19)	*Description:* As per the additionality tool three options for comparison financial indicators can be chosen, the simple cost analysis, investment comparison analysis and the benchmark analysis. The simple cost analysis is not applicable as the propose project receives other	/PDD/ /TDAA/	OK	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidence)	**Ref.**	**Draft Concl.**	**Final Concl.**
Describe why the selected analysis method is appropriate under consideration of potential revenues and costs, potential project alternatives and potential available benchmark values. *Assess whether the alternative to the project activity is to supply the same or substitute products or services. In this case, an investment comparison analysis shall be used.*	benefits than CDM revenues. The benchmark analysis has been applied. *Validator's action:* The additionality tool has been checked against the PDD. *Conclusion:* The benchmark analysis is assessed as appropriate in the context of the project.			
H.1.3.7. Were the input values used in the investment analysis valid and applicable at the time of the investment decision? (EB 62 Annex 5, § 6) *Describe the steps taken to validate this issue*	*Description:* The input values used in the investment analysis were valid and applicable at the time of the investment decision *Validator's action:* By means of FSR and board decision check. *Conclusion:* It is confirmed that the input values used in the investment analysis are still valid and applicable at the time of investment decision.	/PSD/ /BD/ /PDD/ /FSR/	OK	OK
H.1.3.8. Did implementation of the project ceased after its commencement and did implementation recommence after consideration of the CDM? (EB 62 Annex 5, § 7) *Describe the reasons for ceasing the project and explain why the incentive from CDM was necessary to recommence the implementation.* *Assess whether the investment analysis reflects the economic decision-making context at point of the decision to recommence*	*Description:* N/A *Validator's action:* - *Conclusion:* -		N/A	N/A

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidence)	**Ref.**	**Draft Concl.**	**Final Concl.**
the project, i.e. capital costs incurred prior to the recommencement of the project are to be limited to the potential reuse/resale of tangible assets, demonstrating the value through assessment done by chartered specialists.				
H.1.3.9. Are the input parameters based on values from Feasibility Study Reports that are approved by national authorities for proposed project activities? (VVS, § 122) *In case the basis for input values is a Feasibility Study Report (FSR) describe how it has been ensured that the period in time between the finalisation of the FSR and the investment decision is sufficiently short so that it is unlikely that input values would have materially changed. Further confirm the consistency of values in FSR and PDD.*	*Description:* Almost all the input parameters based on values from Feasibility Study Reports that are approved by local government. *Validator's action:* By means of Approval of FSR and PDD check. *Conclusion:* The input parameters based on values from Feasibility Study Reports are approved by national authorities.	/PDD/ /FSR/ /AFSR/	OK	OK
In case a simple cost analysis has been done, go to H.1.4;				
H.1.3.10. Has been a suitable financial indicator chosen by the project participants? (VVS, § 120 (a)) *Describe the steps taken to validate this issue.*	*Description:* There is no appropriate benchmark in Taiwan for electricity generation and hence PP used model from Professor Aswath Damodaran of New York University to derive the appropriate benchmark. Professor Aswath Damodaran is a globally well-known scholar in finance especially in investment valuation. Validators checked his paper "Measuring Company Exposure to Country Risk: Theory and Practice", p18 proposed by PP, and confirmed the following model which can derive the cost of equity for specific industry and specific country: Cost of equity = Risk free rate + Beta x (Country risk Premium +	/MCECR/ /PDD/ /rfr/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidence)	Ref.	Draft Concl.	Final Concl.
	Mature Market Premium) The Taiwan Treasury bond rate (Risk free rate) is taken as the average of US treasury 10 years bond rates in the period of 3 months prior to the earliest investment decision time (05/03/2012) and confirmed is 1.97%. The beta value for electric-generation, which was deemed the most appropriate scope to the project, was validated and confirmed Taiwan's beta is 1.35. The "Estimating Country Risk Premiums" was confirmed Taiwan's "Country risk Premium + Mature Market Premium" is 7.05%. The validators have recalculated the benchmark and confirmed the value is 11.50% which is identical with the benchmark EIRR 11.50% described in the GS-VER-PDD. The benchmark is appropriate for Equity IRR as per Methodological tool "Investment Analysis" (version 06.0). *Validator's action:* The calculation of the value of EIRR and the applied reference have been checked. *Conclusion:* The suitable financial indicator has been chosen by the project participants.			
H.1.3.11. Are depreciation and other non-cash related items only considered in the tax calculation and not as cash outflow? (EB 62 Annex 5, § 5)	*Description:* The Excel sheet provided shows that non-cash related items and depreciation have been accounted to calculate the net profits. *Validator's action:* The excel sheet has been checked. *Conclusion:*	/EIRR/ /PDD/	OK	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidence)	**Ref.**	**Draft Concl.**	**Final Concl.**
	Non-cash related items and depreciation have been accounted to calculate the net profits.			
H.1.3.12. Is the plant load factor (PLF) chosen in a conservative manner, taking into account that the PLF may be different in the framework of demonstrating additionality and calculating the ex-ante ER? (EB 48, Annex 11)	*Description:* The plant load factor of the project was determined by a qualified third party from FSR. *Validator's action:* By means of document check and internet searching. The qualification certificate of the compilation institute was provided by the entity and assessed as credible through internet searching. The FSR has been checked. *Conclusion:* The Plant load factor is assessed as reasonable and reliable.	/EIRR/ /PDD/ /FSR/	OK	OK
H.1.3.13. Does the PDD and related spreadsheets contain a sensitivity analyis and does the same contain variation of parameters which may vary throughout the project lifetime, (EB 62 Annex 5, § 20-21) *Describe relevance of parameters used in the sensitivity analysis as well as their likeliness to vary during the project's lifetime. Parameters which are fixed on the basis of contracts, PPAs etc. may not be subject to variation and not adequate.*	*Description:* Four parameters were used for sensitivity analysis, which is presented in the EIRR-sheet. It is observed that the Sensitive analysis and threshold analysis are not sufficiently addressed. *Validator's action:* The IRR spreadsheet and PDD was checked. *Conclusion:* CAR 9 was raised.	/EIRR/ /PDD/ /FSR/	~~CAR 9~~	OK
H.1.3.14. Were only variables that constitute more than 20% of either total project costs or total project revenues subjected to reasonable variation?	*Description:* Four parameters were selected for sensitivity analysis; the variation was chosen to be +/-10%. The Total Static Investment constitutes more than 20% of total project costs. The product of Grid-connected	/EIRR/ /PDD/ /FSR/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidence)	Ref.	Draft Concl.	Final Concl.
(EB 62 Annex 5, § 20)	electricity price and Net electricity generation constitute more than 20% of the total revenue of the project. The total O&M costs throughout the project lifetime also accounts for more than 20% of the project cost. *Validator's action:* The PDD, EIRR spreadsheet and the relevant contracts have been checked. *Conclusion:* Parameters have been fulfilled.			
H.1.3.15. Have parameters, constituting less than 20% of total project costs or revenues, been identified with potential material impact on the financial parameter? (EB 62 Annex 5, § 20) *Describe whether those parameters are considered in the sensitivity analysis?*	*Description:* N/A *Validator's action:* - *Conclusion:*-		N/A	N/A
H.1.3.16. Is the range of variation reasonable in the specific context of the project activity, taking into consideration historic trends in the business sector? (EB 62 Annex 5, § 21) *Describe whether the range of variation is appropriate with focus on historic developments, e.g. price of oil / labour etc., energy potential in the region in question.*	*Description:* The sensitivity analysis was conducted through varying ±10% of the four selected parameters and taking into consideration historic trends in the business sector. And the range of variation is confirmed as reasonable in line with the requirements in Guidelines on the assessment of investment analysis: "Only variables, including the initial investment cost, that constitute more than 20% of either total project costs or total project revenues should be subjected to reasonable variation", the total investment is checked as constitutes more than 20% of total project costs. The product of electricity price and net electricity generation is checked as	/EIRR/ /PDD/ /FSR/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidence)	Ref.	Draft Concl.	Final Concl.
	constitute more than 20% of the total revenue of the project. The total O&M cost throughout the project lifetime is checked as accounts for more than 20% of the project cost. *Validator's action:* The EIRR spreadsheet and the PDD have been checked. *Conclusion:* Parameters have been fulfilled.			
H.1.3.17. In case of project IRR: Are the costs of financing expenditures (loan repayments and interests) excluded from the calculation of project EIRR? (EB 62 Annex 5, § 9)	☒ N/A ☐ Yes, the costs of financing expenditures have been excluded. ☐ No, this requirement is not met. In this context the following additional findings have been identified: N/A	/EIRR/ /PDD/ /FSR/	OK	OK
H.1.3.18. In case of equity IRR (EIRR): Is the part of the investment costs, which is financed by equity, considered as net cash outflow and is the part financed by debt excluded in net cash outflow? (EB 62 Annex 5, § 10)	☐ N/A ☒ Yes, in- and outflows have been considered correctly. ☐ No, this requirement is not met. In this context the following additional findings have been identified:	/EIRR/ /PDD/ /FSR/	OK	OK
In case a comparison analysis has been done, go to H.1.4				
H.1.3.19. Is the type of benchmark chosen appropriate for the type of EIRR calculated (e.g.	*Description:* There is no appropriate benchmark in Taiwan for electricity	/MCECR/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidence)	Ref.	Draft Concl.	Final Concl.
local commercial lending rates or weighted average costs of capital for project EIRR; required/expected returns on equity for equity EIRR)? (EB 62 Annex 5, § 12) *Describe the steps taken to validate this issue.*	generation and hence PP used model from Professor Aswath Damodaran of New York University to derive the appropriate benchmark. Professor Aswath Damodaran is a globally well-known scholar in finance especially in investment valuation. Validators checked his paper "Measuring Company Exposure to Country Risk: Theory and Practice", p18 proposed by PP, and confirmed the following model which can derive the cost of equity for specific industry and specific country: Cost of equity = Risk free rate + Beta x (Country risk Premium + Mature Market Premium) The Taiwan Treasury bond rate (Risk free rate) is taken as the average of US treasury 10 years bond rates in the period of 3 months prior to the earliest investment decision time (05/03/2012) and confirmed is 1.97%. The beta value for electric-generation, which was deemed the most appropriate scope to the project, was validated and confirmed Taiwan's beta is 1.35. The "Estimating Country Risk Premiums" was confirmed Taiwan's "Country risk Premium + Mature Market Premium" is 7.05%. The validators have recalculated the benchmark and confirmed the value is 11.50% which is identical with the benchmark EIRR 11.50% described in the GS-VER-PDD. The benchmark is appropriate for Equity IRR as per Methodological tool "Investment Analysis" (version 06.0). *Validator's action:* The calculation of the EIRR and the applied reference have been checked. *Conclusion:* The suitable financial indicator has been chosen by the project	/PDD/ /rfr/		

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidence)	Ref.	Draft Concl.	Final Concl.
	participants.			
H.1.3.20. Is a pre-tax benchmark applied in case of project EIRR is calculated? In cases where a post-tax benchmark is applied, assess whether actual interest payable is taken into account in the calculation of income tax. (EB 62 Annex 5, § 11) *If this is not the case, ensure that taxation is excluded from the investment analysis.* *As per the guidance it is recommended to select a pre tax benchmark in order to describe the steps taken in assessing this requirement.*	☐ N/A ☐ A pre-tax benchmark is applied ☒ The benchmark is post-tax and the interest has been taken into account in the calculation ☐ No, this requirement is not met. In this context the following additional findings have been identified: N/A	/EIRR/ /PDD/ /FSR/	OK	OK
H.1.3.21. Have both benchmark and cash flows expressed consistently, i.e. real terms (excluding the effect of inflation) or nominal terms? *Describe the steps taken to validate this issue.*	*Description:* Both benchmark and cash flows is expressed consistently. *Validator's action:* The EIRR spreadsheets have been checked. *Conclusion:* Both benchmark and cash flows is expressed consistently.	/EIRR/ /PDD/ /FSR/	OK	OK
H.1.3.22. Is the benchmark value suitable for the project activity and is it reasonable to assume that no investment would be made at a rate of a lower return than the benchmark? (VVS, § 121 (c)) *Describe whether it is reasonable to assume that a lower rate of return would consequently result in the baseline scenario.*	*Description:* The EIRR benchmark has been used. As the project owner does not have an internal benchmark, then it is reasonable to assume that no investment would be made at a rate of a lower return than the benchmark. *Validator's action:* The calculation of the EIRR and the applied reference have been	/EIRR/ /PDD/ /FSR/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidence)	Ref.	Draft Concl.	Final Concl.
	checked as reasonable. *Conclusion:* The benchmark value is appropriate for the project.			
H.1.3.23. Is the benchmark applied based on parameters that are available and standard in the market? (VVS, 121 (b), EB 62 Annex 5, §§13, 15, 16, 18) *Assess whether company-specific benchmarks or benchmarks based on parameters that are available in the market are suitable to the project activity. A benchmark that includes the subjective profitability expectations or risk profile of the project developer (size risk premiums, company own risk premium, etc) is not suitable for project activities open to be developed by other entities.* *If cost of equity is applied, assure that best financial practices are used and are based on data sources which can be cross-checked against third-party or publicly available sources.* *If cost of debt is used for the calculation of the benchmark, ensure that it is calculated as the cost of financing in the capital markets (e.g: commercial lending rates)* *If the cost/equity financing structure of the project is not yet available, 50% equity, 50% debt financing may be assumed as default.*	*Description:* The benchmark is calculated based on parameters that are available and standard in the market. *Validator's action:* The EIRR spreadsheet have been checked. *Conclusion:* The benchmark is calculated as correct and reasonable.	/MCECR/ /PDD/ /rfr/	OK	OK
Following checklist is intended for cases where intern company benchmarks are applied, otherwise go to H.1.4				
H.1.3.24. Is it ensured that the project cannot be	*Description:* N/A		N/A	N/A

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidence)	Ref.	Draft Concl.	Final Concl.
developed by other developers than the PP, so that internal company benchmarks or expected returns are suitable for the project activity? (EB 62 Annex 5, §§ 13 – 14) *Describe how it has been validated that there is only one possible project developer.*	*Validator's action:* - *Conclusion:*-			
H.1.3.25. Was the benchmark consistently used in the past by the same company for similar projects with similar risks? (EB 62 Annex 5, § 14) *If applicable, assess the past financial behaviour of the entity during the last 3 years in relation to similar projects.*	*Description:* N/A *Validator's action:* - *Conclusion:*-		N/A	N/A
H.1.3.26. Was the cost of debt calculated based on the weighted average cost of debt financing of the legal entity owning the CDM project activity? (EB 62 Annex 5, § 16) *If applicable, assess whether loans, bonds or debt financing from a parent company are calculated according to the latest "Guidance on Investment Analysis".* *In case that the debt structure of the project is not yet available, the cost of debt can be assumed as the commercial lending rate in the company or the yield of a 10-year bond issued by the government of the host county.*	*Description:* N/A *Validator's action:* - *Conclusion:*-		N/A	N/A

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidence)	**Ref.**	**Draft Concl.**	**Final Concl.**
H.1.3.27. Does the equity/debt ratio of the project reflect the long-term debt/equity finance structure of the legal entity owning the assets of the project activity? (EB 62 Annex 5, § 17) *Assess the latest balance sheets of the legal entity owning the assets of the project activity, in case these are available and audited by a third party within two years prior to the submission of the PDD for validation, and the accounting books reflect the total value of all assets needed for the project activity.* *If debt/equity financing structure is not available, 50% equity, 50% debt shall be considered as default.*	*Description:* N/A *Validator's action:* - *Conclusion:*-		N/A	N/A
H.1.4. Barrier analysis Step 3 or SSC additionality assessment				
H.1.4.1. Are there any barriers given which have a clear and direct impact on the financial returns of the project? (VVS, § 125) *In case of LSC projects those issues cannot be considered as barriers and shall be assessed in the investment analysis. In case of SSC projects the same fundamentals as for LSC projects shall apply, i.e. the assessment of the investment barrier according to EB 62 Annex 5. Only unavailability of sources of finance and/or risk related barriers, for example, the risk related to technical failure that could have negative impact on financial performance are acceptable as barriers.*	*Description:* N/A *Validator's action:* - *Conclusion:*-		N/A	N/A
H.1.4.2. Has the unavailabilty of means of finance	*Description:* N/A		N/A	N/A

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidence)	Ref.	Draft Concl.	Final Concl.
for the project been described and adequately substantiated? Do evidence doubtlessly prove that the financing of the project was assured only due to the benefit of the CDM? (EB 50 Annex 13, § 9)	*Validator's action:* - *Conclusion:*-			
H.1.4.3. Would provision of additional financial means lead to the mitigation of the barrier(s) demonstrated? (EB 50 Annex 13, § 7) *Describe why provision of additional financial means would not lead to mitigation of the barrier(s) demonstrated and hence analysing the project's additionality within the framework of an investment analysis is inappropriate.*	*Description:* N/A *Validator's action:* - *Conclusion:*-		N/A	N/A
H.1.4.4. How is it justified and evidenced that the barriers given in the PDD are real? (VVS, § 126(a))	*Description:* N/A *Validator's action:* - *Conclusion:*-		N/A	N/A
H.1.4.5. How is it justified that one or a set of real barriers prevent(s) the implementation of the project activity and do not prevent the implementation of at least one of the alternatives? (VVS, § 126 (b))	*Description:* N/A *Validator's action:* - *Conclusion:*-		N/A	N/A
H.1.4.6. Does the review of relevant background information on the nature of the company(ies) and entitiy(ies) involved in the financing and	*Description:* N/A *Validator's action:* -		N/A	N/A

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidence)	Ref.	Draft Concl.	Final Concl.
implementation of the project sufficiently justify that the barriers related to the lack of access to capital, technologies and skilled labour are real? (EB 50 Annex 13, § 4)	*Conclusion:-*			
H.1.4.7. Has it been demonstrated in an objective way how the CDM alleviates each of the identified barriers to a level that the project is not prevented anymore from occurring by any of the barriers? (EB 50 Annex 13, § 5)	*Description:* N/A *Validator's action: -* *Conclusion:-*		N/A	N/A
H.1.5. Common practice analysis (in case of SSC projects or first-of-its-kind LSC projects skip this step)				
H.1.5.1. Is the defined region for the common practice analysis appropriate for the technology/industry type? (VVS, § 129(a)) *Describe why the project activity is not common practice in a transparent and unambiguous manner. If a region other than the entire host country is chosen, describe why this region is more appropriate.*	*Description:* Due to the consideration of investment climate, policies, grid structure, Taiwan is the defined region for common practice analysis. *Validator's action:* By means of on-site visit. *Conclusion:* It is reasonable and appropriate.	/PDD/ /IM01/ /IM03/	OK	OK
H.1.5.2. To what extent similar projects have been	*Description:* The projects operated before 13/12/2012 with an installed capacity	/ESHB/	N/A	N/A

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidence)	**Ref.**	**Draft Concl.**	**Final Concl.**
undertaken in the relevant region? (VVS, § 129(b)) *Similar projects are considered those that take place in a comparable environment w.r.t. regulatory framework, investment climate, access to technology and financing, etc. GS-VER-PDD PA and PA that have been published on the UNFCCC website are not to be considered as similar.*	of between 1.15 MW and 41.4 MW in Taiwan are determined as "N_{all}". Projects have been applied to CDM were excluded. 15 wind projects in Taiwan before 13/12/2012 have not applied for CDM or GS project. Hence $N_{all.}$=15. *Validator's action:* The information source Energy Statistics Hand Book 2014 published by Bureau of Energy, Ministry of Economics Affairs for the common practice analysis is publicly available and checked. *Conclusion:* The similar projects are identified.			
H.1.5.3. In case similar projects are identified, are there any key differences between the proposed project and existing or ongoing projects and what kind of differences are observed? (VVS, § 129(c))	*Description:* The 15 project has the different technologies comparing to the proposed project. *Validator's action:* The reason has been elaborated in the PDD and the evidence is checked by the validation team as reasonable and credible. *Conclusion:* There are key differences between the proposed project and existing or ongoing projects. And the differences are observed.	/cp/	N/A	N/A
H.1.5.4. In case of projects activities applying ACM0002: Has an ouput range as +/- 50% of the design output of the project activity been calculated in order to define the capacity range for "similar" projects?	*Description:* The installed capacities of each wind power sub-project are between 2.3 MW to 27.6 MW. Therefore, the applicable capacity range is from 1.15 MW to 41.4 MW. *Validator's action:*	/PDD/ /TDAA/ /GCP/	OK	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidence)	**Ref.**	**Draft Concl.**	**Final Concl.**
(EB 69 Annex 8, § 5)	The PDD was checked. *Conclusion:* The capacity range is determined as correct.			
H.1.5.5. In case of projects activities applying ACM0002: Does N_{all} include only plants that have started commercial operation before the the start date of the project and are within the applicable output range? (EB 69 Annex 8, § 7) *Under N_{all}, registered CDM projects and projects undergoing validation are not to be included.*	*Description:* The starting date was 13/12/2012. The N_{all} include only plants that have started commercial operation before 13/12/2012 and the output range between 1.15 MW to 41.4 MW. *Validator's action:* The PDD was checked. *Conclusion:* N_{all} is defined as requirement.	/PDD/ /TDAA/ /GCP/ /PSD/	OK	OK
H.1.5.6. In case of projects activities applying ACM0002: Does N_{diff} include only plants that apply different "technology" than the project activity? (EB 69 Annex 8, §§ 4, 8) *The term "technology" refers to energy fuel, investment climate (access to technology, subsidies, legal regulations, etc...) or unit cost of output.* *Assess how the essential distinctions to identify the different measures have been carried out.*	*Description:* The 15 project has the different technologies comparing to the proposed project. The reason has been elaborated in the PDD and the evidence is checked by the validation team as reasonable and credible/cp/. Hence, $N_{diff} = N_{wind} = 15$. *Validator's action:* PDD was checked against the Tool for the demonstration and assessment of additionality. *Conclusion:* N_{diff} is defined as requirement.	/PDD/ /TDAA/ /cp/ /GCP/	OK	OK

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidence)	**Ref.**	**Draft Concl.**	**Final Concl.**
H.2. Conservativeness				
H.2.1. Are the emission reductions under Gold Standard real, measurable and verifiable? (GS Toolkit-2.2)	*Description:* Yes. The emission reductions under Gold Standard are real, measurable and verifiable. However, the value of $EF_{gird,CM,y}$ is not consistent in the whole PDD. *Validator's action:* The PDD is checked. *Conclusion:* CAR 10 was raised.	/GSP/	~~CAR 10~~	OK
H.2.2. Does the version of methodology that applied to the proposed project activity is the latest one available at time of fist submission to the Gold Standard. (GS Toolkit-2.2)	*Description:* Yes. The methodology of ACM0002 version 16.0 is checked as not the latest one available at time of submission to the Gold Standard. *Validator's action:* The PDD is checked against the methodology and unfccc website. *Conclusion:* CAR 11 was raised.	/PDD/ /ACM0002/	~~CAR 11~~	OK
H.2.3. Are there the similar project activities in the same region of proposed project activity that have been registered with a certain baseline. (GS Toolkit-2.2)	*Description:* N/A *Validator's action:* - *Conclusion:*-		N/A	N/A
H.2.4. If yes, is there a convincing case for an alternative choice of baseline methodology.	*Description:* N/A *Validator's action:* -		N/A	N/A

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidence)	Ref.	Draft Concl.	Final Concl.
(GS Toolkit-2.2)	*Conclusion:-*			
H.2.5. If there is not a convincing case for an alternative choice of baseline methodology. Does the proposed project activity use the most conservative baseline? (GS Toolkit-2.2)	*Description:* N/A *Validator's action:* - *Conclusion:-*		N/A	N/A
H.2.6. Is the proposed project activity already registered at the UNFCCC? (GS Toolkit-2.2)	*Description:* N/A *Validator's action:* - *Conclusion:-*		N/A	N/A
H.2.7. If yes, are there new and more conservative EB interpretation and/or new version of more conservative baseline methodology have been approved prior to submission to the Gold Standard. (GS Toolkit-2.2)	*Description:* N/A *Validator's action:* - *Conclusion:-*		N/A	N/A
H.2.8. If yes, does the baseline for Gold Standard registration is revised for more conservative baseline. (GS Toolkit-2.2)	*Description:* N/A *Validator's action:* - *Conclusion:-*		N/A	N/A
Annex 1 ODA declaration				
- Does the project receive ODA under the condition that the credits coming out of the project are transferred to the donor country?	*Description:* Taiwan is not an OECD member, and it is not included in the DAC list of ODA recipients. Projects in Taiwan are therefore not eligible	/GSP/	N/A	N/A

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidence)	**Ref.**	**Draft Concl.**	**Final Concl.**
(GS Toolkit-3.5.1)	for receiving ODA funding. *Validator's action: -* *Conclusion: -*			
- Is a scanned copy of the Official Development Assistance Declaration statement signed by the project owner given in Annex 1? (GS Rules & Toolkit-Annex D)	*Description:* Taiwan is not an OECD member, and it is not included in the DAC list of ODA recipients. Projects in Taiwan are therefore not eligible for receiving ODA funding. *Validator's action: -* *Conclusion: -*	/GSP/	N/A	N/A

ANNEX 2: ASSESSMENT OF APPLICABILITY CRITERIA

Table A-2: Assessment of Applicability Criteria (VVS §§ 70 – 76)

Applicability Criteria	Evidence used	met	not met	N/A	Assessment of validation team (results and means of assessment)
This methodology is applicable to grid-connected renewable energy power generation project activities that: (a) Install a Greenfield power plant; (b) Involve a capacity addition to (an) existing plant(s); (c) Involve a retrofit of (an) existing operating plants/units; (d) Involve a rehabilitation of (an) existing plant(s)/unit(s); or (e) Involve a replacement of (an) existing plant(s)/unit(s).	/FSR/ /EIA/	☒	☐	☐	By means of checking the FSR and EIA, it is confirmed that the project is a green field wind power generation project and the project will supply power to TPG.
The project activity may include renewable energy power plant/unit of one of the following types: hydro power plant/unit with or without reservoir, wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit;	/FSR/ /EIA/	☒	☐	☐	By means of checking the FSR and EIA, it is confirmed that the project is installation of a wind power plant.
In the case of capacity additions, retrofits, rehabilitations or replacements (except for wind, solar, wave or tidal power capacity addition projects the existing plant/unit started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity expansion, retrofit, or rehabilitation of the plant/unit has been undertaken between the start of this minimum	/FSR/ /EIA/	☐	☐	☒	By means of checking the FSR and EIA, it is confirmed that the project is installation of a wind power plant, do not involved in capacity additions, retrofits, rehabilitations or replacements.

Applicability Criteria	Evidence used	met	not met	N/A	Assessment of validation team (results and means of assessment)
historical reference period and the implementation of the project activity.					
The methodology is not applicable to: (a) Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site; (b) Biomass fired power plants/units.	/FSR/ /EIA/	☒	☐	☐	By means of checking the FSR and EIA, it is confirmed that the project activity do not involve switching from fossil fuels to renewable energy sources at the site of the project activity and the project is not a biomass fired power plant.
In the case of retrofits, rehabilitations, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of baseline scenario, is "the continuation of the current situation, that is to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance".	/FSR/ /EIA/	☐	☐	☒	By means of checking the FSR and EIA, it is confirmed that the project is installation of a wind power plant, do not involved in retrofits, rehabilitations, replacements, or capacity additions.

ANNEX 3: ASSESSMENT OF BASELINE IDENTIFICATION

Table A-3: Assessment of Baseline Identification (VVS §§ 88 – 95)

☒	Baseline is pre-defined by the methodology
☐	Assessment of baseline alternatives see below

Baseline Alternatives identified	In line with the Methodology?	Eliminated	Reasons for elimination / non-elimination from list of alternatives	Evidence used	DOE Assessment	
					Appropriateness of elimination	Assessment of validation team (results and means of assessment)
	☒	☒			☒	
	☒	☒			☒	
	☒	☐			☐	
	☒	☐		-	☐	
	☒	☒		-	☒	
	☒	☒		-	☒	

ANNEX 4: ASSESSMENT OF FINANCIAL PARAMETERS

Table A-4: Assessment of Financial Parameters (VVS, §§ 120, 121 / in case financial parameters stem from FSR §122)

☐	No financial parameters are used for additionality justification
☒	Assessment of all financial parameters see below

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
Static total investment	Chingfeng:3,573,464 Anwei: 3,392,500 for each unit Taichung III 3,457,813 for each unit Chubei: 3,450,000 for 1 unit and 13,800,000 for 4 units Tongyuan:	EUR	Feasibility Study Report	/FSR/ /RA/ /PSD/ /ELAR/	☒	L1: The values have been derived from the FSR. The unit cost of the proposed project is about $5.66*10^4$ NTD/kW~$5.97*10^4$ NTD/kW according to FSR. L2: According to the Records Abstracts of the Draft Renewable Energy Electricity Purchase Rate Calculation Formula Hearing in 2015/RA/, the unit installation investment cost of land-based wind power projects has already reached $6.5*10^4$ NTD/kW in local private wind energy developers. The project range is lower than this value. The real unit installation expenditure of Tongyuan Wind Farm is $6.95*10^4$ NTD/kW which are available at the time of validation more than the static total investment of Tongyuan Wind Farm via checking the Electricity Licence Application Report/ELAR/. L3: Moreover, according to the statistic of registered GS Wind projects implemented by the same project owner, the actual unit installation investment cost for Fengwei Wind Farm and Longwei Wind Farm (GS 1001) is about $6.48*10^4$ NTD/kW and $6.51*10^4$

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
	40,986,000 Zhaowei: 20,511,250					NTD/kW. The unit cost of the project lower than the range can be considered as reasonable and conservative. A threshold analysis was conducted by PP and shows if the static total investment decreases by 13.06%~17.47%, the benchmark of 11.5% will be reached. Based on the above assessment, the values used are already conservative compared to other project, the public sources and actual expenditure, it is unlikely to improve the economic attraction due to the decrease in static total investment.
Net electricity generation	Chingfeng: 5,520 Anwei: 27,600 Taichung III 27,600 Chubei: 27,600 Tongyuan: 66,240 Zhaowei: 33,120	MWh/ year	Feasibility Study Report	/FSR/ /AFSR/ /RA/ /fohs/ /TRWE/	☒	L1: Net electricity generation has been elaborated in the FSR/FSR/. In the FSR, Net electricity generation is equal to the gross power generation. This is conservative for the EIRR calculation. The FSR has been approved by local government/AFSR/. Net electricity generation is estimated based on the average operation hour of the project. According to the Records Abstracts of the Draft Renewable Energy Electricity Purchase Rate Calculation Formula Hearing in 2015/RA/, the average operation hour is 2,200 hours for wind farms in Taiwan is recommended. Due to the fact that the primary wind farms with high operation hours have been developed already during the last several years, the full operation hour for the secondary wind farm is about 2,000 hours/fohs/. L2: The actual operation hour of Tongyuan wind farm under the proposed project from 07/2013 to 07/2014 is 1996 hours via verified the Records Abstracts by InfraVest during the Renewable Energy Electricity Purchase Rate Calculation Formula Hearing/RA/ and the expected full operation hour of Chubei Wind Farm under the proposed project is 1,800-2,000 hours according to the Tester Report of the Wind Energy/TRWE/. The value is lower than the estimated ones in FSR, thus assessed to be convincing,

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						reasonable and conservative. L3: Finally, according to the "Guidelines for the reporting and validation of plant load factors (version 01)" issued by EB48 as Annex11, validation team verified the following documents: a) Feasibility study report/FSR/; b) Approval of Feasibility study report/AFSR/; c) The certification of FSR design party/FSR/. A critical value analysis was conducted by PP and shows if the net electricity generation increases by 15.03%~21.17%, the benchmark of 11.5% will be reached. As the annual operating hours is calculated by FSR and approved by local government. Hence, it is not likely that the net electricity generation in average over the project lifetime (i.e. continuously) will increase by 15.03%~21.17% to reach the benchmark.
Electricity price	2.6138	NTD /kWh	Feasibility Study Report	/FSR/ /RRED/ /PPA/	☒	L1: The applied electricity price is derived from the FSR. L2: For the proposed project, the expected Electricity tariff of 2.6138 NTD/kWh applied in the approved FSR was the most recently available at the time of the investment decision. It is sourced from the Regulations of Renewable Energy Development in Taiwan/RRED/. L3: Furthermore, via checking the PPAs of the project/PPA/, it is confirmed that the actual electricity prices which will be stay same for 20 years, is between 2.5971 to 2.7229 NT/kwh. The values are similar to the estimated value in the FSR. The sensitivity analysis shows if the electricity price increases by 15.03% ~ 21.17%, the project EIRRs would hit the benchmark of 11.5%. As the actual electricity prices which will be stay same for 20 years, is between 2.5971 to 2.7229 NT/kwh, even considering the actual highest price, 2.7229 NTD/kWh is only 4.2% higher than

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						the FSR estimated value 2.6138 NTD/kWh. Hence, the EIRRs are still lower than the benchmark. Hence, it is unlikely for the electricity price increase by 15.03% ~ 21.17% NTD/kWh for every year in the whole project lifetime.
O&M cost	Chingfeng:80,760 Anwei: 76,671 for each unit Taichung III 78,147 for each unit Chubei: 77,970 for 1 unit and 311,880 for 4 units Tongyuan: 926,284 Zhaowei: 463,554	EUR	Feasibility Study Report	/FSR/ /RRED/ /TAX/	☒	L1: The Annual O&M cost is derived from the FSR. The repair & maintenance cost is calculated as 0.533 NTD/kWh ~ 0.562 NTD/kWh for each sub-project. L2: Via checking the actual operation experiences from the local wind energy developers in Taiwan/RRED/, the average operation cost of the land-based wind power is 0.867 NTD/kWh for wind power station, and the value will increase in future. The O&M cost value of the project is lower than this value, thus confirmed as conservative. L3: Furthermore, as Tongyuan wind farm of the proposed project is fully commission. According to the Tax Report/TAX/, the first year actual operation cost rate of Tongyuan Wind Farm is about 2.7% of the total investment, which is a little higher than the value of 2.26% in the PDD. Hence, it is unlikely for the O&M cost to decrease by 77% ~ 98.5%.
Benchmark	11.50	%	Calculated	/MCECR/ /rfr/ /beta/ /ecrp/	☒	There is no appropriate benchmark in Taiwan for electricity generation and hence PP used model from Professor Aswath Damodaran of New York University to derive the appropriate benchmark. Professor Aswath Damodaran is a globally well-known scholar in finance especially in investment valuation. Validators checked his paper “Measuring Company Exposure to Country Risk: Theory and Practice”/MCECR/, p18 proposed by PP,

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						and confirmed the following model which can derive the cost of equity for specific industry and specific country: Cost of equity = Risk free rate + Beta x (Country risk Premium + Mature Market Premium) The Taiwan Treasury bond rate (Risk free rate) is taken as the average of US treasury 10 years bond rates in the period of 3 months prior to the earliest investment decision time (05/03/2012) and confirmed is 1.97%/rfr/. The beta value for electric-generation, which was deemed the most appropriate scope to the project, was validated against website/beta/ and confirmed Taiwan's beta is 1.35. The "Estimating Country Risk Premiums" was validated against through website/ecrp/ and confirmed Taiwan's "Country risk Premium + Mature Market Premium" is 7.05%. The validators have recalculated the benchmark and confirmed the value is 11.50% which is identical with the benchmark EIRR 11.50% described in the GS-VER-PDD. The benchmark is appropriate for Equity IRR as per Methodological tool "Investment Analysis" (version 06.0).
Income Tax Rate	17	%	Feasibility Study Report	/FSR/ /ITL/	☒	L1: The tax rate is derived from the FSR. L2: It is in accordance with the *Income Tax Law of Taiwan*/ITL/.The applied Income tax Rate is effective since 2010. Hence it is relevant for the Purpose of the income tax determination. L3: This rate is widely used by other registered wind project in Taiwan.
Project Lifetime	20	year	Feasibility Study Report	/FSR/	☒	L1: The value is derived from the FSR. L2: 20 years is a typical lifetime of the wind power projects. L3: The applied value is in line with the data sources, and the data sources have been assessed by the validation team as authentic and credible.

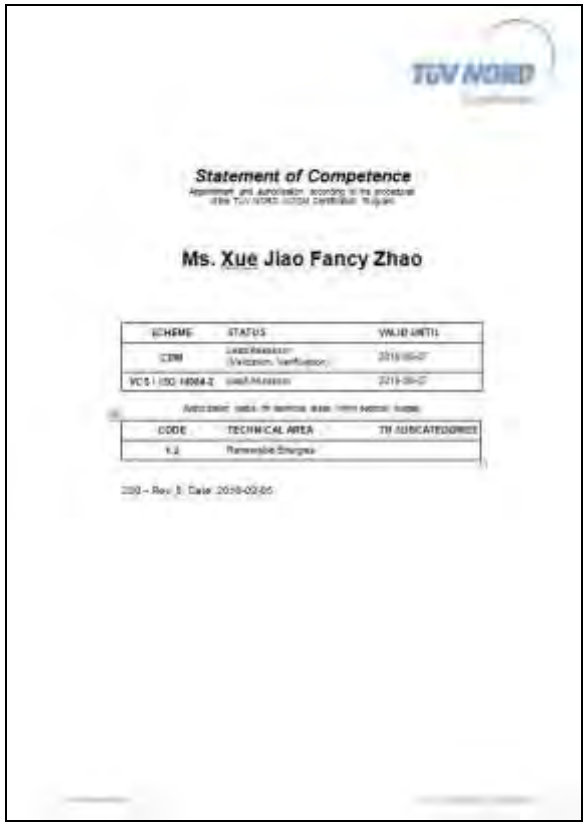
ANNEX 5: ASSESSMENT OF BARRIER ANALYSIS

Table A-5: Assessment of Barrier Analysis (VVS, §§ 124-127)

☒	No barrier parameters are used for additionality justification
☐	Assessment of barriers see below

Kind of Barrier (invest, tech, other)	Description of Barrier	Evidence used	Assessment of validation team	
			Appropriateness of information source	Explanation of final result
			☒	
			☒	
			☒	
			☒	

ANNEX 6: STATEMENTS OF COMPETENCE OF INVOLVED PERSONNEL



TÜV NORD

Statement of Competence

Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

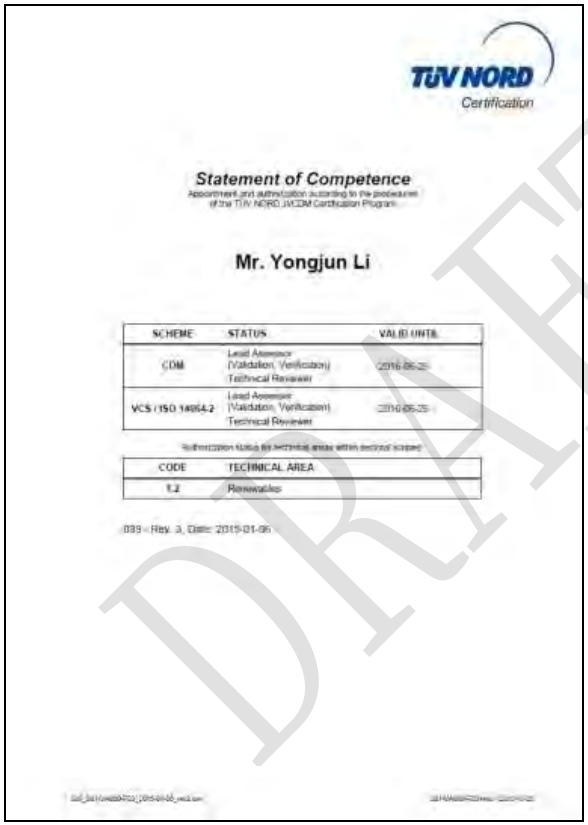
Ms. Xue Jiao Fancy Zhao

SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor (Validation, Verification)	2015-05-27
VCS / ISO 14064-2	Lead Assessor	2015-05-27

Authorization status in technical areas within sectoral scopes

CODE	TECHNICAL AREA	TH ALLOCATED/MAX
1.2	Renewable Energies	

220 – Rev. 3, Date: 2010-02-05



TÜV NORD Certification

Statement of Competence

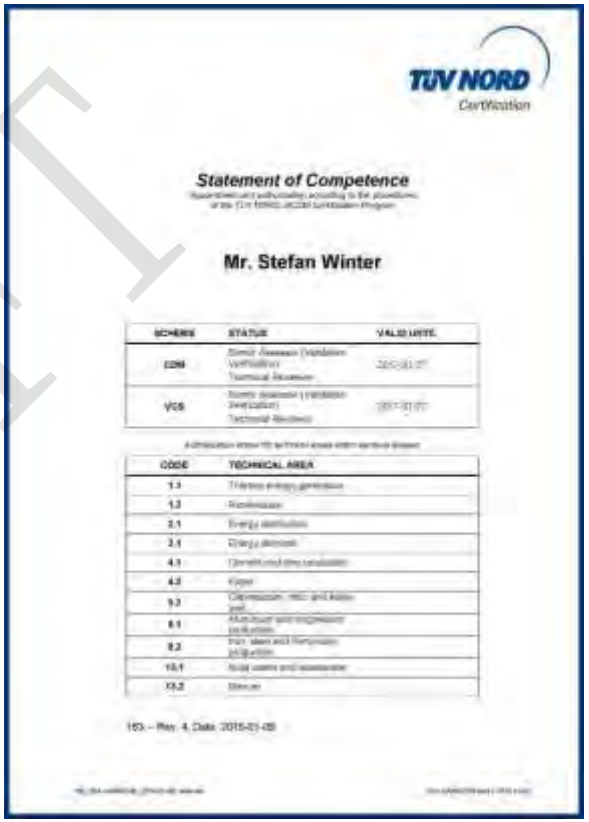
Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Mr. Yongjun Li

SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor (Validation, Verification) Technical Reviewer	2015-05-25
VCS / ISO 14064-2	Lead Assessor (Validation, Verification) Technical Reviewer	2015-05-25

Authorization status in technical areas within sectoral scopes

CODE	TECHNICAL AREA
1.2	Renewables



TÜV NORD Certification

Statement of Competence

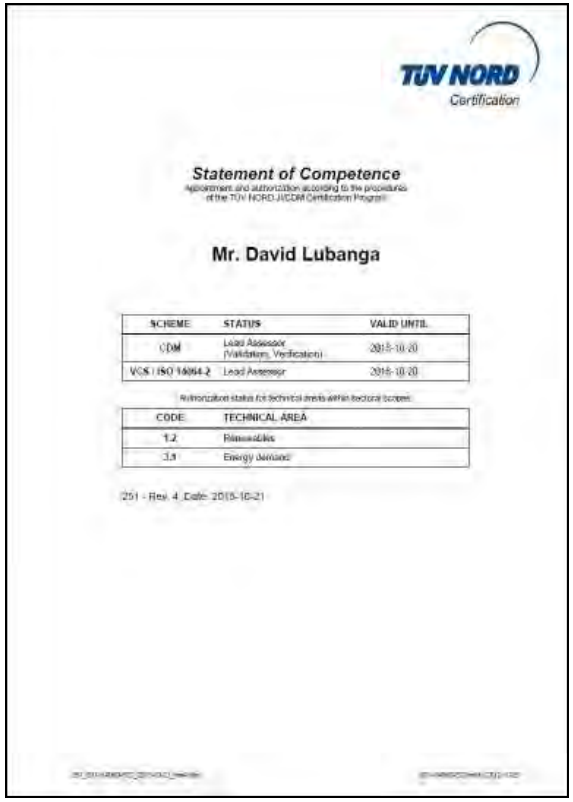
Mr. Stefan Winter

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2015-01-27
VCS	Senior Assessor (Validation, Verification) Technical Reviewer	2017-01-27

Authorization status in technical areas within sectoral scopes

CODE	TECHNICAL AREA
1.1	Thermal energy generation
1.2	Renewables
2.1	Energy distribution
2.2	Energy demand
4.1	Chemical industry
4.2	Metal
5.2	Cement, lime and other products
8.1	Afforestation and reforestation
8.2	Pulp, paper and cardboard production
10.1	Solid waste and wastewater
10.2	Biomass

153 – Rev. 4, Date: 2015-01-09



TÜV NORD Certification

Statement of Competence

Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Mr. David Lubanga

SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor (Validation, Verification)	2015-10-20
VCS / ISO 14064-2	Lead Assessor	2015-10-20

Authorized status for technical areas within sectoral scopes

CODE	TECHNICAL AREA
1.2	Renewables
3.3	Energy demand

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