



VOLUNTARY CARBON STANDARD 2007.1

SUPPLEMENTARY VALIDATION REPORT

WAYANG WINDU PHASE 2 GEOTHERMAL POWER PROJECT

Report No: MY-VCS 11/23 <11/272>

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Report Title:	Approved by:
Wayang Windu Phase 2 Geothermal Power Project	Schubert, Jochen
Client:	Project Title:
Sindicatum Carbon Capital Ltd	Wayang Windu Phase 2 Geothermal Power Project
Summary:	
Sindicatum Carbon Capital Ltd has commissioned the TÜV NORD JI/CDM Certification Program to carry out the supplementary validation of the project “ Wayang Windu Phase 2 Geothermal Power Project”, with regard to the relevant requirements of VCS 2007.1 Standard. The project activity was undertaken by Star Energy Geothermal (Wayang Windu) Limited (formerly Magma Nusantara Limited/MNL). The project activity is a geothermal type power plant with an installed capacity of 110 MW, consisting of 1 unit of 117 MW turbine and 1 unit of 116.88MW (@ 0.85 power factor) generator. The project is expected to generate 953GWh supplying to the Indonesia national grid. The expected emission reductions per annum are 794,832 VERs. The methodology applied for this project is ACM0002. Version 9 – Consolidated methodology for grid-connected electricity generation from renewable sources” This project was earlier validated by another DOE as a CDM project activity. A positive validation opinion was given and the project was registered by the UNFCCC (Ref. No. 3193, registration date: 2010-12-02). Thus as per the VCS policy announcement dated 2008-03-19, only supplementary validation is required. A risk based approach has been followed to perform this limited validation covering the clauses 1.12, 1.13, 1.14, 8.1 and 8.2 of the VCS PD. As a result of the validation of the VCS PD, the validation team confirm that: the project follows the VCS 2007.1 requirements The project activity meets the criteria of the clauses 1.12, 1.13, 1.14, 8.1 and 8.2 of the VCS PD as per VCS 2007.1 and is likely to achieve the estimated emission reductions.	
Work carried out by:	Number of pages:
Cheong, Chun Yuen (Robert) Cheong, Chee Yin (Nicholas) Schubert, Jochen Beggal, Samir	13

Abbreviations

CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CO₂	Carbon dioxide
CO_{2e}	Carbon dioxide equivalent
CP	Certification Program
CL	Clarification Request
DNA	Designated National Authority
EB	CDM Executive Board
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
PDD	Project Design Document
QC/QA	Quality control/Quality assurance
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Voluntary Carbon Standard
VCS - PD	VCS - Project Description
VCU	Voluntary Carbon Unit
VVM	Validation and Verification Manual

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1 INTRODUCTION

1.1 Objective

The objective of the validation is to assess whether the VCS PD follows the VCS 2007.1 standard particularly the clauses 1.12, 1.13, 1.14, 8.1 and 8.2 of the VCS PD.

This supplementary validation report is only valid in conjunction with the CDM registered documents for the project “**Wayang Windu Phase 2 Geothermal Power Project**”, reference No. 3193.

1.2 Scope and Criteria

The scope of the validation covers the clauses of 1.12, 1.13, 1.14, 8.1 and 8.2 of the VCS PD as required by the Policy Announcement from VCS Association dated 2008-03-19.

1.3 VCS project Description

A brief description of the project has been described in the UNFCCC registered PDD reference No. 3193.

<http://cdm.unfccc.int/Projects/DB/TUEV-SUED1260194062.48/view>

1.4 Level of Assurance

The verification has been planned and organized to achieve a

- ☒ reasonable level of assurance
- ☐ limited level of assurance.

2 METHODOLOGY

The supplementary validation of the project consisted of the following steps:

2.1 Review of Document

The Supplementary VCS PD^{/PD/} 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.

The references used in the course of this validation are summarized in section 5.

2.2 Resolution of any material discrepancy

Material discrepancies identified in the course of the validation are addressed either as CARs, CLs or FARs.

A **Corrective Action Request (CAR)** is 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 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.

A detailed list of the CARs CLs and FAR raised and discussed in the course of this validation is included in the next section 3 of this report.

3 ASSESSMENT OF VCS-PD

In this section the assessments and findings from the desk review of the VCS PD, site visit, interviews and supporting documents as well as the final assessments are summarised. Table 3-1 includes an overview of all raised CARs, CLs and FARs.

Table 3-1: Overview of CARs, CLs and FARs issued

No.	Topic / Chapter	CAR	CL	FAR
3.1	VCS PD Template Section - 1.12	-	-	-
3.2	VCS PD Template Section - 1.13	-	-	-
3.3	VCS PD Template Section - 1.14	-	-	-
3.4	VCS PD Template Section - 8.1	-	-	-
3.5	VCS PD Template Section - 8.2	-	-	-
3.6	VCS PD Template Section - 1.12	-	-	-
-	SUM	0	0	0

3.1 VCS PD Template Section - 1.12

Description

The project activity generates electricity using the geothermal resources to generate electricity to supply to the grid where it displaces the electricity mainly generated from fossil fuel. Thus carbon dioxide emissions from fossil power plants are displaced. By means of desk review of documents, site visit and subsequent interviews the description was verified as correct. Therefore, it is concluded that the project activity reduces the greenhouse gas emissions and does not result in an increase in GHG for subsequent removal.

Related Findings

- ☒ No CARs, CLs or FARs have been identified in this context
- ☐ The following finding(s) have been addressed:

Final Assessment

It can be confirmed that the project activity displaces electricity from the grid of Indonesia which is mainly generated by fossil fuel power plants. Therefore the project was not implemented to create GHG emissions primarily for the purpose of its subsequent removal or destruction.

3.2 VCS PD Template Section - 1.13

Description

The project is a registered CDM project activity under the UNFCCC scheme (reference no. 3193) and has not applied any other form of environmental credit for this particular monitoring period. The project proponents were interviewed during the onsite visit and a declaration is provided in this regard.^{/DOS/}

Related Findings

- ☒ No CARs, CLs or FARs have been identified in this context
- ☐ The following finding(s) have been addressed

Final Assessment

The declaration^{/DOS/} was reviewed and interview with the PP were conducted. Thus it can be concluded that the PP has not and will not apply for any kind of environmental credit apart from this VCS application before the date of registration with UNFCCC.

3.3 VCS PD Template Section - 1.14

Description

The project was given a positive validation opinion by a DOE which conducted the validation. The project is registered by the UNFCCC (reference No. 3193; registration date: 2010-12-02). Moreover, the project has not been applied for any other GHG programs.

Related Findings

- ☒ No CARs, CLs or FARs have been identified in this context
- ☐ The following finding(s) have been addressed:

Final Assessment

The project is not rejected by any GHG programme

3.4 VCS PD Template Section – 8.1

Description

The project proponent is Star Energy Geothermal (Wayang Windu) Limited (formerly Magma Nusantara Limited/MNL) and the company representative is Mr. Hendra Tan. The following documents were checked during the onsite visit.

- a. Host Country approval letter for the project activity^{/LOA/}

- b. Modalities of Communications; ^{/MoC/}
- c. Certificate to Operate the Power Plant; ^{/COPP/}
- d. Joint Operation Contract; ^{/JOC/}
- e. Electricity Sales Contract; ^{/ESC/}
- f. EPC Contract for Steamfield above ground system (SAGS) and power plant project. ^{/EPC/}
- g. Project Implementation Schedule. ^{/PIS/}
- h. Generator Name Plant; ^{/GNP/}
- i. Turbine Name Plant; ^{/TNP/}

Related Findings

- ☒ No CARs, CLs or FARs have been identified in this context
- ☐ The following finding(s) have been addressed:

Final Assessment

During the onsite visit, the validation team has crosschecked the various relevant documentation as shown above and the UNFCCC website (<http://cdm.unfccc.int/Projects/DB/TUEV-SUED1260194062.48/view>) for Host Country Approval Letter ^{/LOA/} and Modalities of Communications ^{/MOC/}

3.5 VCS PD Template Section – 8.2

Description

The investment is voluntary investment while Indonesia is not obligated to emission reduction scheme/capping. The project activity is electricity generation using geothermal energy and is not involved in any kind of emission trading programme. Thus this section is not applicable. ^{/DOS/}

Related Findings

- ☒ No CARs, CLs or FARs have been identified in this context
- ☐ The following finding(s) have been addressed:

Final Assessment

Not Applicable.

4 SUPPLEMENTARY VALIDATION STATEMENT

Sindicatum Carbon Capital Ltd., has commissioned the TÜV NORD JI/CDM Certification Program to carry out the supplementary validation of the project “Wayang Windu 2 Geothermal Power Project”, with regard to the relevant requirements of VCS 2007.1 Standard.

The project activity was undertaken by Star Energy Geothermal (Wayang Windu) Limited. The project activity is a geothermal power plant with an installed capacity of 110 MW, consisting of one (1) unit of 117 MW turbine and one (1) unit of 116.88MW (@ 0.85 power factor) generator. The project is expected to generate 953GWh supplying to the Indonesia national grid. The expected emission reductions per annum are 794,832 VERs.

The methodology applied for this project is ACM0002. Version 9 –Consolidated methodology for grid-connected electricity generation from renewable sources”

This project which was earlier validated by other DOE as a CDM project activity was given a positive validation opinion and the project has been accepted and registered with UNFCCC (Ref. No. 3193, registration date: 2010-12-02).

Thus as per the VCS policy announcement dated 2008-03-19, only supplementary validation is required. A risk based approach has been followed to perform this limited validation covering the clauses 1.12, 1.13, 1.14, 8.1 and 8.2 of the VCS PD. As a result of the validation of the VCS PD, the validation team confirms that: the project follows the VCS 2007.1

Malaysia, 2011-08-26

A handwritten signature in blue ink, appearing to read 'Cheong' followed by a stylized surname.

TÜV NORD JI/CDM Certification
Program

Validation Team Leader

Cheong, Chun Yuen (Robert)

Essen, 2011-08-26

A handwritten signature in blue ink, appearing to read 'Schubert' followed by a stylized surname.

TÜV NORD JI/CDM Certification
Program

Final Approval

Schubert, Jochen

5 REFERENCES

Table 5-1: Documents provided by the project participant

Reference	Document
/COPPI/	Certificate to Operate for the Power Plant issued by Directorate General Electricity and Energy Utilization dated 2009-02-15
/DOS/	Declaration on the Ownership of the Greenhouse Gas Emission dated 2011-06-27
/EPC	EPC Contract for SAGS and Power Plant dated 1994-12-02
/ESC/	Energy Sales Contract Original & Amendment dated 2006-11-21
/GNPI/	Generator Name Plate undated
/JOC/	Joint Operation Contract between Perusahaan Pertambangan Minyak dan Gas Bumi Negara and Mandala Magma Nusantara, B.V (Now known as Star Energy Geothermal) dated 1994
/LOA/	Host Country approval letter dated 2009-05-08
/MOC	Modalities of Communication dated 2009-12-07
/PDI/	VCS PD version 01 dated 2011-05-25 VCS PD version 02 dated 2011-07-04
/PDD/	Registered Project Design Document version 03 dated 2010-12-02
/PIS/	Project Implementation Schedule undated
/TNPI/	WW2-ME-TG-5250-0-Turbine Name Plate undated
/VR/	Validation Report dated 2010-12-02

Table 5-2: Background investigation and assessment documents

Reference	Document
/ACM2/	ACM0002. Version 9 –Consolidated methodology for grid-connected electricity generation from renewable sources

Reference	Document
/CPM/	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)
/IPCC/	2006 IPCC Guidelines for National Greenhouse Gas Inventories
/VCS/	Voluntary Carbon Standard 2007.1
/VVM/	Validation and Verification Manual (Version 1.2 ;EB 55)

Table 5-3: Websites used

Reference	Link	Organisation
/cd4cdm/	www.cd4cdm.org	UNEP Riso Centre
/vcs/	www.v-c-s.org	VCSA
/unfccc/	http://cdm.unfccc.int	UNFCCC

Table 5-4: List of interviewed persons

Reference	Mol ¹		Name	Organisation / Function
/IM01/	V	☒ Mr. ☐ Ms.	Richard Kotten	Sindicatum Capital Carbon Ltd./ Monitoring Officer
	V	☒ Mr. ☐ Ms.	Stefanus	Sindicatum Capital Carbon Ltd./ Associate
	V	☒ Mr. ☐ Ms	Sven Starckx	Sindicatum Capital Carbon Ltd./ Sr. Technical Advisor
	V	☐ Mr. ☒ Ms	Melanie Tantri	Sindicatum Capital Carbon Ltd./ Senior Associate
/IM02/	V	☒ Mr. ☐ Ms	Zerry Antro	Star Energy / Plant Superintendent
	V	☐ Mr. ☒ Ms	Dea Putri NF	Star Energy / Production Dispatch

Reference	Moi ¹		Name	Organisation / Function
		☒ Mr. ☐ Ms	Anton. P	Star Energy / Production Engineer
		☐ Mr. ☒ Ms	Intan. K	Star Energy / DCS Technician
		☒ Mr. ☐ Ms	Merzani Irmadhiary	Star Energy / Operation Services
		☒ Mr. ☐ Ms	Heribertus Dwiudha	Star Energy / Plant Manager

¹⁾ Means of Interview: (Telephone, E-Mail, Visit)