



RINA

GOLD STANDARD VALIDATION REPORT

Final

“10 MW Gunaydin WPP”
in
Turkey

Report N° 2012-TQ-16-MD

Revision N° 1.1

GOLD STANDARD VALIDATION REPORT

Project Title: 10 MW Gunaydin WPP		Country: Turkey	Estimated VERs (tCO₂e): 22,020	
Client: Manres Elektrik Uretim A.S.		Client contact: Ms. Ozlem COLAK		
Report No.: 2012-TQ-16-MD		Revision: 1.1	Date of this report: 15/04/2013	
Approved by (Final Report – Decision Maker):  Roberto Cavanna			Date of approval: 18/04/2013	
Methodology				
Number: ACM0002	Version: 13.0.0 of 11/05/2012	Title: Consolidated baseline methodology for grid-connected electricity generation from renewable sources	Scale Large	SS(s): 01
RINA Services S.p.A. (RINA), commissioned by Manres Elektrik Uretim A.S., has performed the validation of the project activity “10 MW Gunaydin WPP” in Turkey, with regard to the relevant requirements for GS activities. In conclusion, it is RINA's opinion that the project activity “10 MW Gunaydin WPP”, in “Turkey”, as described in the PDD version 06 of 15/04/2013, meets all relevant requirements for GS activities and all relevant host Party criteria and correctly applies the baseline and monitoring methodology “ACM0002”, “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”, version 13.0.0 of 11/05/2012.				

Work carried out by: Isil TIMUROGLU Casper VAN DER TAK	☒ No distribution without permission from the Client or organizational unit responsible ☐ Strictly confidential ☐ Unrestricted distribution
Work verified by (Final Report – Authorized officer signing for the DOE)  Laura Severino	Keywords: Climate Change, Kyoto Protocol, Validation, Gold Standard

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Abbreviations

BE	Baseline Emissions
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM M&P	Modalities and Procedures CDM
CDM-PCP	Clean Development Mechanism Project Cycle Procedure
CDM-PS	Clean Development Mechanism Project Standard
CDM-VVS	Clean Development Mechanism Validation and Verification Standard
CH ₄	Methane
CR	Clarification Request
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
CRT	Coordination and Technical Control Staff
DCI	Certification Division of RINA Services Spa
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board
EIA	Environmental Impact Assessment
EMRA	Energy Market Regulatory Authority
ER	Emission Reductions
ESIA	Environmental and Social Impact Analysis
FAR	Forward Action Request
GHG(s)	Greenhouse gas(es)
GS	Gold Standard
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
LoA	Letter of Approval
LSC	Local Stakeholder Consultation
MoV	Means of Verification
MP	Monitoring Plan
MR	Monitoring Report
NGO	Non-governmental Organization
ODA	Official Development Assistance
PDD	Project Design Document
PE	Project Emission
PP(s)	Project Participant(s)
Ref.	Document Reference
RINA	RINA Services Spa
SD	Sustainability Development
SMP	Sustainability Monitoring Plan
SS(s)	Sectoral Scope(s)
TEIAS	Turkish Electricity Transmission Company
UNFCCC	United Nations Framework Convention on Climate Change
VER	Voluntary Emission Reduction

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1 INTRODUCTION

Manres Elektrik Uretim A.S. has commissioned RINA to carry out the validation of the “10 MW Gunaydin WPP” project in Turkey.

This report summarizes the findings of the validation of the project, performed on the basis of GS VER requirements, which refer to CDM rules, as well as criteria given to provide for consistent project operations, monitoring and reporting.

1.1 Objective

The objective of the Validation is to have an independent evaluation of a project activity by a designated operational entity against the requirements of the GS VER as set out in decision 3/CMP.1, its annex and relevant decisions of the COP/MOP, on the basis of the project design document. In particular, the project's baseline, monitoring plan, and the project's compliance with relevant UNFCCC, GS requirements and host Party criteria are validated in order to confirm that the project design, as documented, is sound and reasonable and meets the identified criteria. Validation is a requirement for all GS projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of verified emission reductions (VERs).

1.2 Scope

The validation scope is to review the PDD against the UNFCCC criteria for GS VER, which refers to CDM rules.

UNFCCC criteria for GS VER refer to Article 12 of the Kyoto Protocol, the GS VER modalities and procedures, and the subsequent decisions by the Gold Standard Foundation.

Validation is not meant to provide any consultancy towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the project design.

2 METHODOLOGY

Validation consisted of the following three phases:

- Document review;
- Follow-up actions;
- The resolution of outstanding issues and the issuance of the final validation report.

The following sections outline each step in more detail.

2.1 Document Review

The PDD version 06 of 15/04/2013 and previous versions [/1/](#), in particular the applicability of the methodology, the baseline determination, the additionality of the project activity, the starting date of the project, the monitoring plan, the financial assessment calculation sheet provided in the form of a spreadsheet, “Gunaydin Financial Model_15042013” version 04 submitted on 15/04/2013 and previous versions [/4/](#), the emission reduction calculations provided in the form of a spreadsheet, “CONFIDENTIAL_CM_calculation_GTE_2010_ver excluded (2)” version 02 submitted on 21/12/2012 and previous versions [/5/](#) and GS Passport version 03 of 21/12/2012 and previous versions [/2/](#), were assessed as part of the validation.

The following table lists the documentation that was reviewed during the validation.

/1/	Global Tan Energy Ltd.: CDM-PDD for Project Activity “10 MW Gunaydin WPP” in Turkey, version 01 of 31/08/2012 Global Tan Energy Ltd.: CDM-PDD for Project Activity “10 MW Gunaydin WPP” in Turkey,
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	version 02 of 04/12/2012 Global Tan Energy Ltd.: CDM-PDD for Project Activity “10 MW Gunaydin WPP” in Turkey, version 03 of 21/12/2012 Global Tan Energy Ltd.: CDM-PDD for Project Activity “10 MW Gunaydin WPP” in Turkey, version 04 of 05/02/2013 Global Tan Energy Ltd.: CDM-PDD for Project Activity “10 MW Gunaydin WPP” in Turkey, version 05 of 28/02/2013 Global Tan Energy Ltd.: CDM-PDD for Project Activity “10 MW Gunaydin WPP” in Turkey, version 06 of 15/04/2013
/2/	Global Tan Energy Ltd.: Gold Standard Passport for Project Activity “10 MW Gunaydin WPP” in Turkey, version 01 of 31/08/2012 Global Tan Energy Ltd.: Gold Standard Passport for Project Activity “10 MW Gunaydin WPP” in Turkey, version 02 of 04/12/2012 Global Tan Energy Ltd.: Gold Standard Passport for Project Activity “10 MW Gunaydin WPP” in Turkey, version 03 of 21/12/2012
/3/	Global Tan Energy Ltd.: Local Stakeholder Consultation Report for Project Activity “10 MW Gunaydin WPP” in Turkey, of 20/03/2012 Global Tan Energy Ltd.: Local Stakeholder Consultation Report for Project Activity “10 MW Gunaydin WPP” in Turkey, of 20/07/2012
/4/	Global Tan Energy Ltd.: Financial Assessment Calculation Spreadsheet “Guanydin Financial Model_16082012.xls” version 01, submitted on 31/08/2012 Global Tan Energy Ltd.: Financial Assessment Calculation Spreadsheet “Guanydin Financial Model_16082012.xls” version 02, submitted on 25/02/2013 Global Tan Energy Ltd.: Financial Assessment Calculation Spreadsheet “Kopya Guanydin Financial Model_04032013.xls” version 03, submitted on 04/03/2013 Global Tan Energy Ltd.: Financial Assessment Calculation Spreadsheet “Gunaydin Financial Model_15042013.xls” version 04, submitted on 15/04/2013
/5/	Global Tan Energy Ltd.: Emission Factor Calculation Spreadsheet “CONFIDENTIAL_CM_calculation_GTE_2010_ver excluded (2).xls” version 01, submitted on 31/08/2012 Global Tan Energy Ltd.: Emission Factor Calculation Spreadsheet “CONFIDENTIAL_CM_calculation_GTE_2010_ver excluded (2).xls” version 02, submitted on 21/12/2012
/6/	The Gold Standard Foundation: Requirements, version 2.1 of 01/06/2009
/7/	The Gold Standard Foundation: Toolkit and related Annexes (A – S), version 2.1 of 01/06/2009
/8/	CDM Executive Board: Clean Development Mechanism Project Cycle Procedure, version 03.1 of 03/12/2012
/9/	CDM Executive Board: Clean Development Mechanism Project Standard, version 02.1 of 03/12/2012
/10/	CDM Executive Board: Clean Development Mechanism Validation and Verification Standard, version 03.0 of 23/11/2012
/11/	CDM Executive Board, Glossary of CDM Terms, version 07.0 of 23/11/2012
/12/	CDM Executive Board: Baseline and monitoring methodology “ACM0002”, “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”, version 13.0.0 of 11/05/2012
/13/	CDM Executive Board: Methodological Tool “Tool for demonstration and assessment of additionality”, version 06.0.0 of 25/11/2011
/14/	CDM Executive Board: Methodological Tool “Tool to calculate the emission factor for an electricity system”, version 02.2.1 of 29/08/2011
/15/	CDM Executive Board: “Guidelines on the demonstration and assessment of prior consideration of the CDM”, version 04 of 15/07/2011
/16/	CDM Executive Board: “Guidelines on the Assessment of Investment Analysis”, version 05 of 15/07/2011

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/17/	CDM Executive Board: "Guidelines for the Reporting and Validation of Plant Load Factors (PLF)", version 01, of 17/07/2009
/18/	CDM Executive Board: "General Guidelines to SSC CDM Methodologies", version 18.0 of 02/3/2012
/19/	CDM Executive Board: General Guidelines to SSC CDM methodologies, version 19 of 13/09/2012
/20/	CDM Executive Board: "Guidelines for Completing the Project Design Document Form for Small-Scale CDM Project", version 01.0 of 02/03/2012
/21/	CDM Executive Board: "Project Design Document Form (F-CDM-SSC-PDD)", version 04.1, of 11/04/2012
/22/	CDM Executive Board: "Guidelines on the Demonstration of Additionality of Small-Scale Project Activities", version 09.0 of 20/7/2012
/23/	Website: http://maindb.unfccc.int/public/country.pl?country=TR Argument: UNFCCC, Parties and Observers States, Turkey Language: English, Retrieved on: 07/08/2012
/24/	Turkish Electricity Transmission Company (TEIAS) and Manres Elektrik Uretim A.S.: Contribution Fee Agreement of 24/09/2011
/25/	Bektas Insaat Taahhut Tas. San. Tic. Ltd. Sti. and Manres Elektrik Uretim A.S.: Construction Subcontractor Agreement of 03/04/2012
/26/	Balikesir Elektromekanik Sanayi Tesisleri A.S. and Manres Elektrik Uretim A.S.: Power Transformer Agreement of 10/01/2012
/27/	GE Wind Energy GmbH and Manres Elektrik Uretim A.S.: Wind Turbine Generator Agreement of 20/12/2011
/28/	Guntas Elektrik Tesis San. ve Tic. Ltd. Sti. and Manres Elektrik Uretim A.S.: Energy Transmission Line Construction Agreement of 17/02/2012
/29/	Guntas Elektrik Tesis San. ve Tic. Ltd. Sti. and HES Hacilar Elektrik Sanayi ve Tic. A.S.: Cabling Agreement of 10/01/2012
/30/	Envy Energy and Environmental Investments Inc.: Preliminary EIA Report of February 2009
/31/	Balikesir Governorship Environment and Forestry Directorate: Certificate of EIA Exemption of 20/03/2009 (based on 10 MWm installed capacity)
/32/	Balikesir Governorship Environment and Forestry Directorate: Approval Letter of EIA Exemption of 25/01/2012 (based on 10 MWe/12.5 MWm installed capacity)
/33/	Energy Market Regulatory Authority: Generation License numbered EU/3490-17/2141 of 11/11/2011 (based on 10 MWm installed capacity)
/34/	Energy Market Regulatory Authority: Generation License EU/3490-17/2141 of 11/11/2011 amended on 09/02/2012 (based on 10 MWe/12.5 MWm installed capacity)
/35/	GL Garrad Hassan Deutschland GmbH: Preliminary Assessment of the Energy Production of the Proposed Gunaydin Wind Farm of 02/11/2011 (last amended on 20/01/2012)
/36/	Turkish Electricity Transmission Company (TEIAS): Grid Connection Agreement of 03/04/2012
/37/	The Ministry of Forest and Hydraulic Works: Letter of Permission for Ground Survey and Drilling Work Area and Access Road numbered 2012/96 of 20/04/2012
/38/	Fina Energy: Health, Safety, Environmental and Quality Policy Rev 0 of 11/11/2011
/39/	AECOM Turkey: Environmental and Social Impact Assessment of Gunaydin Wind Farm, Balikesir, Turkey of 16/01/2012
/40/	Gold Standard Foundation: Local Stakeholder Consultation Report Review Feedback of 20/07/2012
/41/	Fina Energy Muhendislik Muteahhitlik Dis Ticaret Montaj ve Servis A.S.: Health and Safety Daily Report, No ISG.0026 of 15/06/2012
/42/	Global Tan Energy Ltd.: Emission Reduction Certification Agreement of 24/01/2012
/43/	Nature Research Society (DAD): Preliminary Assessment Report of 2012

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/44/	Fina Energy: The Environmental Dimension of Impact Assessment Form of 01/04/2012
/45/	Fina Energy: Safety Report for Construction and Turbine Access Roads of 22/05/2012
/46/	CDM Executive Board: Methodological Tool "Tool to determine the remaining lifetime of equipment", version 01 of 16/10/2009
/47/	Website: http://www.istanbul.gov.tr/?pid=9218 and http://www.un.org/en/documents/udhr/ Argument: United Nations: Universal Declaration of Human Rights of 10/12/1948 Language: Turkish and English, Retrieved on: 26/09/2012
/48/	Website: http://webfusion.ilo.org/public/db/standards/normes/appl/appl-byCtry.cfm?lang=en&CTYCHOICE=0660 Argument: International Labour Standards: List of Ratifications of International Labour Conventions by Turkey Language: English, Retrieved on: 26/09/2012
/49/	Intergovernmental Panel on Climate Change: 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 2, Chapter 1, Table 1.4 "Default CO ₂ Emission Factors for Combustion"
/50/	Turkish Energy Market Regulatory Authority: Communiqué for Measurement Devices used in the Electricity Market of 22/03/2003
/51/	The Energy Market Regulatory Authority: Electricity Market Balancing and Settlement Regulation of 14/04/2009
/52/	Fina Energy: Offer Request for Carbon Development of 15/11/2011
/53/	The Ministry of Energy and Natural Resources: Temporary Acceptance Protocol of 20/11/2012
/54/	Global Tan Energy Ltd.: Common Practice Analysis Spreadsheet "common practice gunaydin.xls" version 01, submitted on 21/12/2012
/55/	Turkish Electricity Transmission Company (TEIAS): Turkish Electrical Energy 10-Year Generation Capacity Projection (2012-2021), of July 2012 Turkish Electricity Transmission Company (TEIAS): Turkish Electrical Energy 10-Year Generation Capacity Projection (2011-2020), of November 2011
/56/	Turkish Electricity Transmission Company (TEIAS): Electricity Generation & Transmission Statistics Of Turkey, 2010 Website: http://www.teias.gov.tr/T%C3%BCrkiyeElektrik%C4%B0statistikleri/istatistik2010/front%20page%202010-%C3%A7i%C3%A7ek%20kitap/uretim%20tuketim(22-45)/40(06-10).xls Argument: Turkey's Gross Electricity Generation By Primary Energy Resources and the Electric Utilities (2006-2010) Language: Turkish and English, Retrieved on: 22/01/2013 Website: http://www.teias.gov.tr/T%C3%BCrkiyeElektrik%C4%B0statistikleri/istatistik2010/front%20page%202010-%C3%A7i%C3%A7ek%20kitap/yak%C4%B1t46-49/49.xls Argument: Heating Values of Fuels Consumed in Thermal Power Plants in Turkey By the Electricity Utilities (2006-2010) Language: Turkish and English, Retrieved on: 22/01/2013 Website: http://www.teias.gov.tr/T%C3%BCrkiyeElektrik%C4%B0statistikleri/istatistik2010/front%20page%202010-%C3%A7i%C3%A7ek%20kitap/yak%C4%B1t46-49/47.xls Argument: Annual Development of Fuels Consumed in Thermal Power Plants in Turkey By the Electricity Utilities (2006-2010) Language: Turkish and English, Retrieved on: 22/01/2013
/57/	Website: http://www.teias.gov.tr/T%C3%BCrkiyeElektrik%C4%B0statistikleri/istatistik2010/front%20page

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	%202010-%C3%A7i%C3%A7ek%20kitap/kguc(1-12)/2.xls Argument: Annual Development of Turkey Installed Capacity by Primary Energy Resources in Turkey, 1940-1983 Language: Turkish, Retrieved on: 22/01/2013 Website: http://www.teias.gov.tr/T%C3%BCrkiyeElektrik%C4%B0statistikleri/istatistik2010/front%20page%202010-%C3%A7i%C3%A7ek%20kitap/kguc(1-12)/3.xls Argument: Annual Development of Turkey Installed Capacity by Primary Energy Resources in Turkey, 1984-2010 Language: Turkish, Retrieved on: 22/01/2013
/58/	Intergovernmental Panel on Climate Change: 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 2, Chapter 1, Table 1.4 "Default CO ₂ Emission Factors for Combustion"
/59/	Website: https://gs2.apx.com/myModule/rpt/myrpt.asp?r=111 Argument: Gold Standard Registry Language: English; Retrieved on: 22/01/2013
/60/	Website: http://www.vcsprojectdatabase.org/ Argument: VCS Registry Language: English; Retrieved on: 22/01/2013
/61/	Website: http://mer.markit.com/br-reg/public/project.jsp?project_id=103000000002255 Argument: Markit Registry / Duzova Wind Power Project, Turkey Language: English; Retrieved on: 03/04/2013
/62/	Website: http://mer.markit.com/br-reg/public/project.jsp?project_id=103000000002310 Argument: Markit Registry / Ziyaret 57.5 MW Wind Power Project, Turkey Language: English; Retrieved on: 03/04/2013
/63/	Website: http://www.finaenerji.com.tr/santrallerimiz_ve_projelerimiz.php?dil=en Argument: Fina Energy, Wind Power Projects Language: English; Retrieved on: 03/04/2013
/64/	World Bank: Project Appraisal Document on an IBRD Loan and a Proposed Loan from Clean Technology Fund to TSKB and TKB with the Guarantee of Turkey, of 01/05/2009
/65/	Turkiye Kalkinma Bankasi A.S. (Industrial Development Bank of Turkey): Loan Term Sheet
/66/	The Ministry of Energy and Natural Resources: Law on Utilization of Renewable Energy Resources for the Purpose of Generating Electricity Energy, Law No. 5346, Enactment Date: 18/05/2005
/67/	Website: http://www.tcmb.gov.tr/yeni/eng/ Argument: Central Bank of the Republic of Turkey, Exchange Rates of December 2011 Language: English, Retrieved on: 12/03/2013
/68/	Website: http://www.economywatch.com/business/business-loan-interest-rate.html Argument: Business loan interest rate Language: English, Retrieved on: 12/03/2013
/69/	Website: http://dgpys.teias.gov.tr/dgpys/ Argument: Transmission Losses Language: Turkish, Retrieved on: 12/03/2013
/70/	The Presidency of the Turkish Revenue Administration: Corporate Tax Law, Law No. 7229, Enactment Date: 10/06/1949
/71/	The Presidency of the Turkish Revenue Administration: General Communiqué on Tax Procedural Law, Depreciation Rate List, Official Gazette No: 28405, Enactment Date: 08/09/2012
/72/	European Wind Energy Association: The Economics of Wind Energy of March 2009

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/73/	International Energy Agency: Renewable Energy Technologies: Cost Analysis Series, Wind Power of June 2012
/74/	The Energy Market Regulatory Authority: Assize No: 3689, Date: 09/02/2012
/75/	International Energy Agency: Renewable Energy Essentials: Wind of 2008
/76/	GE Wind Energy GmbH: Turbine Maintenance Proposal
/77/	Utaopya Elektrik Uretim ve San. Tic. A.S.: Profit and Loss Account Statement of 2009
/78/	Eralp Otomotiv San. Tic. Ltd. Sti.: Maintenance Invoice of 25/04/2012

2.2 Follow-up Actions

On 26/09/2012, RINA visited project site located at Yaylakoy Village of Manyas District within boundaries of Balıkesir Province to resolve questions and issues identified during the document review and to perform interviews with relevant stakeholders in the host country. The project personnel have been interviewed with the purpose to evaluate the project design and project history. During the site visit, the villagers and head of Yaylakoy Village have been interviewed about environmental and social impact of the project activity. No negative feedback has been received from the stakeholders. The carbon consultant has been interviewed about the project design, applied methodology, baseline and additionality of the project activity, GS sustainable indicators, environmental and social impact of the project activity.

The key personnel interviewed and the main topics of the interviews are summarized in the table below.

	Date	Name and Role	Organization	Topic
/a/	26/09/2012	Kemal DEMIRKOL <i>Managing Director</i>	Global Tan Energy Ltd.	Description of the project activity
/b/	26/09/2012	Ozlem COLAK <i>Senior Business Development Specialist</i>	Manres Elektrik Uretim A.S.	Baseline and Additionality Emission reductions calculations
/c/	26/09/2012	Ali CENGEL <i>Health and Safety Engineer</i>	Manres Elektrik Uretim A.S.	Monitoring plan and monitoring arrangements GS Sustainable Indicators Local stakeholder consultation
/d/	26/09/2012	Ali OZEN <i>Cadastral Mapping Technician</i>	Manres Elektrik Uretim A.S.	Environmental and social impacts Health and Safety
/e/	26/09/2012	Ismail AYGORMUS <i>Operation Technician</i>	Manres Elektrik Uretim A.S.	Waste Management
/f/	26/09/2012	Mesut ACIK <i>Operation Technician</i>	Manres Elektrik Uretim A.S.	
/g/	26/09/2012	Mehmet SENEVREN <i>Security Chief</i>	Manres Elektrik Uretim A.S.	
/h/	26/09/2012	Ahmet GOK <i>Security Staff (Local Employee)</i>	Manres Elektrik Uretim A.S.	Working Conditions Health and Safety Environmental impacts of the project activity
/i/	26/09/2012	Rahmi DEMIR <i>Security Staff</i>	Manres Elektrik Uretim A.S.	Social impacts of the project activity
/j/	26/09/2012	Umit TANRIVERDI <i>Security Staff (Local Employee)</i>	Manres Elektrik Uretim A.S.	Soil Condition Bird Migration Route

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/k/	26/09/2012	Selahattin Başaran <i>Head of Yaylakoy Village</i>	Yaylakoy Village	Local stakeholder consultation and comments Environmental impacts of the project activity Social impacts of the project activity Soil Condition Expropriation Bird Migration Route
/l/	26/09/2012	Derya GOK <i>Housewife</i>	Yaylakoy Village	
/m/	26/09/2012	Behiye TANRIVERDI <i>Housewife</i>	Yaylakoy Village	
/n/	26/09/2012	Hikmet KOC <i>Farmer</i>	Yaylakoy Village	
/o/	26/09/2012	Nazmi TASKIN <i>Farmer</i>	Yaylakoy Village	
/p/	26/09/2012	Yalcin BASARAN <i>Farmer</i>	Yaylakoy Village	

2.3 Resolution of Outstanding Issues

The objective of this phase of the validation is to resolve any outstanding issues, which need to be clarified for RINA's positive conclusion on the project design.

To guarantee transparency a validation protocol has been customized for the project. The protocol shows in a transparent manner the requirements, means of validation and the results from validating the identified criteria. The validation protocol consists of three tables; the different columns in these tables are described in the figure below (see Figure 1). The completed validation protocol is enclosed in Appendix A to this report.

A corrective action request (CAR) is raised if one of the following occurs:

- The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions.
- The GS VER requirements have not been met.
- There is a risk that the emission reductions cannot be monitored or calculated.

A clarification request (CR) is raised if information is insufficient or not clear enough to determine whether the applicable GS VER requirements have been met.

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Figure 1 Gold Standard Validation protocol tables

Validation Protocol, Table 1 - Requirement checklist				
Checklist Question	Ref.	MoV	Comments	Conclusion
The various requirements in Table 1 are linked to checklist questions the project should meet. The checklist is organized in five different sections.	Makes reference to documents where the answer to the checklist question or item is found.	Explain how conformance with the checklist question is investigated. Examples are document review (DR), interview or any other follow-up actions (I), cross checking (CC) with available information relating to projects, (N/A) means not applicable.	The discussion on how the conclusion is arrived at and the conclusion on the compliance with checklist question so far.	For CAR, CR and FAR see the definitions above. OK is used if the information and evidence provided is adequate to demonstrate compliance with CDM/GS requirements.

Validation Protocol, Table 2 - Resolution of Corrective Action Requests and Clarification			
Corrective action requests and/or clarification requests	Reference to Table 1	Response by project participants	Validation Conclusion
The CAR and/or CRs raised in table 1 are repeated here.	Reference to the checklist question number in Table 1 where the CAR or CR is explained.	The responses given by the project participants to address the CARs and/or CRs.	The validation team's assessment and final conclusion of the CARs and/or CRs.

Validation Protocol, Table 3 - Forward Action Requests (if no FAR the table 3 is deleted)		
Forward action request	Reference to Table 1	Response by project participants Validation Conclusion
The FAR raised in table 1 is repeated here.	Reference to the checklist question number in Table 1 where the FAR is explained.	Response by the project participants on how forward action request will be addressed prior to first verification.

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2.4 Internal Quality Control

All the revisions of the validation report before being submitted to the client were subjected to an independent internal technical review to confirm that all validation activities had been completed according to the pertinent RINA instructions.

The technical review was performed by a technical reviewer(s) qualified in accordance with RINA's qualification scheme GS VER validation and verification.

2.5 Validation Team and the Technical Reviewer(s)

The validation team and the technical reviewers consist of the following personnel:

Role/Qualification	Last Name	First Name	Country
Team Leader, GS Validator, Technical Expert	Timuroglu	Isil	Turkey
Financial Expert	Van Der Tak	Casper	Italy
Technical Reviewer	Valoroso	Rita	Italy

3 VALIDATION FINDINGS

The findings of the validation related to the project, as described in the PDD version 06 of 15/04/2013 and previous versions [/1/](#), are stated in the following sections.

The validation requirements, the means of validation and the results from validating the identified criteria are documented in more detail in the validation protocol in Appendix A.

3.1 Participation

The project participants are “Manres Elektrik Uretim A.S.” and “Global Tan Energy Ltd.” and are private entity; the project is a unilateral project and hence the host country is the only Party involved in the proposed project activity. Turkey fulfills the requirements to participate in the GS VER, having ratified the Kyoto Protocol on 28/05/2009 and has put in effect on 26/08/2009 [/23/](#). However, Turkey does not have any emission reduction target; hence, it is not listed as an Annex B country of the Kyoto Protocol. The project participant is correctly listed in table A.4 of the PDD and the information is consistent with the contact details provided in Appendix 1 of the PDD [/1/](#).

The proposed project has not directly or indirectly received or benefited from official development assistance on condition that the credits are transferred to the donor country (Turkey) of the assistance. In this regard, RINA checked the ODA declaration form provided by the Manres Elektrik Uretim A.S. signed by the project owner on 10/08/2012, which is presented under Annex 1 of GS Passport [/2/](#).

3.2 Project Design Document and Gold Standard Passport

The PDD for the project activity “10 MW Gunaydin WPP”, in “Turkey”, version 06 of 15/04/2013 and previous versions [/1/](#) and the Gold Standard Passport [/2/](#) submitted by the Manres Elektrik Uretim A.S. has been the basis for the validation process.

RINA confirms that the above PDD is based on the currently valid PDD template [/21/](#) and is completed in accordance with the applicable guidance document “Guidelines for Completing the Project Design Document Form for Small-Scale CDM Project Activities” [/20/](#) and the Gold Standard Passport is in accordance with the latest version of the Gold Standard Passport template (Annex R to Toolkit version 2.1) [/7/](#).

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3.3 Project Design

Purpose and general description of the project activity

The purpose of the project activity is to install wind power plant with a total installed capacity of 10 MWe. The generated electricity will be fed to grid via Mustafa Kemal Pasa Substation as confirmed through the Generation License [/34/](#).

Project location

The project is within boundaries of Balıkesir Province of Turkey, located at Manyas District. The geographical coordinates, which are presented below, have been crosschecked through the Generation License [/34/](#). The coordinates is also crosschecked with Preliminary EIA Report [/30/](#) and found to be consistent.

Turbine	Latitude (N)	Longitude (E)
T1	586478	4425918
T2	586566	4425088
T3	586463	4425636
T4	586268	4425305
T5	585994	4425329

Scenario existing prior to the implementation of the project activity

The proposed project is a Greenfield project where no other power plant was located at the same site prior to the implementation of the project activity, which is confirmed during the on-site inspection. Scenario prior to the implementation of the project activity, Turkish grid is mainly feed by thermal power.

Technology(ies) employed

The project qualifies as a small-scale CDM project activity. The project activity consists of five turbines each having 2.5 MWm capacities as confirmed through the electro mechanical agreement [/27/](#). The total output of the project will be limited to 10 MWe. The project is licensed on 11/11/2001 as 10 MWm / 10 MWe [/33/](#) whereas on 09/02/2012 capacity has been revised as 12.5 MWm / 10 MWe as confirmed through the Generation License [/34/](#) considering wind characteristics of the region and for better utilizing the wind potential in the region. The turbine characteristics have been confirmed through the electromechanical equipment agreement [/27/](#).

Project implementation

The project activity will generate electricity by utilizing the renewable energy. The electromechanical equipment agreement [/27/](#) has been signed between GE Wind Energy GmbH and Manres Elektrik Uretim A.S. on 20/12/2011. The construction agreement [/25/](#) has been signed between Manres Elektrik Uretim A.S. and Bektas Insaat Taahhut Ta. San. Tic. Ltd. Sti. on 03/04/2012. During on site visit, it has been observed that the construction has been started and all turbines have been erected.

Crediting period and estimated Emission Reductions

A renewable crediting period of 7 years has been chosen for the project activity. It is expected that the project activity will generate 36.7 GWh of electricity per year and delivered to the Turkey National grid. The annual average emission reductions resulted from the project is expected to be 22,020 tCO₂e.

Contribution to sustainable development

The project will reduce greenhouse gas emissions through use of renewable resources and will create job opportunities. In terms of environmental impact, project is considered to have positive impact on air

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quality due to avoided NO_x, PM and SO₂ emissions whereas no negative affect water quality other pollutants and biodiversity has been identified.

RINA was able to verify all the documented evidence listed above during the validation process and can confirm that data and considerations are complete and accurate. Moreover, RINA confirms that the description of the proposed GS project activity, as contained in the PDD sufficiently covers all relevant elements, is accurate and complete and that it provides the reader with a clear understanding of the nature of the proposed GS project activity.

3.4 GS Criteria – Project Type Eligibility Screen

As per the GS Toolkit [/7/](#), the project eligibility criteria are listed in the following:

Scale of Project Activity

The project activity is a small-scale project, as the total installed capacity of the project activity does not exceed the 15 MW as confirmed through the Generation License [/34/](#), which is in accordance with the GS Requirements [/6/](#).

Host Country

The host party of the project activity is Turkey who has ratified the Kyoto Protocol on 28/05/2009 and has put in effect on 26/08/2009 [/23/](#). As Turkey was neither a Party of UNFCCC at the time the Kyoto Protocol was adopted, nor included in the Annex B of the Protocol which defined quantified emissions limitation or reduction commitments for Annex I parties. Hence, Turkey does not have a quantified emission limitation or reduction commitment in the first commitment period over the period of 2008-2012 under the Protocol. This also means that 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 is not required.

Type of Project Activity

The purpose of the project activity is to generate electricity from renewable sources (wind) and fed to the Turkish National power grid. The project activity fits into the renewable energy supply category (i.e. generation and delivery of electricity from a renewable resources), as defined in the GS Toolkit version 2.1 of 01/06/2009 [/7/](#).

Greenhouse Gases

The greenhouse gas is defined as CO₂ that is eligible under Gold Standard.

Official Development Assistance (ODA)

The project activity will not use Official Development Assistance (ODA). The project owner has signed ODA declaration on 10/08/2012 and included to the GS Passport [/2/](#).

Project Timeframe

The Project was not announced to be going ahead without the revenues from the sales of carbon credits as explained in the GS Passport [/2/](#).

Other Certification Schemes

The project is not registered under another voluntary carbon-crediting scheme.

3.5 GS Criteria - Pre-feasibility Assessment

As per the GS Toolkit version 2.1 of 01/06/2009 [/7/](#), pre-feasibility assessment is not required for the proposed project activity, as described in the following:

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- The proposed project is not applying for retroactive registration, as the construction of the project has not started before the LSC meeting. LSC meeting was held on 21/02/2012 and the construction agreement [/25/](#) has been signed on 03/04/2012.
- The project activity is the installation of a wind power plant with a total installed capacity of 10 MWe, which pre-feasibility assessment is exempted for wind power plant as per the GS Annexes C to Toolkit version 2.1 of 01/06/2009 [/7/](#).
- The project is not being rejected for registration by the UNFCCC, which can be confirmed by verifying the UNFCCC website.

3.6 Application of Selected Baseline and Monitoring Methodology

Project Activity Eligibility

The project activity is a small-scale project, as the total installed capacity of the project activity does not exceed the 15 MW as confirmed through the Generation License [/34/](#), which is in accordance with the GS Requirements [/6/](#).

The project correctly applies the approved baseline and monitoring methodology “ACM0002”, “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”, version 13.0.0 of 11/05/2012 [/12/](#).

The proposed project activity meets the criteria defined in the baseline methodology as it ensures that:

- The project activity is the installation of a new wind power plant at a site where no renewable power plant was operated prior to the implementation of the project. The project is a greenfield plant as validated through the site visit.
- The installed capacity of the project activity is 10 MWe that is smaller than the 15 MW as validated through the Generation License [/34/](#).
- The proposed project activity does not involve switching from fossil fuels to renewable energy sources at the site of project activity as confirmed during the site visit.
- The proposed project activity does not involve combined heat and power (co-generation) systems as confirmed during on-site visit.
- The proposed project activity does not involve addition of renewable energy generation units at an existing renewable power generation facility.
- The proposed project activity does not involve biomass fired power plants.
- The project activity is not retrofit or replacement project. The project is a greenfield plant as validated through the site visit.

The project activity applies the following methodological tools:

- Methodological Tool “Tool for demonstration and assessment of additionality”, version 06.0.0 of 25/11/2011 [/13/](#)
- Methodological Tool “Tool to calculate the emission factor for an electricity system”, version 02.2.1 of 29/08/2011 [/14/](#)

and meets the defined criteria as it ensures that:

- Additionality tool is applicable to the project activity since Gold Standard VER project activities, of whatever scale and type, are required to use either UNFCCC-approved or a Gold Standard-approved additionality tool to demonstrate project additionality.
- Baseline tool is applicable to the project activity since the project activity supplies electricity to the national grid.

RINA hereby confirms that the selected baseline and monitoring methodology has been previously approved by the CDM Executive Board/GS Board, and is applicable to the Project, which complies with all the applicability conditions therein and the selected version is valid at the time of submission of the proposed project activity for registration. It is also confirmed that the methodology is correctly applied by comparing it with the actual text of the applicable version of the methodology.

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3.7 Project Boundary and Baseline Identification

3.7.1 Project Boundary

According to the approved baseline and monitoring methodology “ACM0002”, “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”, version 13.0.0 of 11/05/2012 [/12/](#) the project boundary includes the project power plant and all power plants connected physically to the electricity system that the project is connected to.

Emissions sources included in the project boundary are shown in the table below:

	GHGs involved	Description
Baseline emissions	CO ₂	CO ₂ emission from fossil fuel fired power plant that are displaced due to project activity.
Project emissions	NA	Project emissions are neglected since the project activity is a wind power plant in line with the ACM0002 /12/ .
Leakage	NA	The leakage emissions are neglected as per ACM0002 /12/ since energy generating equipment is not transferred from or to another activity as validated equipment agreement /27/ .

Emission sources which are not addressed by the applied methodology and which are expected to contribute more than 1% of the overall expected average annual emissions reduction have not been identified.

By checking the information by the physical site, RINA can confirm that all the emission sources, gases have been included in the project boundary, and the description in the PDD is accurate and complete, and also that the selected sources and gases are justified for the proposed project activity.

3.7.2 Baseline Identification

According to the approved baseline methodology ACM0002 [/12/](#), the baseline scenario is “the installation of a new grid-connected renewable power plant/unit 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”. Since the baseline is defined by the approved methodology, no further analysis is required as per the paragraph 115 of the VVS [/10/](#).

The approved baseline methodology “Consolidated baseline methodology for grid-connected electricity generation from renewable sources” has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed GS project activity.

3.8 Additionality

According to the GS Requirements [/6/](#), the additionality of the project has been established applying the “Tool for demonstration and assessment of additionality”, version 06.0.0 of 25/11/2011 [/13/](#).

The above opinion of RINA to the additionality of the proposed project is further explicitly explained in the following steps.

3.8.1 Prior Consideration of the Clean Development Mechanism

Project Starting Date

The starting date of the project activity is 20/12/2011 that is the date of turbine agreement signed between the PP and the equipment supplier [/27/](#). Since the first real action is equipment agreement, it is in line with the definition as per the CDM Glossary of Terms [/11/](#).

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Prior Consideration

Start date of project activity is defined as 20/12/2011, which is the date of turbine agreement [/27/](#). The PP has been requested offers from carbon developers on 15/11/2011 as confirmed through the email [/52/](#). The project owner has signed the carbon certification agreement with the Global Tan Energy on 24/01/2012 [/42/](#).

The project owner (mother company, Fina Energy) has other wind power plants [/63/](#) and two projects (Duzova WPP and Ziyaret WPP) are registered with the Gold Standard [/61/](#) [/62/](#). The validation of Duzova WPP started in September 2009 and finalized in May 2010 as confirmed through the validation report [/61/](#). The validation of Ziyaret WPP started in February 2010 and finalized in September 2011 as confirmed through the validation report [/62/](#). Therefore, the project owner was aware of carbon finance before the starting date of the project activity, demonstrating prior consideration of carbon credits.

The proposal requests [/52/](#) and the other GS registered projects of project owner [/61/](#) [/62/](#) shows that carbon reduction revenue was seriously considered in the decision to proceed with the project activity.

The following timeline of key milestones was elaborated based on the verifiable evidence collected during the validation process. The information is consistent with the timeline provided in the PDD and all events show a logic sequence, which is in line with the GS/CDM requirements and rules.

	Date	Milestone activities verified
/1/	15/11/2011	Offer Request for Carbon Development /52/
/2/	20/12/2011	Wind Turbine Generator Agreement /27/
/3/	24/01/2012	Signature with Global Tan Energy for VER Development /34/

3.8.2 Identification of Alternatives

According to the approved baseline methodology ACM0002 [/12/](#), the baseline scenario is “the installation of a new grid-connected renewable power plant/unit 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” and since it is prescribed in the approved methodology no further analysis is required as per para 115 of the CDM-VVS [/10/](#). The project proponent has justified the selection of the baseline scenario in line with the applied methodology and the same is deemed reasonable.

3.8.3 Investment Analysis

Choice of Approach

The project uses approved methodologies “ACM0002”, “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”, version 13.0.0 of 11/05/2012 [/12/](#). According to the methodology, additionality needs to be established in accordance with the latest version of “Tool for the demonstration and assessment of additionality”, which is version 06.0.0 at the time of documents submission to GS [/13/](#).

The latest version of “Guidelines on the assessment of investment analysis” shall be taken into account when applying investment analysis as per the additionality tool [/13/](#). According to the additionality tool [/13/](#), the investment analysis can be carried out through (1) simple cost analysis, (2) investment comparison analysis or (3) benchmark analysis. The project participants have correctly applied the benchmark analysis as the appropriate analysis method and justified their choice in the PDD [/1/](#), noting that there are non-carbon revenues so that the simple cost analysis cannot be used, and that there is no alternative investment, so that the investment comparison analysis cannot be used.

Benchmark Selection

The benchmark indicator has been selected as the equity IRR before taxes, and the threshold value of the benchmark indicator has been established as 15.00%, based on “Project Appraisal Document on an IBRD Loan and a Proposed Loan from Clean Technology Fund to TSKB and TSKB with the Guarantee of Turkey”, issued by World Bank of 1 May 2009 [/64/](#). It could be confirmed on page 52 of

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the World Bank document, paragraph number 3 that the equity IRR is a real IRR and not a nominal IRR. The analysis is conducted in real terms.

The selected benchmark is derived from official approved benchmark, which is in line with the paragraph 30.d of the “Tool for the demonstration and assessment of additionality” [/13/](#). The suitability of benchmark is assessed as per the paragraph 121 of the VVS [/10/](#) and found acceptable. The equity IRR is selected as a financial indicator for the project activity. The selected benchmark is assessed to be applicable to the type of IRR calculated as per the “Guidelines on the Assessment of Investment Analysis” [/16/](#).

Input Parameters

RINA has validated the input parameters used in the investment analysis and the following steps have been followed to assess the investment analysis:

Assessment of the sources used for input parameters. All input parameters used in the financial analysis are taken from publicly third party sources available [/27/](#) [/34/](#) [/35/](#) [/25/](#) [/26/](#) [/27/](#) [/28/](#) [/29/](#) [/61/](#) [/62/](#) [/63/](#) [/64/](#) [/65/](#) [/66/](#) [/67/](#) [/68/](#) [/69/](#) [/70/](#) [/71/](#) [/72/](#) [/73/](#) [/74/](#) [/75/](#) [/76/](#) [/77/](#) [/78/](#) [/79/](#) and can thus considered information provided by independent and recognized source.

RINA compared the input parameters for the financial analysis included in the PDD and in the IRR spreadsheet with the parameters stated in the publicly third party sources and was able to confirm that the values applied are consistent with the values stated in the document mentioned before.

All the data used for the investment analysis were available at the time of the investment decision. The date of turbine agreement [/27/](#), 20/12/2011, is defined as project starting date and investment decision date.

The input parameters used in the financial analysis were cross-checked and all the data sources used for cross-checking were checked during the validation process. The following is carried out:

Input value	Assessment
Project Base Data	
Total Installed Capacity	10 MWe The value applied could be confirmed with Generation License /34/ and crosschecked with turbine agreement /27/ .
Annual Gross Power Generation	36,700 MWh Garrad Hassan has carried out an independent analysis of wind climate and energy production of the proposed project activity and issued the report on 02/11/2011 /35/ . During micro-siting and optimization studies, several layouts have been compiled using different turbines. Based on the result of studies, 2.5 MW GE turbines have been selected for the project. For conservativeness, P75 value has been used which corresponds to 36.7 GWh.
Annual Net Power Generation to be Sold	35,702 MWh The estimation of electricity generated by the project is based on probability of exceedance p75 and the respective PLF calculated by “Garrad Hassan” in their energy production assessment report of 02/11/2011 /35/ . Transmission losses have been excluded from the calculation. Transmission losses factor is assumed as 2.7% which is crosschecked with Turkish Electricity Transmission Company (TEIAS) data /69/ .
Total Investment Costs	18,616 (\$ 1'000) Please see the investment cost table below, which also provides the key sources for the figures used. The investment costs per MW are 1.861 million USD, which is within the range provided by International Energy Agency /73/ for wind power developments in Europe (1.4-2.6 million USD /MW for onshore wind).
Operation and Maintenance Costs	680 (\$ 1'000) Please see the operation and maintenance cost table below. As per the IRR calculation, the unit O&M cost is 18.53 \$/MWh while according the Renewable Energy Essentials Wind /75/ the operation and maintenance

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		costs are estimated at between 14 to 26 \$/MWh for onshore wind power plants. The value used in the financial analysis is within in the range of the estimation published by the International Energy Agency /75/ , thus it can be confirmed the conservativeness of the O&M costs applied.
Electricity Price	Selling	7.30 \$ cent/kWh The Law on Utilization of Renewable Energy Resources for the Purpose of Generating Electricity Energy /66/ provides for a tariff of 0.073 USD/kWh for wind power plants.
EUR/USD Exchange Rate		1.319 \$/€ The applied exchange rate could be confirmed on the website of Central Bank of the Republic of Turkey /67/ .
USD/TL Exchange Rate		1.859 TL/€ The applied exchange rate could be confirmed on the website of Central Bank of the Republic of Turkey /67/ .
Investment Costs (\$ 1'000)		
Construction Works		2,152,091.22 TL The value applied could be confirmed through the construction agreement /25/ between Bektas Insaat Taahhut Tas. San. Tic. Ltd. Sti. and project owner.
Electrification and Cabling		175,000 € + 795,000 TL + 465,284 \$ The value applied could be confirmed through the power transformer agreement /26/ , transmission line construction agreement /28/ and cable agreement /29/ .
Turbine		11,038,000 € The value applied could be confirmed through the turbine agreement /27/ signed between GE Wind Energy GmbH and project owner.
Design and Consultancy		842 (1000 \$) Design and consultancy cost is assumed as 5% of the investment cost. Consultancy cost for wind power plant is found reasonable comparing with the estimation published by the European Wind Energy Association /72/ .
Contingency		317 (1000 \$) Contingency cost is assumed as 10% of the investment cost except turbine cost. Since turbine cost is based on realized figures, contingency cost is not considered for turbine cost. Therefore, the contingency cost is about 5.2% of the investment cost. According the cost analysis of wind power published by International Energy Agency /73/ , the contingency cost for small-scale wind farms (16 MW) with 2 MW turbines is about 5% of the investment cost. The value used in the financial analysis is a little bit higher than the estimation published by the International Energy Agency /73/ , thus contingency cost applied was found acceptable.
Contribution Fee		17 TL / kWh The value applied could be confirmed with Contribution Fee Agreement /24/ signed between Turkish Electricity Transmission Company (TEIAS) and project owner.
Financing		
Equity Share		The equity share is 30% and it is based on financing conditions of similar projects of the project owner /62/ /63/ . In the absence of a signed financing agreement, it is confirmed that the best possible source has been used for the assumption on the financing of the project.
Loan Interest		The loan interest rate per year is applied as 9% based on loan term sheet /65/ .
Loan Term		The loan term is 12 years and grace period is 3 years based on loan term sheet /65/ .

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Operation and Maintenance Costs	
Grid Fee	TEIAS (12,500 TL/MW) The applied value could be confirmed through the assize of Energy Market Regulatory Authority /74/.
Maintenance	The maintenance cost is assumed as 40,000 \$ per turbine in the calculation. This assumption is based on realized figure from a similar size (15 MW) wind power plant of the project owner /61/ and crosschecked with the income and expense table of the project /77/. This figure is also crosschecked with the turbine maintenance proposal of the supplier /76/. According to this proposal /76/, maintenance cost as 26,000 € for first two years and 44,500 € (~58,000 \$) for rest of the operation period. Thus, PP's assumption was found reasonable. Also, total O&M cost is within in the range of the estimation published by the International Energy Agency /75/.
Insurance	The insurance cost is assumed as 0.3% of total investment. This applied insurance cost is about 8% of the total O&M cost. According to the cost analysis of wind power plant published by International Energy Agency /73/, the insurance cost is about 13% of total O&M cost. The value used in the financial analysis is lower than the estimation published by International Energy Agency /73/, thus it can be confirmed the conservativeness of the O&M costs applied.
Staff and Contingency	It is assumed that 12 staffs are employed during the operation. The cost of each staff is assumed as 16,000 \$ / year. Staff meal cost is assumed as 4 dollar per man per day which is reasonable since the meal cost defined by government is 11.70 TL (~6.5 \$). The other cost (phone, stationary, photocopy, cleaning agent, fuel, overhead and management) is assumed as 149,200 \$ / year. These assumptions are based on realized figure from a similar size (15 MW) wind power plant of the project owner /61/ and crosschecked with the income and expense table of the project /77/. Also, total O&M cost is within in the range of the estimation published by the International Energy Agency /75/.
Taxes and Depreciation	
Corporate Tax Rate	The corporate tax rate applicable in Turkey is 20% as confirmed through the Corporate Tax Law /70/.
Depreciation Rate	The depreciation rate for electromechanical equipment is 25% and the depreciation rate for building and constructions is 40%. The depreciation rate is in line with the General Communique on Tax Procedural Law /71/.
Project Lifetime	The operational lifetime of the project is about 49 years as per Generation License /34/. The technical lifetime of turbines is defined as 25 years as per the "Tool to determine the remaining lifetime of equipment" /46/. The turbines will be renovated or replaced and project will continue to be operated by the project owner until end of the license period. The renovation cost is included at the 25 th year of operation in IRR calculation.
Investment Period	The investment period is 47 years (1 year for construction work and 46 years lifetime of the project). It is not limited to the proposed crediting period of project activity and it is consistent with the applicable "Guidelines on the assessment of investment analysis" /16/ and is therefore deemed appropriate.
Salvage Value	At the end of the license period /34/, the project assets will be handed over to the government. The investment period reflects the expected operational lifetime of the proposed project activity. There is no need to add a fair value of the project activity assets as a longer period is selected.

Based on the information verified, RINA was able to confirm that the input parameters used in the investment analysis are reasonable and adequately represent the economic situation of the project activity at the time of the investment decision.

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Calculation and Conclusion

The IRR calculations were provided in a spreadsheet [/4/](#). The calculations were verified and found to be correct by RINA as well as the assumptions used in the calculation were deemed to be correct. The project IRR without VER revenues is 11.57%, which confirms that the proposed project activity in absence of the VER benefits and compared to the benchmark IRR 15% is not financially attractive.

Sensitivity Analysis

A sensitivity analysis has been carried out for parameters contributing more than 20% revenues and costs, to demonstrate the robustness of the financial analysis. Reasonable variations of $\pm 2.5\%$, $\pm 5\%$ and $\pm 10\%$ of the total investment costs and operation cost. Sensitivity analysis has been applied to the electricity income for a decrease of 5%, 10% and 15% and for an increase of 5%, 10% and 15%.

% Change	Investment Costs	Operation Costs	% Change	Electricity Income
-10%	13.89	12.25	-15%	7.79
-5%	12.65	11.91	-10%	9.03
-2.5%	12.09	11.74	-5%	10.29
0%	11.57%	11.57%	0%	11.57%
+2.5%	11.09	11.40	+5%	12.88
+5%	10.63	11.23	+10%	14.23
+10%	9.81	10.90	+15%	15.61
Benchmark	15.00%	15.00%	Benchmark	15.00%
Switching value	-15.2%	-55.1%	Switching value	+13.34%

The switching values (the percentage changes for each of the sensitivity parameters equating the real equity IRR after taxes to the benchmark of 15%) have been calculated. The PDD argues and the DOE accepts, on the basis of the large absolute values of the switching values, that the likelihood of the switching value being reached is almost zero.

The investment cost shall decrease 15.2% to reach the benchmark considering the applied inputs. The applied figures in the investment analysis are based on realized figures; therefore, a decrease in the investment cost is not expected. Thus, it is deemed unlikely that the investment cost can decrease more than 15.2%. The operating cost shall decrease 55.1% to reach the benchmark considering the applied cost. The impact of operating cost on IRR is not significant. The fluctuation percentage to reach benchmark is very high and it is deemed unlikely that the operating cost can decrease more than 55.1%. The electricity revenue shall increase 13.34% to reach the benchmark considering the defined tariff (0.073 USD/kWh) by the Law on Utilization of Renewable Energy Resources for the Purpose of Generating Electricity Energy [/66/](#) for wind power plants. The electricity price is determined by PMUM based on demand of the grid. Since the wind power plants do not have a storage facility, they are not able to benefit from high prices realized when demand is high. Thus, it is deemed unlikely that the electricity price can increase more than 13.34%.

The project participants conclude that without the revenues from the sale of VERs, the project is not financially attractive. With the added value from the sale of VERs, the project becomes more financially attractive. Hence, the project participants correctly conclude that the project faces a significant investment barrier and is additional.

3.8.4 Barrier Analysis

Barrier analysis is not applied as the additionality of the proposed project activity is demonstrated through investment analysis, which is in line with the Methodological Tool "Tool for demonstration and assessment of additionality", version 06.0.0 of 25/11/2011 [/13/](#).

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3.8.5 Common Practice Analysis

According to the methodological tool for the demonstration and assessment of additionality [/14/](#), the common practice analysis shall be conducted applying the following steps:

Step 1: The applicable output range is calculated as +/-50% of the capacity of the project activity in line with the tool. The project comprises an installed capacity of 10 MWe; therefore, the applicable output range is 5 MWe to 15 MWe.

Step 2: The applicable geographical area for the proposed project covers the entire host country (Turkey) as the default area specified in the guideline. All plants that deliver the same output, within the applicable output range calculated in Step 1, as the proposed project activity and have started commercial operation before the start date of the project are defined as N_{all} . The total number of N_{all} is calculated as 148 in the “common practice gunaydın” calculation spreadsheet [/54/](#).

Step 3: The power plants apply technologies different that the technology applied in the proposed project activity are identified as N_{diff} . All wind power plants, except Ares (Alaçati) and Bores (Bozcaada) projects, have benefitted from carbon revenue as confirmed through the GS registry [/59/](#). Ares and Bores projects have different technology in terms of investment climate since the types of these companies are BOT (build-operate-transfer) as confirmed through the Turkish Electrical Energy 10-Year Generation Capacity Projection Report [/55/](#). Thus, N_{diff} is therefore the same as N_{all} .

Step 4: Factor $F = (1 - N_{diff}) / N_{all}$ representing the share of plants using technology similar to the technology used in the proposed project activity in all plants that deliver the same output or capacity as the proposed project activity.

The $N_{all}-N_{diff}$ is calculated as 0, which are not greater than 3. Therefore, the project is not common practice.

3.8.6 Conclusion

RINA can confirm that all data, rationales, assumptions, justifications and documentation provided by the project participants to support demonstration of additionality are credible and reliable.

By assessing the evidences presented and cross-checking the information contained in, RINA considers the reasoning for the proposed project additionality demonstration is credible and reasonable i.e. the proposed project has the ability to reduce anthropogenic emissions of greenhouse gases by sources below those that would have occurred in the absence of the registered GS project activity.

3.9 GS Criteria - Sustainability Assessment

The project activity supports the sustainable development by reducing greenhouse gas emissions and other pollutants comparing to baseline scenario and creating job opportunities during the construction and the operation phase.

The safeguarding principles and sustainability development indicator are assessed as explained below.

Based on the review of GS Local Stakeholder Consultation Report Review Feedback of 20/07/2012 [/40/](#), the following comments were identified that shall be evaluated by the DOE.

FAR#1: *Since there has been no formal feedback obtained during the meeting, validating DOE shall randomly select among the attendees participated to the meeting and interview them against their evaluations/opinions on the project and provide validation opinion respectively. The DOE shall also find out if grievance mechanism requirements shall be met during the meeting or not.*

During the site visit, the villagers and head of Yaylakoy Village have been interviewed about environmental and social impact of the project activity. No negative feedback has been received from the stakeholders. It has been confirmed during on site visit that the stakeholders were informed about the grievance mechanism and a log book will be provided to the head of village by the PP. Hence, FAR#1 is closed.

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FAR#2: *Considering that a large number of NGOs invited but none attended to the meeting and no feedback received afterwards, the DOE shall interview an active environmental and community NGO representing the community based concerns. The DOE shall please share feedbacks and validation opinion in respect to the project.*

Nature Research Society (DAD) was communicated about the about the project. The preliminary assessment report /43/ for the project activity is prepared by DAD. Project owner has been working with DAD for monitoring impact on bird migration and final study will be available at the verification stage. Hence, FAR#2 is closed.

FAR# 3: *Validation DOE shall validate expropriation process of the private land area/s is any applied and obtain feedbacks from the local authorities respectively and provide validation opinion accordingly.*

The head of village was interviewed about the expropriation process. He mentioned that the villagers sold their land of their own accord and they received their payment properly. This statement was also confirmed by the villagers. Hence, FAR#3 is closed.

FAR#4: *Considering the interlinked aspects of IFC and GS safeguarding requirements, following selected impacts with given measures shall be addressed by the PP and integrated into the SD monitoring plan of the GS Passport. The responsive actions shall be validated by DOE during validation against the ESIA report.*

- Surface water and soil contamination as per Water Quantity & Quality and Soil Condition
- Erosion and sedimentation as per Soil Condition
- Waste management (haz., Non-haz., other) as per Other Pollutants
- Air quality (dust management)
- Biological resources and habitat alteration as per Biodiversity
- HS monitoring as per Qualitative Employment

It has been confirmed during on site visit that “Environmental and Social Management Plan” presented at the ESIA Report has been applied by the PP.

Surface water and soil contamination: During construction phase, the sewerage system of the village was used. During operation phase, waste water is disposed as required by the relevant regulations. The monitoring plan includes this parameter and will be monitored during crediting period.

Erosion and sedimentation: The excavation waste was used as filling material for the road construction. Solid waste will be collected and disposed appropriately during operation.

Waste management: The waste management during construction phase in under subcontractor (Bektas) responsibility. The maintenance is not performed by Bektas, is performed by service company. The service company have took the waste oil occurred during maintenance as confirmed through the maintenance records /78/.

Air quality (dust management): The dust emission is monitored through the documentation of measures such as pictures. Since the construction has already completed, the pictures are included to GS Passport. Also, no negative comments have received from stakeholders during on site visit. In order to prevent the dust generation, roads has been sprinkled with water regularly, loads on the hauling vehicles have been covered while in transport.

Biological resources and habitat alteration: The project activity is not located in an area, which is legally protected, officially proposed for protection, identified by authoritative sources for their high conservation value, or recognized as protected by traditional local communities as confirmed during the site visit. The project activity is located near to worldwide important bird area that is Manyas Bird Paradise. A bird migration plan will be developed by the PP for bird migration and mitigation measures.

Health and Safety: It was observed during the site visit that the personal protective equipment is provided to the workers and necessary precautions such as caution signs are taken in the project area. The main subcontractor of the project owner (Bektas Insaat Taahhut Tas. San. ve Tic. Ltd. Sti.) construction report daily to the project owner during construction phase. Health and safety engineer prepares daily health and safety report. The report of 15/06/2012 /41/ has been reviewed during on site visit. Health and safety engineer has also prepared safety report for construction and turbine access road. The training records have been submitted and it has been confirmed that the employees have

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attended Health and Safety Training. Also, Emergency Operation Plan [/37/](#) and Risk Assessment Report [/38/](#) prepared by health and safety specialist has been seen on-site visit.

Hence, FAR#4 is closed.

FAR#5: *Considering that the project is in the vicinity of worldwide important bird area which is called as Manyas Bird Paradise, a comprehensive ornithology study shall be conducted by an ornithologist with competent background and expertise prior to next verification.*

The study shall take into account of the following risk factors at minimum and shall include more other factors if needed:

- Migration factor
- Bird species (both creeping birds (migration and local) and active migrating birds)
- Bird flying figure/style
- Turbine location
- Meteorological factors (wind direction and other effective factors)

The study shall include a literature review together with site surveys and methodology used shall be explicitly presented. Site survey shall be well planned according to migration seasons with adequate number of days allowing observation of representative bird activities. The findings shall be precisely reported including time, species types and number of species and location/coordinates. Based on the study findings, a discussion and recommendations section shall be given at the end of the report and recommended mitigation measures shall be well discussed.

Project owner has been working with DAD for monitoring impact on bird migration and final study will be available at the verification stage. The ornithology report is included to monitoring plan and shall be confirmed during verification. Hence, CAR#5 is closed.

FAR#6: *Validation DOE shall please validate if applicable GS's Grievance Mechanism Rules are applied and addressed throughout the stakeholder consultation processes or not. Please provide validation opinion accordingly.*

It has been confirmed during on site visit that the stakeholders were informed about the grievance mechanism and a log book will be provided to the head of village by the PP. Hence, FAR#6 is closed.

3.9.1 Do no Harm Assessment

The risk of the project could have harmful impacts have been assessed under "Do no harm assessment" section in GS Passport [/2/](#). The "Do no harm assessment" is based on the UNDP (United Nations Development Programme) safeguarding principles. All the safeguarding principles are assessed in terms of risk, and the explanations and references are provided for each principle to justify the evaluation of the degree of risk.

Human Rights

All safeguarding principles listed under "Human Rights" are scored low risk. The host country has ratified the European Convention on Human Rights [/47/](#). The project does not cause any resettlement as confirmed during on site visit via interviews with stakeholders. The project activity does not have any impact on the cultural and archaeological heritage as mentioned in the Preliminary EIA Report [/30/](#).

Labour Standards

All safeguarding principles listed under "Labour Standards" are scored low risk. The project activity complies with the ILO Convention [/48/](#).

Environmental Protection

All safeguarding principles listed under "Environmental Protection" is scored low risk. All the conducted assessments during the Preliminary EIA Report [/30/](#) shows that from this project activity there is no significant negative influence into environment and social area. The every kind of waste will be disposal as per the related regulation of Environmental Law. The project activity is not located in an

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area, which is legally protected, officially proposed for protection, identified by authoritative sources for their high conservation value, or recognized as protected by traditional local communities as confirmed during the site visit. The project activity is located near to worldwide important bird area that is Manyas Bird Paradise. A bird migration plan will be developed by the PP for bird migration and mitigation measures.

Anti-Corruption

The anti-corruption safeguarding principles is scored low. The project does not involve and is not in complicit in corruption. Turkey is a party to United Nation Convention against Corruption [/48/](#).

3.9.2 Sustainable Development Matrix

The GS indicators of sustainable development are defined as per the Annex I of the GS Toolkit [/7/](#). The indicators are connected to the localized Millennium Development Goals as per the Annex I of the GS Toolkit [/7/](#). The baseline situation and the future target are described for each parameter. The justification for choice of the parameters was provided in the GS Passport. The justification is based on objective sources such as "Preliminary EIA Report" [/30/](#).

The defined the GS indicators in the SD matrix which are in line with the Annex I of the GS Toolkit [/7/](#) are given below including their scores.

Air Quality (+)

Parameter: SO₂ and NOx emissions

In parallel to the electricity generation SO₂ and NOx emissions reduction will be realized since the grid is mainly fed by the fossil fuels. The effect of the project on the air quality is scored positive and will be monitored annually.

Water Quality and Quantity (0)

Parameter: Disposal of the waste water

There will not be any significant activities on ambient water sources during the operational and contraction phases of project. The parameter is scored neutral and will be monitored once.

Soil condition (0)

Parameter: Amount of non-hazardous solid wastes during construction and operational phases. Appropriate management of all waste in line with regulations

Recyclable and non-recyclable wastes will be stored temporarily and will be disposed by the Manyas Municipality. The excavation waste was used as filling material for the road construction. The parameter is scored neutral and will be monitored annually.

Other Pollutants (0)

Parameter: No noise problem occurs

Noise or other pollutant source does not exist; parameter is scored neutral and will not be monitored.

Biodiversity (0)

Parameter: Number of affected bird species and affected species

Since the proposed project includes only five turbines, it is not expected to create significant impacts on the local biological resources and wildlife in the project site. A bird migration plan will be developed by the PP for bird migration and mitigation measures. The parameter is scored neutral and will be monitored once.

Quality of Employment (0)

Parameter: Number of certificates issued/trainings provided

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The quality of staff will be increased by trainings. The parameter is scored neutral and will be monitored annually.

Livelihood of the Poor (0)

Parameter: Change in living standards of locals

Project will indirectly have impact on locals' living conditions due to supply of materials by local firms, recruitment of locals and by the maintenance on the roads due to the contraction phase. Compensation will be made if expropriation is still necessary in the final layout of the turbines and for transmission lines. The parameter is scored neutral and will be monitored once after construction.

Access to Affordable and Clean Energy Services (+)

Parameter: Fossil fuel replaced

Project will prevent significant NG consumption for electricity generation and contribute use of local resources for electricity generation. The parameter is scored positive and will be monitored annually.

Human and institutional capacity (0)

Parameter: Change education and skills

Project will have indirect impact on human and institutional capacity due to trainings of staff. The parameter is scored neutral and will not be monitored.

Quantitative Employment and Income Generation (+)

Parameter: Payment made to staff

The project will create new employments around the project area during the operation and construction of the project. The parameter is scored positive since the income generation will increase and related parameter will be monitored.

Balance of Payments and Investment (+)

Parameter: Currency saving due to avoided fuel import

Turkey is mainly dependent on import coal and natural gas for electricity generation. Project will contribute decrease in trade deficit and help in improvement of balance of payments. The parameter is scored positive and will be monitored annually.

Technology Transfer and Technological Self-reliance (0)

Parameter: Expenditures for equipment

Project will contribute in technology transfer to Turkey from Germany and have limited impact on development of local suppliers and know-how in the country. The parameter is scored neutral and will not be monitored.

All of the indicators have been scored positive or neutral in comparison with the baseline situation. None of the indicators has been scored negative. The project contributes positive to "environment" and "economic and technological development" and "social development".

It is RINA's opinion that the project complies with the sustainability assessment requirements defined in the GS Toolkit version 2.1 of 01/06/2009 [/7/](#).

3.10 Monitoring Plan

The approved baseline and monitoring methodology "ACM0002", "Consolidated baseline methodology for grid-connected electricity generation from renewable sources", version 13.0.0 of 11/05/2012 [/12/](#) has been applied.

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The monitoring plan is in accordance with the monitoring methodology; the monitoring plan will give opportunity for real measurement of achieved emission reductions.

RINA has checked all the parameters presented in the monitoring plan against the requirements of the methodology; no deviations relevant to the project activity have been found in the plan.

RINA confirms that the monitoring arrangements described in the monitoring plan are feasible within the project design, and the means of implementation of the monitoring plan are sufficient to ensure the emission reductions achieved by/resulting from the proposed GS project activity can be reported ex post and verified.

Parameters Determined Ex-ante

The ex-ante parameters that are mentioned in the methodology are included in the PDD and are provided in compliance with the methodology:

	Data/parameter	Unit	Value applied	Assessment
/1/	Operating Margin of Turkey National Grid (OM)	tCO ₂ e/MWh	0.653	The data used to determine the OM emission factor of the grid is obtained from “Electricity Generation & Transmission Statistics of Turkey, 2010” /56/, which is published by TEIAS. The validation team has confirmed that this is the most updated data at the time for submission for validation, which is considered as appropriate. The emission factors of fuels used in the calculations are based on IPCC default values at the lower limit of uncertainty at a 95% confidence interval as provided in table 1.4 of Chapter 1 of Volume 2 of the 2006 IPCC Guidelines on National GHG Inventories /58/, which is in line with the methodological tool, and considered as appropriate.
/2/	Build Margin of Turkey National Grid (BM)	tCO ₂ e/MWh	0.441	The data used to determine the OM emission factor of the grid is obtained from “Turkish Electrical Energy 10-Year Generation Capacity Projection (2011-2020)” /55/, which is published by TEIAS. The validation team has confirmed that this is the most updated data at the time for submission for validation, which is considered as appropriate. The net energy conversion efficiency of power unit are taken from Annex 1 of the “Tool to calculate the emission factor for an electricity system” which is deemed reasonable. The emission factors of fuels used in the calculations are based on IPCC default values at the lower limit of uncertainty at a 95% confidence interval as provided in table 1.4 of Chapter 1 of Volume 2 of the 2006 IPCC Guidelines on National GHG Inventories /58/, which is in line with the methodological tool, and considered as appropriate.
/3/	Combined Margin of Turkey National Grid (CM)	tCO ₂ e/MWh	0.600	The emission factor is calculated as a combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the procedures prescribed in the tool /14/.

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Parameters Monitored Ex-post

The ex-post parameters that are mentioned in the methodology are included in the PDD and are provided in compliance with the methodology, and they will be monitored during the crediting period:

	Parameter	Description/Assessment
/1/	EG _{facility,y} (MWh/year)	Net electricity generated and delivered to the grid by the proposed project in year y The quantity of electricity supplied by the project plant/unit to the grid and the quantity of electricity delivered to the project plant/unit from the grid will be measured. Net generation will be calculated via subtracting energy delivered by the project activity to the grid for internal consumption from electricity fed to the grid. The electricity generation of the plant will be crosschecked with PMUM records that are the basis of sold electricity. Net electricity generation will be measured by two meters. The meters will comply with EMRA (Energy Market Regulatory Authority) regulation /50/. Since the meters have not been sold yet, the accuracy class is not defined. However, the accuracy class of the meters will be 0.2s or 0.5s depending on the capacity of circuit as per the "Communiqué for Measurement Devices used in the Electricity Market" /51/ as explained in the PDD version 01 /1/. The maintenance and calibration of meters are under TEIAS responsibility. If any major discrepancy occurs between the two meters, TEIAS performs necessary calibration.

Sustainability Monitoring Plan

	Parameter	Description/Assessment
/1/	SO ₂ and NO _x emissions from grid connected plants	The reductions of SO ₂ and NO _x emissions are monitored annually by calculation.
/2/	Number of personnel certified/trained during operation phase	All technical staff is trained for operation and maintenance of equipment and health and safety trainings. Relevant staffs will be certified for working high voltage. The parameter will be monitored through the training documents/certificates and employ records.
/3/	Currency saving due to avoided fuel import	Amount of avoided natural gas to be imported will be monitored annually by calculation.
/4/	Disposal of waste water	Wastewater is disposed as required the relevant regulations. The parameter is monitored once annually through assessing disposal methods during site visits and checking waste disposal records.
/5/	Number of bird species and affected species	Number of bird species and affected species is monitored once and it is confirmed through the ornithology report.
/6/	Amount of nonhazardous solid wastes during construction and operational phases. Appropriate management of all waste in line with	Solid waste will be collected and disposed appropriately. Recyclable and non-recyclable wastes will be stored temporarily and will be disposed by the Manyas Municipality. The parameter is monitored annually through on site observation and checking waste disposal records.

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	regulations	
/7/	Compensations made to locals	Compensations made to locals is monitored once after construction via interviews with owner of expropriated land.
/8/	Measures issued to minimize dust emissions	The dust emissions is measured once after construction. It is mentioned in the monitoring plan that the parameter is monitored through the documentation of measures such as pictures.
/9/	Fossil fuel replaced	The amount of avoided of natural gas is monitored annually by calculation.
/10/	Payments made to staff	The project will create new job opportunities. The parameter monitored annually through the evaluation documents for wages paid and social security documents.

Management System and Quality Assurance

The electricity generation and consumption is measured in line with the TEIAS rules and requirements [/50/](#). The generated electricity fed to grid will be measured by two meters, which will be sealed by TEIAS.. Two meters will be installed, the main meter is used for monitoring, and the secondary meter is used for quality control and back-up purposes.

The electricity generation supplied to the grid and electricity consumption from the grid is stored by PMUM on the web site. The Project owner has a password to access this data on the web site. As indicated in the PDD [/1/](#), the monitored data will be kept for two years after the end of the crediting period or the last issuance of VERs in line with the methodology [/12/](#).

3.11 Estimation of GHG emissions

The emission reduction ER_y by the proposed project activity during the crediting period is the difference between baseline emissions (BE_y), project emission (PE_y) and emissions due to leakage (L_y) as follows.

Baseline Emissions

The baseline emissions (BE_y in tCO_2e) are the product of the baseline emission factor ($EF_{grid,CM,y}$ in tCO_2e) times the net electricity supplied by the project activity to the grid ($EG_{facility,y}$ in MWh). The baseline emission factor for the project activity is determined ex-ante as a combined margin (CM) consisting of the combination of operating margin (OM) and build margin (BM) according the methodological "Tool to calculate the emission factor for an electricity system" [/14/](#).

The OM is calculated to be tCO_2e/MWh 0.653 and the BM is calculated to be tCO_2e/MWh 0.441. The combined grid emission factor of the grid is determined ex-ante for the seven years crediting period and it has been calculated as weighted average ($w_{OM} = 0.75$ and $w_{BM} = 0.25$) of the operating margin emission factor and the build margin emission factor. The combined margin emission factor is calculated as $0.600 tCO_2e/MWh$, and the net electricity supplied by the project activity to the grid is estimated to be $36,700 MWh/year$ [/35/](#).

The annual baseline emissions generated by the project activity is calculated to be $22,020 tCO_2e/year$.

Project Emissions

Project emissions are neglected since the project activity is a wind power plant in line with the ACM0002 [/12/](#).

Leakage

The leakage emissions are neglected as per ACM0002 [/12/](#) since energy generating equipment is not transferred from or to another activity as validated equipment agreement [/27/](#).

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Emission Reductions

The emission reductions (ER_y) are calculated as the following formula:

$$\begin{aligned}ER_y &= BE_y - PE_y - LE_y \\ER_y &= BE_y \\&= 22,020 \text{ tCO}_2\text{e/year}\end{aligned}$$

The annual emission reductions generated by the project activity is calculated to be 22,020 tCO₂e/year over the selected seven years renewable crediting period.

The estimation of the emission reductions can be replicated using the data and parameter values provided in the PDD /1/ and supporting files /4/. The data sources mentioned have been verified by RINA and confirms that the GHG emissions reduction calculation is complete and transparent, and the data accuracy has been verified.

3.12 Environmental Impacts

The project activity is environmentally licensed by the competent authority. Preliminary EIA Report of February 2009 /30/ was prepared and submitted to the “Balıkesir Governorship Environment and Forestry Directorate” in line with the domestic laws and regulations in Turkey.

“Balıkesir Governorship Environment and Forestry Directorate” have issued a Certificate of EIA Exemption dated 20/03/2009 /31/ based on Preliminary EIA Report for 10 MWm installed capacity. After capacity is changed, project owner applied based on 10 MWe/12.5 MWm installed capacity and “Balıkesir Governorship Environment and Forestry Directorate” have issued a Certificate of EIA Exemption dated 25/01/2012 /32/. Also, Environmental and Social Impact Assessment Report /39/ is prepared by a third party for the project activity.

The environmental impact of the project activity is evaluated in the GS Passport /2/ and LSC Report /3/.

3.13 Local Stakeholder Consultation

The local stakeholder consultation meeting was held on 21/02/2012 in line with the GS Requirements /6/ /7/ as confirmed through the GS Passport and LSC report and via interviews during the site visit. The LSC meeting was held prior to the start date of construction or implementation of the project activity.

The stakeholders were invited to LSC meeting by e-mail, fax, phone and post. The meeting was also announced through local and national newspaper on 14/02/2012 as stated in the LSC Report /3/. The local people, local authorities, local non-governmental organizations, Ministry of Environment and Urbanization, GS Local Representative, NGO supporters of the GS and local represent of GS are invited to the local stakeholder meeting in line with the GS Toolkit /7/. Locals were identified considering settlements impacted by the project. Village heads of all neighboring settlements have been contacted initially. The stakeholder comments received have been taken account as explained in the LSC Report /3/. No negative comments have been received.

The stakeholder feedback round was held between 25/09/2012 and 31/12/2012. The PDD, Local Stakeholder Report, Project Summary was uploaded to the GTE web site (http://www.gte.uk.com/small_hydro_below_20MW.asp) and made public available. In order to reach other local people, the projects documents as hard copy were available in head's office of village. The stakeholders, head of village and participants were invited to the Stakeholder Feedback Round via e-mails. International offices of Helio International, Mercy Corps and local representative of GS also included in the feedback round via email sent on 25/09/2012. During the Stakeholder Feedback Round, no comment was received from stakeholders.

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4 VALIDATION OPINION

RINA Services Spa (RINA) has performed validation of the project activity “10 MW Gunaydin WPP” in Turkey, with regard to the relevant requirements for GS VER activities.

The review of the project design document and the subsequent follow-up interviews have provided RINA with sufficient evidence to determine the fulfilment of the stated criteria.

The project correctly applies the approved baseline and monitoring methodology “ACM0002”, “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”, version 13.0.0 of 11/05/2012.

By generating renewable energy from wind power plant the project results in reduction of CO₂ emissions that are real, measurable and give long-term benefits to the mitigation of climate change. It is demonstrated that the project is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity.

The total emission reductions from the “10 MW Gunaydin WPP” are estimated to be on average 22,020 tCO_{2e} per year over the selected 7 years renewable crediting period. The emission reduction forecast has been checked and it is deemed likely that the stated amount is achieved given that the underlying assumptions do not change.

The monitoring plan provides for the monitoring of the project's emission reductions and of the sustainable development indicators. The monitoring arrangements described in the monitoring plan are feasible within the project design and it is RINA's opinion that the project participants are able to implement the monitoring plan.

In conclusion, it is RINA's opinion that the project activity “10 MW Gunaydin WPP” in Turkey, as described in the PDD version 06 of 15/04/2013, Gold Standard Passport version 03 of 21/12/2012 meets all relevant UNFCCC requirements for the GS VER and all relevant host Party criteria and correctly applies the baseline and monitoring methodology “ACM0002”, “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”, version 13.0.0 of 11/05/2012.

APPENDIX A

GOLD STANDARD VALIDATION PROTOCOL

TABLE 1 REQUIREMENTS CHECKLIST

Checklist Question		Reference	MoV ¹	Comments	Conclusion
A Description of Project Activity					
A.1 Title of the project activity					
A.1.1.	Does the used project title clearly enable the reader to identify the unique GS activity? Are there an indication of a revision number and the date of the revision?	/1/	DR	The title of the project activity is defined as “10 MW Gunaydin WPP” in the PDD version 01 of 31/08/2012 /1/, which is enable the reader to identify the unique GS activity. The version and completion date of report are available at cover page of PDD version 01 of 31/08/2012 /1/.	OK
A.1.2	Does the project comply with the applicable requirements for completing the PDDs (latest version available)?	/1/ /20/	DR	The project is a small-scale project; however, the “Project Design Document Form for CDM Project Activities (F-CDM-PDD), Version 04.0” is applied. Therefore, PDD version 01 of 31/08/2012 /1/ does not follow “CDM Executive Board: “Guidelines for completing the project design document form for small-scale CDM project activities” /20/. The selected methodologies are not included in the cover page of the PDD as per the guidelines.	~~CAR-1~~ OK
A.1.3	Does the PDD comply with the template available (latest version)?	/1/ /21/	DR	The project is a small-scale project; however, the “Project Design Document Form for Small-Scale CDM Project Activities (F-CDM-SSC-PDD) /21/” is not applied.	~~CAR-2~~ OK
A.2 Description of the proposed project activity					
A.2.1	Does the PDD contain an accurate description of the project activity and provide the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation? How was the design of the project assessed?	/1/ /27/ /33/ /34/ /35/ /39/	DR	The proposed project is a Greenfield project where no other power plant was located at the same site prior to the implementation of the project activity, which is confirmed during the on-site inspection. During on site visit, it has been observed that the construction has been started. The purpose of the project activity is to install wind power plant with a total installed capacity of 10 MWe. The generated electricity will be fed to grid via Mustafa Kemal Pasa Substation as confirmed through the Generation License /34/. The project activity consists of five turbines each having 2.5	OK

¹ MoV: DR document review, I interview, CC cross checking

Checklist Question		Reference	MoV ¹	Comments	Conclusion
				MWm capacities as confirmed through the electro mechanical agreement /27/. The total output of the project will be limited to 10 MWe. The project is licensed on 11/11/2001 as 10 MWm / 10 MWe /33/ whereas on 09/02/2012 capacity has been revised as 12.5 MWm / 10 MWe as confirmed through the Generation License /34/ considering wind characteristics of the region and for better utilizing the wind potential in the region. The turbine characteristics have been confirmed through the electromechanical equipment agreement /27/. Also, it has been crosschecked with ESIA Report /39/. Garrad Hassan has carried out an independent analysis of wind climate and energy production of the proposed project activity and issued the report on 02/11/2011 /35/. During micro siting and optimization studies, several layouts have been compiled using different turbines. Based on the result of studies, 2.5 MW GE turbines have been selected for the project which results in 36.7 GWh (P75) scenarios.	
A.2.2	Does the project activity involve alteration of existing installations? If yes, have the differences between pre-project and post-project activity been clearly described in the PDD?	/1/	DR, I	The project activity is a Greenfield project, which does not involve any alteration of existing installation. This is also confirmed during the site visit, the project is not implemented yet.	OK
A.2.3	Is all information provided consistent and in compliance with the actual situation or planning?	/1/	DR, I	The PDD is consistent and in compliance with the planning situation. As per the PDD version 01 /1/, the project consists of five wind turbines as confirmed through the electromechanical equipment agreement /27/.	OK
A.2.4	Does the project qualify as a small-scale CDM project activity as defined in paragraph 6 (c) of decision 17/CP.7 on the modalities and procedures for the CDM?	/1/ /34/	DR, CC	The project is a 10 MWe wind power plant as confirmed through the Generation License /34/. The project is non-bundled small-scale project as observed during the site visit. The annual average of emission reduction is estimated as 22,020 tCO ₂ e.	OK
A.2.5	Is the small-scale project activity a debundled component of a larger project activity in accordance with the Guidelines on assessment of debundling for SSC project activities?	/1/ /19/	DR, I	The project is not a part of debundled project activity as per the "Appendix C of the Simplified Modalities and Procedures for Small-Scale CDM project" /19/ since there is no registered small-scale VER project activity or an application to register another small-scale VER project activity: With the same project participants;	~~CR1~~ OK

Checklist Question		Reference	MoV ¹	Comments	Conclusion
				- In the same project category and technology/measure; and - Registered within the previous 2 years; and - Whose project boundary is within 1 km of the project boundary of the proposed project. However, the PDD version 01 /1/ does not include information whether the project activity is a debundled component of a larger project activity.	
A.2.8	Have the results of the sustainable development matrix been presented in the PDD?	/1/ /2/	DR	The results of the sustainable development matrix have been presented in the GS Passport /2/.	OK
A.2.9	To which GS category(ies) does the project activity belong to? Is the category correctly identified and indicated?	/1/ /2/ /6/ /18/	DR	The project activity is a small-scale project as the total installed capacity of the project activity does not exceed the 15 MW as defined by UNFCCC Guideline /18/, which is in accordance with the GS Requirements /6/. The project activity is a GS VER project as indicated in the GS Passport /2/. The proposed project activity is considered as a Renewable Energy Project. The project activity fits into the renewable energy supply category, as defined in the GS Toolkit version 2.1 of 01/06/2009 /7/. The project activity is to install a wind power plant to generate electricity and feed to the Turkish National power grid, the project fits into the renewable energy supply category (i.e. generation and delivery of electricity from a renewable hydro power resources).	OK
A.2.10	In case of hydro projects, do the items provided in Table C-2 of the GS Toolkit Annex C have been discussed?	/1/ /5/	DR	The project is a wind power plant; hence, Table C.2 is not applicable.	OK
A.3 Project participants					
A.3.1	Have the Parties and project participants participating in the project been listed in tabular form in Section A.4 and are they consistent with the information detailed in Appendix 1 of the PDD?	/1/	DR	The project participants have been listed in tabular form in Section A.4 and are consistent with the information detailed in Appendix 1 of the PDD version 01 /1/.	OK
A.3.5	Have all private/public project participants been authorized by a Party to the Kyoto Protocol?	/1/	DR	As the proposed project activity is a GS VER project, the validation of participation requirement for CDM/JI is not required. However, it is not clearly indicated in the PDD	CR-2 OK

Checklist Question		Reference	MoV ¹	Comments	Conclusion
				whether the PPs are private or public entities.	
A.4 Technical description of the project					
A.4.1	Does the information provided on the location of the project activity allow for a clear identification of the site(s)? Are the latitude and longitude of the site indicated (decimal points)?	/1/ /30/ /34/	DR, CC	The project is within boundaries of Balıkesir Province of Turkey, located at Manyas District. The latitude and longitude of the wind power plants is presented clearly in the PDD version 01 /1/ as confirmed through the Generation License /34/ . The coordinates is also crosschecked with Preliminary EIA Report /30/ .	OK
A.4.2	Is the category(ies) of the project activity correctly identified?	/1/	DR	The category of the project activity is identified correctly in the PDD version /1/ . The project activity is a wind power plant and considered as a Renewable Energy Project. The sectoral scope is "1 Energy Industries (Renewable/non-renewable sources)" as defined in the cover page of the PDD version 01 /1/ .	OK
A.4.3	Does the project design engineering reflect current good practices? Would the technology result in a significantly better performance than any commonly used technologies in the host Country? Is any transfer of technology from any Annex I Party involved?	/1/ /27/	DR	The project design reflects the current good practice. The electromechanical equipment agreement /27/ has been signed with GE Wind Energy GmbH, which is German company. The project activity is a voluntary emission reduction project, which is developed under Gold Standard; hence, the transfer of technology from any Annex I Party is not applicable.	OK
A.4.4	What is the expected operational lifetime of the project activity? Is it reasonable?	/1/ /34/ /46/	DR, CC	The expected operational lifetime of the project activity is defined as 49 years in line with the Generation License /34/ . Also, the technical lifetime of the turbines is defined as 25 years as per the "Tool to determine the remaining lifetime of equipment" /46/ .	OK
A.5 Public funding					
A.5.1	Does the information on public funding provided conform to the actual situation or planning as presented by the PPs?	/1/ /2/	DR	The project activity is not used public funding for the financing of the project as confirmed via interviews. Also, the PP has signed ODA declaration which is given under Annex 1 of the GS Passport /2/ .	OK
A.5.2	If public funding from Parties included in Annex I is used for the project activity, have these Parties provided an affirmation that such funding does not result in a diversion of official development assistance, is separate from, and is not counted	/1/ /2/	DR	As confirmed by the PP during the on-site visit no public funding from Parties is used for the project activity. The project will be financed by 100% equity.	OK

Checklist Question		Reference	MoV ¹	Comments	Conclusion												
	towards the financial obligations of these Parties?																
A.5.3	Is the ODA Declaration available and submitted to the GS Board as per the Annex D of the GS Toolkit?	/1/ /2/ /7/	DR	The ODA Declaration is signed by PP and submitted to the GS Board as per the Annex D of the GS Toolkit /7/ . ODA declaration is also available under Annex 1 of the GS Passport /2/ .	OK												
B. Application of a baseline and monitoring methodology																	
B.1 Methodology applied																	
B.1.1	Does the project activity apply an approved methodology and the correct version thereof?	/1/ /12/	DR	The proposed project activity applies “ACM0002 Consolidated baseline methodology for grid-connected electricity generation from renewable sources, version 13.0.0 of 11/05/2012” /12/ as indicated in the PDD version 01 /1/ . The applied methodology is approved by CDM and the applied version is the latest version at the time of PDD submission.	OK												
B.1.2	Is there any specific guidance, including the methodological tools provided by EB and has these guidance been applied?	/1/ /13/ /14/	DR	The following tools are applied: • Tool for the demonstration and assessment of additionality, version 06.0.0 /13/ • Tool to calculate the emission factor for an electricity system, version 02.2.1 /14/	OK												
B.1.3	How was it validated that the project activity complies with the applicability criteria?	/1/ /12/	DR, I	<table><tr><th colspan="3">Applicability of ACM0002</th></tr><tr><th>Applicability criteria</th><th>Project activity</th><th>Criteria are met?</th></tr><tr><td>The project activity is the installation, capacity addition, retrofit or replacement of a power plant/unit of one of the following types: hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit</td><td>The project activity is the installation of wind power plant. However, it has not been justified clearly under section B.2 of the PDD version 01 /1/.</td><td>CAR 3</td></tr><tr><td>In the case of capacity additions,</td><td>The project</td><td>CAR 3</td></tr></table>	Applicability of ACM0002			Applicability criteria	Project activity	Criteria are met?	The project activity is the installation, capacity addition, retrofit or replacement of a power plant/unit of one of the following types: hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit	The project activity is the installation of wind power plant. However, it has not been justified clearly under section B.2 of the PDD version 01 /1/ .	CAR 3	In the case of capacity additions,	The project	CAR 3	CAR-3 OK
Applicability of ACM0002																	
Applicability criteria	Project activity	Criteria are met?															
The project activity is the installation, capacity addition, retrofit or replacement of a power plant/unit of one of the following types: hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit	The project activity is the installation of wind power plant. However, it has not been justified clearly under section B.2 of the PDD version 01 /1/ .	CAR 3															
In the case of capacity additions,	The project	CAR 3															

Checklist Question		Reference	MoV ¹	Comments			Conclusion
				retrofits or replacements (except for wind, solar, wave or tidal power capacity addition projects which use Option 2: on page 10 to calculate the parameter $EG_{PJ,y}$): the existing plant 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 or retrofit of the plant has been undertaken between the start of this minimum historical reference period and the implementation of the project activity.	activity does not involve capacity additions, retrofits or replacements. However, it has not been justified clearly under section B.2 of the PDD version 01 /1/ .		
				In case of hydro power plants, one of the following conditions must apply: • The project activity is implemented in an existing single or multiple reservoirs, with no change in the volume of any of reservoirs; or • The project activity is implemented in an existing single or multiple reservoirs, where the volume of any of reservoirs is increased and the power density of each reservoir, as per the definitions given in the project emissions section, is greater than 4 W/m^2; or • The project activity results in new single or multiple reservoirs and the power density of each reservoir, as	The project activity is the installation of wind power plant.	OK	

Checklist Question		Reference	MoV ¹	Comments			Conclusion
				per the definitions given in the project emissions section, is greater than 4 W/m ²			
				In case of hydro power plants using multiple reservoirs where the power density of any of the reservoirs is lower than 4 W/m² all the following conditions must apply: • The power density calculated for the entire project activity using equation 5 is greater than 4 W/m²; • Multiple reservoirs and hydro power plants located at the same river and where are designed together to function as an integrated project that collectively constitute the generation capacity of the combined power plant; • Water flow between multiple reservoirs is not used by any other hydropower unit which is not a part of the project activity; • Total installed capacity of the power units, which are driven using water from the reservoirs with power density lower than 4 W/m², is lower than 15 MW; • Total installed capacity of the power units, which are driven using water from reservoirs with power density lower than 4 W/m², is less than 10% of the total installed capacity of the project activity from	The project activity is the installation of wind power plant.	OK	

Checklist Question		Reference	MoV ¹	Comments	Conclusion									
				<table><tr><td>multiple reservoirs.</td><td></td><td></td></tr><tr><td>The methodology is not applicable to the following: • 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; • Biomass fired power plants; • A hydro power plant that results in the creation of a new single reservoir or in the increase in an existing single reservoir where the power density of the power plant is less than 4 W/m² </td><td>This criterion has not been justified clearly under section B.2 of the PDD version 01 /1/.</td><td>CAR 3</td></tr><tr><td>The applicability conditions included in the tools referred to above apply.</td><td>This criterion has not been justified clearly under section B.2 of the PDD version 01 /1/.</td><td>CAR 3</td></tr></table>	multiple reservoirs.			The methodology is not applicable to the following: • 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; • Biomass fired power plants; • A hydro power plant that results in the creation of a new single reservoir or in the increase in an existing single reservoir where the power density of the power plant is less than 4 W/m²	This criterion has not been justified clearly under section B.2 of the PDD version 01 /1/ .	CAR 3	The applicability conditions included in the tools referred to above apply.	This criterion has not been justified clearly under section B.2 of the PDD version 01 /1/ .	CAR 3	
multiple reservoirs.														
The methodology is not applicable to the following: • 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; • Biomass fired power plants; • A hydro power plant that results in the creation of a new single reservoir or in the increase in an existing single reservoir where the power density of the power plant is less than 4 W/m²	This criterion has not been justified clearly under section B.2 of the PDD version 01 /1/ .	CAR 3												
The applicability conditions included in the tools referred to above apply.	This criterion has not been justified clearly under section B.2 of the PDD version 01 /1/ .	CAR 3												
B.1.4	Is the selected baseline one of the baseline(s) described in the methodology and this hence confirms the applicability of the methodology?	/1/ /12/		The baseline scenario for the project activity involves the installation of a new grid-connected renewable power plant is already defined in the approved methodology ACM0002 /12/ . The baseline scenario is defined as “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” in the ACM0002, which is in line with the PDD version 01 /1/ .	OK									
B.2 Project boundary														
B.2.1	Is the project boundary are clearly defined and in accordance with the applied methodology?	/1/ /12/ /20/	DR	The project boundary clearly defined in accordance with the applied methodology, ACM0002 /12/ .	CAR-4 OK									

Checklist Question		Reference	MoV ¹	Comments	Conclusion
				A flow diagram of the project boundary, physically delineating the project activity must be included in the PDD as per the "Guidelines for completing the project design document form for small-scale CDM project activities" /20/.	
B.2.2	What are the project's system boundaries (components and facilities used to mitigate GHGs)?	/1/ /27/ /34/	DR	The project system boundary consists of 5 wind turbines, switchyard, which will be connected physically to the grid. The project boundary in of the project detailed in the PDD version 01 /1/ is confirmed through the equipment agreement /27/ and generation license /34/.	OK
B.2.3	Which sources are identified for the project? Does the identified project boundary cover all possible sources linked to the project activity?	/1/ /12/	DR	Project boundary is identified the PDD version 01 /1/ for baseline and project activity. The source of baseline emission CO ₂ emissions are included in baseline calculation since fossil fuels fired for electricity generation. CH ₄ and N ₂ O emissions are neglected regarding to the methodology. Project emissions are neglected regarding to the methodology since the project activity is a wind power plant.	OK
B.2.4	In case of grid connected electricity project: is the relevant grid correctly identified in accordance with the latest version of tool to calculate emission factor of electricity system and the underlying methodology?	/1/ /14/	DR	The geographic and system boundaries for the relevant electricity grid can be clearly identified and information on the characteristics of the grid is available in the PDD version 01 /1/ in accordance with the "Tool to calculate emission factor of electricity system" /14/.	OK
B.2.5	Does the project involve other emissions sources not foreseen by the methodologies that may question the applicability of the methodology? Do these sources contribute by more than 1% to the estimated emission reductions of the project?	/1/ /12/	DR	The PDD version 01 /1/ does not mention whether the project involve other emission sources not foreseen by the methodology, which contribute by more than 1% (e.g. back up diesel generators).	CR-3 OK
B.3 Identification of the Baseline Scenario					
B.3.1	Which baseline scenarios have been identified? Is the list of the baseline scenarios complete? Does the PDD follow the steps to determine the baseline scenario required by the methodology/tool?	/1/ /12/	DR	The baseline scenario for the project activity is already defined in the applied methodology. According to the approved simplified baseline methodology ACM0002 /12/, the baseline scenario is defined as "the installation of a new grid-connected renewable power plant/unit 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". Since the	CR-4 OK

Checklist Question		Reference	MoV ¹	Comments	Conclusion
				baseline is defined by the approved methodology, no further analysis is requested. <i>Footnote 9 is not available.</i>	
B.3.2	How have the other baseline scenarios been eliminated in order to determine the baseline?	/1/ /12/	DR	The baseline scenario for the project activity is already defined in the applied methodology.	OK
B.3.3	What is the baseline scenario? Is the determination of the baseline scenario in accordance with the guidance in the methodology?	/1/ /12/	DR	The baseline scenario for the project activity is already defined in the applied methodology.	OK
B.3.4	Has the baseline scenario been determined using conservative assumptions? Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies (E+ / E-), macro-economic trends and political aspirations?	/1/ /12/	DR	The baseline scenario for the project activity is already defined in the applied methodology.	OK
B.4 Additionality					
B.4.1	What tool does the project use to assess additionality? Is this in line with the methodology?	/1/ /13/	DR	Tool for demonstration and assessment of additionality version 06.0.0 /13/ is applied in line with the methodology.	OK
B.4.2	What is the project additionality mainly based on?	/1/	DR	The project additionality is mainly based on investment analysis.	OK
B.4.3 Prior consideration					
B.4.3.1	What is the starting date of the proposed project activity? Is it in accordance with the CDM Glossary of Terms?	/1/	DR, I	The starting date of the project activity is not clear in the PDD version 01 /1/ . The starting date shall be defined under section C.1.1 of the PDD. However, this section refers to starting date of crediting period.	CAR-5 OK
B.4.3.2	Is the project activity a new project activity or existing project?	/1/	DR, I	The project activity is a new project activity as confirmed during the site visit.	OK
B.4.3.3	Does the timeline of the project confirm that continuous actions in parallel with the implementation were taken to secure project status? Please specify the gap between the documented evidences.	/1/ /42/	DR, I	The timeline of the project activity, which is presented at Table 1 of the PDD version 01 /1/ , does not confirm that continuous actions in parallel with the implementation were taken to secure project status. The project owner has signed the carbon certification agreement with the Global Tan Energy on 24/01/2012 /42/ . However, the timeline does not include this agreement. Also, it shall be demonstrated by the PP that carbon reduction revenue was seriously considered in the decision to proceed with the project activity.	CAR-6 OK

Checklist Question		Reference	MoV ¹	Comments	Conclusion
B.4.4 Investment analysis					
B.4.4.1	What is the analysis method used to determine whether the proposed project activity is not (a) the most economically or financially attractive; or (b) economically or financially feasible, without the revenue from the sale of certified emission reductions?	/1/	DR	The PP demonstrated the additionality of the project activity by applying Benchmark Analysis (Option III) of investment analysis of the methodological tool. This choice is assessed to be appropriate since the project generates financial and economic benefits through the sales of electricity, generating other than Voluntary Emissions Reduction (VER) related income (and hence the "Simple Cost Analysis" is not applicable) and the baseline scenario is "electricity generated from the existing grid" for which no investment is required; hence "Investment Comparison Analysis" is not applicable.	OK
B.4.4.2	What the financial indicator is used?	/1/ /13/ /47/	DR	As per the PDD version 01 /1/, equity IRR is selected as a financial indicator. The selected benchmark is assessed to be applicable to the type of IRR calculated as per the guidelines given in 'Tool for the demonstration and assessment of additionality' /13/. The benchmark indicator has been selected as the equity IRR after taxes, and the threshold value of the benchmark indicator has been established as 15%, based on Worldbank loan appraisal document /47/. The analysis is conducted in real terms. <i>The PP needs to provide evidence that the benchmark of 15%, from a document dated 1 May 2009, is still valid, and that the value of 15% refers to real (as opposed to nominal) equity IRR after taxes (as opposed to before taxes). Moreover, the PDD does not clearly demonstrate substep 2b from the additionality tool.</i>	~~CAR-14~~ OK
B.4.4.3	If a benchmark is used, is it ensured that it is selected in accordance with the requirements of the EB guidelines and it represents standard returns in the market? Is the benchmark suitable for the type of financial indicator presented? Is it ensured the any risk premiums applied in determining the benchmark reflect the risks associated with the project type or activity?	/1/ /13/ /47/	DR	Please refer to Section B.4.4.2 of this validation protocol.	~~CAR-14~~ OK
B.4.4.4	Is the investment analysis carried out in accordance	/1/ /4/ /13/	DR	The investment analysis has been carried out in accordance	OK

Checklist Question		Reference	MoV ¹	Comments	Conclusion
	with specific guidance from EB? Is the investment analysis complete and accurate? Is the investment analysis provided in a spreadsheet version? Are all the formulas used readable and all relevant cells be viewable and unprotected?	/16/		with the specific guidance of the EB, which could be verified by checking the spreadsheet provided by the project participants. It could be verified that the cash flow calculation had the right structure, is complete, and is accurate. All the formulas in the spreadsheet are readable, relevant cells are viewable and unprotected.	
B.4.4.5	Cross-check the parameters used in the financial analysis against third party or publicly available sources (all parameters used as input values shall be cross-checked and assessed).	/1/ /4/	DR	No breakdown or justification has been provided for the investment costs and O&M costs.	~~CL-15~~ OK
B.4.4.6	Are the input values used in the investment analysis valid and applicable at the time of the investment decision taken by the PP?	/1/ /4/	DR	Please refer to Section B.4.4.5 of this validation protocol.	~~CL-15~~ OK
B.4.4.7	Where applicable, the PFL has been defined ex-ante according to the applicable EB guideline?	/1/ /17/ /35/	DR	FSR has been prepared by a third party engineering firm /35/ .	OK
B.4.4.8	Does the time period of the investment analysis reflect the expected operation of the underlying project activity (technical lifetime)?	/1/ /4/	DR	The time period of the investment analysis is 46 years, the length of the license period of 49 years minus the construction period. This is longer than required according to the applicable CDM EB guidelines and conform the instructions of the Gold Standard, and hence is conservative.	OK
B.4.4.9	Does the fair value of the project activity assets is included at the end of the assessment period as a cash flow in the final year? Is the fair value calculated in accordance with local accounting regulations where available or international best practice?	/1/ /4/	DR	The fair value of the project assets is assumed to be zero at the end of the assessment period. This is acceptable, because the end of the assessment period coincides with the end of the license period, at which points the assets are transferred free of charge to the Turkish government.	OK
B.4.4.10	Does the income tax calculation take depreciation into account? Is the depreciation year in accordance with normal accounting practice in the Host Country	/1/ /4/	DR	The income tax calculation takes depreciation into account. No evidence has been provided that the calculation of the depreciation amounts is in line with Turkish accounting practices.	~~CL-11~~ OK
B.4.4.11	Sensitivity analysis: have the key parameters contributing to more than 20% of the revenue/costs during operating or implementation been identified?	/1/	DR	Three parameters have been identified for variation in the sensitivity analysis. However, no justification for this selection has been provided.	~~CL-12~~ OK
B.4.4.11	Sensitivity analysis: is the range of variations is reasonable in the project activity? The main parameters can be changed for the	/1/	DR	The three selected parameters (investment costs, operating costs, electricity income) have been subjected to variations of plus and minus 10%. This range of variation is standard for	OK

Checklist Question		Reference	MoV ¹	Comments	Conclusion
	different project category.			windpark projects.	
B.4.4.12	Have the key parameters been varied to reach the benchmark and the likelihood of this happening been justified to be small?	/1/	DR	The three parameters selected for the sensitivity analysis have not been varied to reach the benchmark, nor has it been justified that the chances of this happening are small.	~~CL-13~~ OK
B.4.5 Barrier analysis					
B.4.5.1	Are the barriers identified complimentary to a potential investment analysis?	/1/	DR	Barrier analysis is not applied as the additionality of the proposed project activity is demonstrated through investment analysis, which is in line with the methodological tool "Tool for the demonstration and assessment of additionality".	OK
B.4.5.2	How were the investment barriers assessed to be real?	/1/	DR	Please refer to Section B.4.5.1 of this validation protocol.	OK
B.4.5.3	How were the technological barriers assessed to be real?	/1/	DR	Please refer to Section B.4.5.1 of this validation protocol.	OK
B.4.5.4	How were the other barriers assessed to be real?	/1/	DR	Please refer to Section B.4.5.1 of this validation protocol.	OK
B.4.5.5	Barriers due to prevailing practice (First of its kind): does the project apply measures currently covered in the framework (fuel and feedstock switch, switch of technology with or without change of energy source, methane destruction, methane formation avoidance)?	/1/	DR	Please refer to Section B.4.5.1 of this validation protocol.	OK
B.4.5.6	Barriers due to prevailing practice (First of its kind): do the technologies deliver the same output and differ by at least of energy source/fuel, feed stock, size of installation?	/1/	DR	Please refer to Section B.4.5.1 of this validation protocol.	OK
B.4.5.7	Barriers due to prevailing practice (First of its kind): does the applicable geographical area is in compliance with the definition as per the EB guideline?	/1/	DR	Please refer to Section B.4.5.1 of this validation protocol.	OK
B.4.5.8	Is the project activity prevented by the identified barriers and at least one of the possible alternatives to the project activity is feasible under the same circumstances?	/1/	DR	Please refer to Section B.4.5.1 of this validation protocol.	OK
B.4.5.9	How the GS can alleviate the identified barriers?	/1/	DR	Please refer to Section B.4.5.1 of this validation protocol.	OK
B.4.6 Common practice analysis					

Checklist Question		Reference	MoV ¹	Comments	Conclusion
B.4.6.1	Does the project apply measures currently covered in the framework (fuel and feedstock switch, switch of technology with or without change of energy source, methane destruction, methane formation avoidance)?	/1/ /13/	DR	The common practice does not comply with the “Tool for the demonstration and assessment of additionality, version 06.0.0” /13/ .	~~CAR-7~~ OK
B.4.6.2	Do the technologies deliver the same output and differ by at least of energy source/fuel, feed stock, size of installation, investment climate in the date of the investment decision, other features?	/1/ /13/	DR	Please refer to Section B.4.6.1 of this validation protocol.	~~CAR-7~~ OK
B.4.6.3	Does the applicable geographical area is in compliance with the definition as per the EB guideline?	/1/ /13/	DR	Please refer to Section B.4.6.1 of this validation protocol.	~~CAR-7~~ OK
B.4.6.4	How many similar non-CDM-projects exist in the region within the scope?	/1/ /13/	DR	Please refer to Section B.4.6.1 of this validation protocol.	~~CAR-7~~ OK
B.4.6.5	What is the data source(s) used for the common practice analysis?	/1/ /13/	DR	Please refer to Section B.4.6.1 of this validation protocol.	~~CAR-7~~ OK
B.4.7 Do No Harm Assessment					
B.4.7.1	Does the project respects internationally proclaimed human rights including dignity, cultural property and uniqueness of indigenous people? Does the project is not complicit in Human Rights abuses? (<i>Annex H of GS Toolkit – § 1</i>).	/2/ /6/ /7/ /47/	DR, CC	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. Turkey has ratified the “Universal Declaration of Human Rights” /47/ .	OK
B.4.7.2	Does not the project involve and is not complicit in involuntary resettlement? (<i>Annex H of GS Toolkit – § 2</i>).	/2/ /6/ /7/	DR, CC, I	The project does not involve and is not complicit in involuntary resettlement. It is confirmed during the site visit and via interviews with the stakeholders that the project does not result in any person's relocation.	OK
B.4.7.3	Does not the project involve and is not complicit in the alteration damage or removal of any critical cultural heritage? (<i>Annex H of GS Toolkit – § 3</i>).	/2/ /6/ /7/ /30/	DR, CC	The project does not involve and is not complicit in the alteration damage or removal of any critical cultural heritage as confirmed during the site visit and as per the Preliminary EIA Report /30/ of the project activity. In GS Passport, the source is referred to Preliminary EIA Report; however, the referred page number of EIA Report in the whole GS Passport does not match with the EIA Report.	~~CR-5~~ OK
B.4.7.4	Does the project respects the employees' freedom of	/2/ /6/ /7/	DR,	The project respects the employees' freedom of association	OK

Checklist Question		Reference	MoV ¹	Comments	Conclusion
	association and their right to collective bargaining and is not complicit in restrictions of these freedoms and rights? (<i>Annex H of GS Toolkit – § 4</i>).	/48/	CC	and their right to collective bargaining and is not complicit in restrictions of these freedoms and rights. Turkey has ratified ILO Convention 87 (Freedom of Association and Protection of the Right to Organize Convention) and ILO Convention 98 (Right to Organize and Collective Bargaining Convention) /48/ .	
B.4.7.5	Does not the project involve and is not complicit in any form of forces compulsory labour? (<i>Annex H of GS Toolkit – § 5</i>).	/2/ /6/ /7/ /48/	DR, CC	The project does not involve and is not complicit in any form of forces compulsory labour. Turkey has ratified ILO Convention 29 and 105 (Forced Labour Convention) /48/ .	OK
B.4.7.6	Does not the project employ and is not complicit in any form of child labour? (<i>Annex H of GS Toolkit – § 7</i>).	/2/ /6/ /7/ /48/	DR, CC	The project does not employ and is not complicit in any form of child labour. Turkey has ratified ILO Convention 138 (Minimum Age Convention) and 182 (Worst Forms of Child Labour Convention) /48/ . It is stated in the GS Passport that Turkey is a party of IPEC. Please clarify the IPEC and provide reference.	~~CR-6~~ OK
B.4.7.7	Does not the project involve and is not complicit in any form of discrimination based on gender, race, religion, sexual orientation or any other basis? (<i>Annex H of GS Toolkit – § 7</i>).	/2/ /6/ /7/ /48/	DR, CC	The project does involve and is not complicit in any form of discrimination based on gender, race, religion, sexual orientation or any other basis. Turkey has ratified ILO Convention 100 (Equal Remuneration Convention) and 111 (Discrimination in Respect of Employment and Occupation Convention) /48/ .	OK
B.4.7.8	Does the project provide workers with a safe and healthy work environment and is not complicit in exposing workers to unsafe or unhealthy work environments? (<i>Annex H of GS Toolkit – § 8</i>).	/2/ /6/ /7/ /48/	DR, CC, I	The project provides workers with a safe and healthy work environment and is not complicit in exposing workers to unsafe or unhealthy work environments. Turkey has ratified ILO Convention 155 (Occupational Safety and Health Convention) /48/ . It was observed during the site visit that the personal protective equipment is provided to the workers and necessary precautions such as caution signs are taken in the project area. The main subcontractor of the project owner (Bektas Insaat Taahhut Tas. San. ve Tic. Ltd. Sti.) construction report daily to the project owner during construction phase. Health and safety engineer prepares daily health and safety report. The report of 15/06/2012 /41/ has been reviewed during on site visit. Health and safety engineer has also prepared safety report for construction and turbine access road.	~~CR-7~~ OK

Checklist Question		Reference	MoV ¹	Comments	Conclusion
				<i>It has been mentioned by the PP during on site visit that all employees hired for construction period attends Health and Safety Training, However, the training records could not been provided.</i> Also, Emergency Operation Plan /37/ and Risk Assessment Report /38/ prepared by health and safety specialist has been seen on-site visit.	
B.4.7.9	Does the project take a precautionary approach in regard to environmental challenges and is not complicit in practices contrary to the precautionary principle? (<i>Annex H of GS Toolkit – § 9</i>).	/2/ /6/ /7/ /30/	DR, CC, I	All the conducted assessments during the Preliminary EIA Report /30/ shows that from this project activity there is no significant negative influence into environment and social area. The every kind of waste will be disposal as per the related regulation of Environmental Law. <i>However, the record that shows that the waste (waste oil, sewage, excavation etc.) was disposed properly during the construction has not been provided during the site visit.</i>	CR-8 OK
B.4.7.10	Does not the project involve and is not complicit in significant conversion or degradation of critical natural habitats, including those that are legally protected, officially proposed for protection, identified by authoritative sources for their high conservation value, or recognized as protected by traditional local communities? (<i>Annex H of GS Toolkit – § 10</i>).	/2/ /6/ /7/	DR, I	The project activity is not located in an area, which is legally protected, officially proposed for protection, identified by authoritative sources for their high conservation value, or recognized as protected by traditional local communities as confirmed during the site visit. The project activity is located near to worldwide important bird area that is Manyas Bird Paradise. A bird migration plan will be developed by the PP for bird migration and mitigation measures.	OK
B.4.7.11	Does not the project involve and is not in complicit in corruption? (<i>Annex H of GS Toolkit – § 11</i>).	/2/ /6/ /7/ /48/	DR, CC	The project does not involve and is not in complicit in corruption. Turkey is a party to United Nation Convention against Corruption /48/.	OK
B.4.8 Sustainability Assessment					
B.4.8.1	Are the GS indicators of sustainable development identified according to the Annex I of the GS Toolkit? (<i>list the identified indicators</i>)	/2/ /6/ /7/	DR, CC	The GS indicators of sustainable development are defined as per the Annex I of the GS Toolkit /7/. The baseline situation and the future target are described for each parameter. The indicators are connected to the localized Millennium Development Goals as per the Annex I of the GS Toolkit. The identified indicators under Sustainable Development Matrix of GS Passport is as follows: – Air quality	OK

Checklist Question		Reference	MoV ¹	Comments	Conclusion
				– Water quality and quantity – Soil condition – Other pollutants – Biodiversity – Quality of employment – Livelihood of the poor – Access to affordable and clean energy services – Human and institutional capacity – Quantitative employment and income generation – Balance of payments and investment – Technology transfer and technological self-reliance	
B.4.8.2	Are the justification choices documented? Which data sources have been provided for references?	/2/ /6/ /7/ /30/	DR	The justification choices are documented in the GS Passport /2/ . The SD matrix is mainly based on Preliminary EIA Report /30/ of the project. However, the referred page number of EIA Report in the whole GS Passport does not match with the EIA Report.	~~CR-9~~ OK
B.4.8.3	Which parameters have been identified for the selected indicators?	/2/ /6/ /7/	DR, CC	The defined the GS indicators in the SD matrix, which are in line with the Annex I of the GS Toolkit /7/, are given below including their scores. – <i>Air quality</i>: SO₂ and NO_x emissions (+) – <i>Water quality and quantity</i>: Disposal of waste water (0) – <i>Soil condition</i>: Amount of non-hazardous solid wastes during construction and operational phases. Appropriate management of all waste in line with regulations. (0) – <i>Other pollutants</i>: No noise problem occurs (0) – <i>Biodiversity</i>: Number of affected bird species and affected species (0) – <i>Quality of employment</i>: Number of certificates issued/trainings provided (0) – <i>Livelihood of the poor</i>: Change in living standards of locals (0) – <i>Access to affordable and clean energy services</i>: Fossil fuel replaced (+) – <i>Human and institutional capacity</i>: Change education and skills (0)	OK

Checklist Question		Reference	MoV ¹	Comments	Conclusion
				– <i>Quantitative employment and income generation:</i> Payment made to staff (+) – <i>Balance of payments and investment:</i> Currency saving due to avoided fuel import (+) – <i>Technology transfer and technological self-reliance:</i> Expenditures for equipment (0) The defined the GS indicators in the SD matrix are in line with the Annex I of the GS Toolkit /6/. None of the indicators are scored negative. The project contributes positive to “environment”, “social development” and “economic and technological development” category.	
B.4.9 Conclusion					
B.4.9.1	What is the conclusion with regard to the additionality of the project activity?	/1/ /2/ /6/ /7/ /13/ /14/ /16/ /17/ /30/ /35/ /42/ /48/	DR, I	Please refer to Section B.4.3, B.4.4, B.4.5 and B.4.6 of this validation protocol.	CAR-5 CAR-6 CAR-7 CAR-14 CAR-15 CR-11 CR-12 CR-13 OK
B.5 Algorithms and/or formulae used to determine emission reductions					
B.5.1 Baseline emissions					
B.5.1.1	Are the steps and equations applied to calculate the baseline emissions in compliance with the requirements of selected baseline and monitoring methodology?	/1/ /5/ /12/ /14/	DR, CC	The calculation of baseline emission reductions is carried out in a conservative manner providing documentation and references to data sources. An approved CDM methodology, ACM0002 /12/ and methodological tool “Tool to calculate the emission factor for an electricity system /14/ ” is applied. The official published data, TEIAS statistics, are used to determine the emission factor of the grid. The emission factor is calculated as a combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the procedures prescribed in the tool.	CAR-8 OK

Checklist Question		Reference	MoV ¹	Comments	Conclusion
				The provided source (footnote 30 of the PDD version 01) for breakdown by source of the electricity generation is not available. The PDD version 01 /1/ does not follow the “Tool to calculate the emission factor for an electricity system /14/” version 02.2.1 of 29/08/2011. The applied tool consists of 6 steps. However, in the PDD version 01 /1/, 7 steps are applied. OM Calculation Option (a) simple OM is selected to calculate the operating margin (OM) emission factor of the grid as per the tool since the average share of electricity generation by low-cost/must-run plants for five most recent years is found to be less than 50%. The ex-ante option is selected for OM, from the years 2008 to 2010. No TEIAS website links provided in the PDD version 01 /1/ are available. All footnotes and source refer to TEIAS web site shall be revised. BM Calculation The build margin (BM) emission factor calculation is not in line with the latest version of methodological tool “Tool to calculate the emission factor for an electricity system /14/”.	
B.5.1.2	Have conservative assumptions been used when calculating the baseline emissions and are the uncertainty estimates properly addressed? Are all the values used in the PDD considered reasonable in the context of the proposed project activity?	/1/ /5/ /14/ /49/	DR, CC	The data used to determine the OM emission factor of the grid is obtained from “Electricity Generation & Transmission Statistics of Turkey, 2010”, which is published by TEIAS. The validation team has confirmed that this is the most updated data at the time for submission for validation, which is considered as appropriate. The emission factors of fuels used in the calculations are based on IPCC default values at the lower limit of uncertainty at a 95% confidence interval as provided in table 1.4 of Chapter 1 of Volume 2 of the 2006 IPCC Guidelines on National GHG Inventories, which is in line with the methodological tool, and considered as appropriate. The net energy conversion efficiency of power unit are taken from Annex 1 of the “Tool to calculate the emission factor for	OK

Checklist Question		Reference	MoV ¹	Comments	Conclusion
				an electricity system" which is deemed reasonable.	
B.5.1.3	Baseline Emissions estimated	/1/ /5/ /12/ /14/	DR, CC	Please refer to Section B.5.1.1 and B.5.1.2 of this validation protocol.	CAR-8 OK
B.5.2 Project emissions					
B.5.2.1	Are the steps and equations applied to calculate the project emissions in compliance with the requirements of selected baseline and monitoring methodology? Are all the values used in the PDD considered reasonable in the context of the proposed project activity?	/1/ /6/ /12/	DR	Project emissions are neglected since the project activity is a wind power plant in line with the ACM0002 /12/ .	OK
B.5.2.2	Have conservative assumptions been used when calculating the project emissions and are the uncertainty estimates properly addressed?	/1/ /6/ /12/	DR	Project emissions are neglected since the project activity is a wind power plant in line with the ACM0002 /12/ .	OK
B.5.2.3	Project emissions estimated	/1/ /6/ /12/	DR	Project emissions are neglected since the project activity is a wind power plant in line with the ACM0002 /12/ .	OK
B.5.3 Leakage					
B.5.3.1	Are the steps and equations applied to calculate the leakage in compliance with the requirements of selected baseline and monitoring methodology? Are all the values used in the PDD considered reasonable in the context of the proposed project activity?	/1/ /6/ /12/	DR	The leakage emissions are neglected as per ACM0002 /12/ since energy generating equipment is not transferred from or to another activity as validated equipment agreement /27/ .	OK
B.5.3.2	Have conservative assumptions been used when calculating the leakage and are the uncertainty estimates properly addressed?	/1/ /6/ /12/	DR	The leakage emissions are neglected as per ACM0002 /12/ since energy generating equipment is not transferred from or to another activity as validated equipment agreement /27/ .	OK
B.5.3.3	Leakage estimated	/1/ /6/ /12/	DR,	The leakage emissions are neglected as per ACM0002 /12/ since energy generating equipment is not transferred from or to another activity as validated equipment agreement /27/ .	OK
B.5.4 Emission reductions					
B.5.4.1	Has the methodology been correctly applied to calculate the emission reductions and can this be replicated by the data provided in the PDD and supporting files to be submitted for registration?	/1/ /6/ /12/	DR, CC	The ex-ante emission reduction has been calculated as following equation in line with the ACM0002 /12/ : $ER_y = BE_y - PE_y - LE_y$ The project emission and leakage emissions are zero for the	CAR-8 OK

Checklist Question		Reference	MoV ¹	Comments	Conclusion
				project activity. Therefore, the emission reduction equals to baseline emissions. Please refer to Section B.5.1 of this validation protocol.	
B.5.4.2	Are all the assumptions and data used by the project participants listed in the PDD including their references and sources?	/1/ /6/ /12/	DR, CC	Please refer to Section B.5.1 of this validation protocol.	~~CAR-8~~ OK
B.5.4.3	Is all the documentation used by the project participants as the basis for assumptions and source of data quoted and interpreted in the PDD?	/1/ /6/ /12/	DR, CC	Please refer to Section B.5.1 of this validation protocol.	~~CAR-8~~ OK
B.5.4.4	Emission Reductions estimated	/1/ /6/ /12/	DR, CC	Please refer to Section B.5.1 of this validation protocol.	~~CAR-8~~ OK
B.6 Monitoring plan					
B.6.1 Parameters ex-ante					
B.6.1.1	Does the monitoring plan contain the list of all parameters required by the approved methodology and by the applicable methodological tool?	/1/ /12/ /14/	DR, CC	The monitoring plan (data and parameters fixed ex ante) does not include all data and parameters fixed ex ante such as $FC_{i,y}$ required by the applied methodology /12/ and baseline tool /14/ . Please ensure that all necessary parameters are included.	~~CAR-9~~ OK
B.6.1.2	How were the parameters available at validation verified?	/1/ /12/ /14/ /49/	DR, CC	Net Electricity delivered to the grid by power plants in Turkey in year 2010 ($EG_{y,Total}$): – The provided source (TEIAS website link) does not run. – The year is defined as 2010 is not correct since the data from the period 2008-2010 is used in the OM calculation. – The notation of the parameter defined as $EG_{y,Total}$ is not in line with the methodological tool /14/. – Both EG_y and $EG_{y,Total}$ is included to data and parameters fixed ex-ante section. EG_y is defined as “Net Electricity delivered to the grid by proposed project in year y” which shall be $EG_{facility,y}$ and shall monitored ex-post. The ex-post monitoring plan already includes this parameter. CO_2 emission factor of fossil fuel type i in year y ($EF_{CO2,i,y}$): The data is based on the default value at the lower limit of the uncertainty at a 95% confidence interval of 2006 IPCC Guidelines for National Greenhouse Gas Inventories	~~CAR-10~~ OK

Checklist Question		Reference	MoV ¹	Comments	Conclusion
				/49/. Generation efficiency of thermal power plants (GE): The net energy conversion efficiency of power unit are taken from Annex 1 of the “Tool to calculate the emission factor for an electricity system” which is deemed reasonable. – The notation (GE) and definition (generation efficiency of thermal power plants) of the parameter is not in line with the methodological tool /14/. Net calorific value of fuels types (NCV): – The notation (NCV) and definition (net calorific value of fuels types) of the parameter is not in line with the methodological tool /14/. – The provided source (TEIAS website link) does not run.	
B.6.1.3	Which default data have been selected and applied?	/1/ /14/ /49/	DR, CC	The emission factors of fuels used in the calculations are based on IPCC default values at the lower limit of uncertainty at a 95% confidence interval as provided in table 1.4 of Chapter 1 of Volume 2 of the 2006 IPCC Guidelines on National GHG Inventories /49/, which is in line with the methodological tool, and considered as appropriate. The net energy conversion efficiency of power unit are taken from Annex 1 of the “Tool to calculate the emission factor for an electricity system /14/” which is deemed reasonable.	OK
B.6.1.4	Are all the values used in the PDD considered reasonable in the context of the proposed project activity?	/1/ /12/ /14/ /49/	DR, CC	All the values used in the PDD are considered reasonable in the context of the proposed project activity.	OK
B.6.2 Parameters ex-post					
B.6.2.1	Does the monitoring plan described in the PDD comply with the requirements of the methodology and the applicable methodological tool?	/1/ /12/ /14/	DR, CC	The monitoring plan described in the PDD complies with the requirements of the methodology /12/ and the applicable methodological tool /14/ .	OK
B.6.2.2	Does the monitoring plan contain all necessary parameters and are they clearly described?	/1/ /12/ /14/	DR, CC	The monitoring plan includes all necessary data and parameters ex-post required by the applied methodology /12/ and the applicable methodological tool /14/ . The only parameter included to the monitoring plan is net Electricity generated and delivered to the grid by power plant in year y	OK

Checklist Question		Reference	MoV ¹	Comments	Conclusion
B.6.2.3	Is the measurement equipment described? Is the accuracy of the measurement equipment addressed and deemed appropriate? Are the requirements for maintenance and calibration of measurement equipment described and deemed appropriate?	/1/ /50/ /51/	DR, CC	(EG _{facility,y}). Measurement equipment is described and the accuracy of the measurement equipment is addressed in the PDD version 01 /1/ . EG_{facility,y} : Net electricity generation will be measured by two meters. The meters will comply with EMRA (Energy Market Regulatory Authority) regulation /50/ . Since the meters have not been sold yet, the accuracy class is not defined. However, the accuracy class of the meters will be 0.2s or 0.5s depending on the capacity of circuit as per the “Communiqué for Measurement Devices used in the Electricity Market” /51/ as explained in the PDD version 01 /1/ . The maintenance and calibration of meters are under TEIAS responsibility. If any major discrepancy occurs between the two meters, TEIAS performs necessary calibration.	OK
B.6.2.4	Is the monitoring and recording frequency adequate for all monitoring parameters? Is it in line with the monitoring methodology?	/1/ /14/	DR, CC	EG_{facility,y} : The monitoring frequency is defined as continuously and recording frequency is defined monthly in line with the methodological tool /14/ .	OK
B.6.2.6	How has it been assessed that the monitoring arrangements described in the monitoring plan are feasible within the project design? Please confirm the ability of the project participants to implement the described monitoring plan.	/1/ /50/	DR, CC	The monitoring arrangements described in the monitoring plan are feasible within the project design. The electricity generation will be monitored in line with the TEIAS rules /50/ .	OK
B.6.3 Monitoring of the GS indicators of sustainable development					
B.6.3.1	Does the monitoring plan include the GS indicators of sustainable development?	/2/ /6/ /7/	DR	The SD parameters will be monitored as per the GS requirements are given in Sustainability Monitoring Plan of GS Passport which are listed below: – <i>Air quality</i>: SO₂ and NO_x emissions from grid connected plants – <i>Quality of employment</i>: Number of personnel certified/trained – <i>Balance of payments and investment</i>: Currency saving due to avoided fuel import – <i>Water quality</i>: Disposal of waste water – <i>Biodiversity</i>: Number of bird species and affected species	CAR-11 OK

Checklist Question		Reference	MoV ¹	Comments	Conclusion
				– <i>Soil condition</i>: Solid wastes will be collected and disposed appropriately – <i>Livelihood of the poor</i>: Compensations made to locals – <i>Air Quality</i>: Measures issued to minimize dust emissions The parameter defined as “Solid wastes will be collected and disposed appropriately” in the monitoring plan does not match with the SD matrix. Please ensure that the parameters defined in the SD matrix are in line with the monitoring plan. Also, the GS monitoring plan does not include following parameters which have been scored positive and shall be monitored: – <i>Access to affordable and clean energy services</i>: Fossil fuel replaced (+) – <i>Quantitative employment and income generation</i>: Payment made to staff (+)	
B.6.3.2	Does the monitoring plan give the way (how, when, by who) of monitoring of each GS indicator?	12/ 16/ 17/	DR	The Sustainability Monitoring Plan includes the way of monitoring for each GS indicator as explained below: – <i>Air quality</i>: The reductions of SO₂ and NO_x emissions are monitored annually by calculation. – <i>Quality of employment</i>: All technical staff is trained for operation and maintenance of equipment and health and safety trainings. Relevant staffs will be certified for working high voltage. The parameter will be monitored through the training documents/certificates and employ records. – <i>Balance of payments and investment</i>: Amount of avoided natural gas to be imported will be monitored annually by calculation. – <i>Water quality</i>: Wastewater is disposed as required the relevant regulations. The parameter is monitored once annually through assessing disposal methods during site visits. <i>However, the monitoring way is not sufficient and clear. Please clarify disposal methods and how it is monitored.</i> – <i>Biodiversity</i>: Number of bird species and affected species is monitored once and it is confirmed through the expert	~~CAR-12~~ OK

Checklist Question		Reference	MoV ¹	Comments	Conclusion
				opinion. Please clarify the expert opinion. As per the FAR#5 raised by GS, ornithology study shall be conducted by an ornithology. – <i>Soil condition</i>: Solid waste will be collected and disposed appropriately. The parameter is monitored annually through on site observation. Recyclable and non-recyclable wastes will be stored temporarily and will be disposed by the Manyas Municipality. Excavated soil will be used for landscaping. However, the monitoring way defined as “site visit” is not sufficient and clear. – <i>Livelihood of the poor</i>: Compensations made to locals is monitored once after construction via interviews with owner of expropriated land. – <i>Air Quality</i>: The dust emissions is measured once after construction. It is mentioned in the monitoring plan that the parameter is monitored through the documentation of measures such as pictures. However, the monitoring way is not sufficient and clear. Please clarify who measure the parameter and how it is monitored through the pictures.	
B.6.3.3	Does the monitoring plan give the future project target for the parameter?	/2/ /6/ /7/	DR	The Sustainability Monitoring Plan includes future target for each GS indicator as explained below: – <i>Air quality</i>: SO₂ and NO_x emission reduction corresponding to annual generation – <i>Quality of employment</i>: All relevant staff is trained for health and safety. Relevant staffs will be certified for working high voltage. However, the listed trainings in SD matrix are not presented in the monitoring plan. The future target does not match. – <i>Balance of payments and investment</i>: The baseline situation and future target could not be justified since the provided references are not available. – <i>Water quality</i>: Wastewater is disposed as required the relevant regulations. – <i>Biodiversity</i>: NA – <i>Soil condition</i>: Recyclable and non-recyclable wastes will be stored temporarily and will be disposed by the Manyas Municipality. Excavated soil will be used for landscaping.	CAR-13 OK

Checklist Question		Reference	MoV ¹	Comments	Conclusion
				– <i>Livelihood of the poor</i>: Compensation will be made if expropriation is still necessary in the final layout of the turbines and for transmission lines. – <i>Air Quality</i>: The dust emissions minimized via measured issues.	
B.6.4 Management/Quality Assurance/Quality Control					
B.6.4.1	Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)?	/1/ /50/	DR	The electricity generation and consumption is measured in line with the TEIAS rules and requirements /50/. The electricity generation supplied to the grid and electricity consumption from the grid is stored by PMUM on the web site. The Project owner has a password to access this data on the web site.	OK
B.6.4.2	Are the data management and quality assurance and quality control procedures sufficient to ensure that the emission reductions achieved by/resulting from the project can be reported ex post and verified?	/1/ /14/	DR	The data management and quality assurance and quality control procedures are sufficient to ensure that the emission reductions achieved by the project can be reported ex post and verified during the verification phase.	OK
B.6.4.3	Will all monitored data required for verification and issuance be kept for two years after the end of the crediting period or the last issuance of CERs, for this project activity, whichever occurs later?	/1/	DR	All data will be kept for at least two years after the crediting period as mentioned in the PDD version 01 /1/.	OK
C.1 Crediting period					
C.1.1	What is the expected crediting starting date of the proposed project activity? Does the crediting period start eight week after the request for registration?	/1/	DR	The project is already listed in GS registry. The expected crediting starting date is defined as 01/10/2012 under section C.2.2 of the PDD version /1/. Please clarify whether the project activity has been commissioned.	CR-10 OK
C.1.2	What is the length of the crediting period? Is it clearly defined and reasonable?	/1/	DR	The length of crediting period is defined as seven years and renewable crediting period is selected in the PDD version 01 /1/ that is not reasonable.	OK
D.1 Environmental impacts					
D.1.1	Has an analysis of the environment impacts of the project activity been undertaken? Is it clearly and sufficiently described in the PDD?	/1/ /2/ /30/ /31/ /32/ /39/	DR	Preliminary EIA Report of February 2009 /30/ was prepared and submitted to the “Balıkesir Governorship Environment and Forestry Directorate” in line with the domestic laws and regulations in Turkey. “Balıkesir Governorship Environment and Forestry	OK

Checklist Question		Reference	MoV ¹	Comments	Conclusion
				Directorate" have issued a Certificate of EIA Exemption dated 20/03/2009 /31/ based on Preliminary EIA Report for 10 MWm installed capacity. After capacity is changed, project owner applied based on 10 MWe/12.5 MWm installed capacity and "Balikesir Governorship Environment and Forestry Directorate" have issued a Certificate of EIA Exemption dated 25/01/2012 /32/. The environmental impact of the project activity is evaluated in the GS Passport /2/. Also, Environmental and Social Impact Assessment Report /39/ is prepared for the project activity.	
D.1.2	Will the project create any adverse environmental effects? Are transboundary environmental impacts considered in the analysis?	/1/ /30/ /39/	DR	The project will not create any adverse environmental effects as explained in the Preliminary EIA Report /30/ and Environmental and Social Impact Assessment Report /39/.	OK
D.1.3	Is the analysis of the environmental impacts required by the legislation of the host Country? If yes, has the EIA has been approved by local Government? Does the approval contain any conditions that need monitoring?	/1/ /30/ /31/ /32/	DR	Preliminary EIA Report of February 2009 /30/ was prepared and submitted to the "Balikesir Governorship Environment and Forestry Directorate" in line with the domestic laws and regulations in Turkey. "Balikesir Governorship Environment and Forestry Directorate" have issued a Certificate of EIA Exemption dated 20/03/2009 /31/ based on Preliminary EIA Report for 10 MWm installed capacity. After capacity is changed, project owner applied based on 10 MWe/12.5 MWm installed capacity and "Balikesir Governorship Environment and Forestry Directorate" have issued a Certificate of EIA Exemption dated 25/01/2012 /32/.	OK
D.1.4	Is it the project in line with the current environmental legislation in the host Country?	/1/ /31/ /32/	DR	It is confirmed through the Certificate of EIA Exemption /31/ /32/ that the proposed project activity is in line with the current environmental legislation in Turkey.	OK
D.1.5	Is the monitoring of sustainable development indicators/ environmental impacts warranted by legislation in the host country?	/1/	DR	The monitoring of sustainable development indicators/ environmental impacts warranted by legislation in the host country.	OK
D.1.6	Are the sustainable development indicators in line with stated national priorities in the host country?	/1/	DR	The monitoring of sustainable development indicators/ environmental impacts warranted by legislation in the host country	OK
E.1 Local stakeholder consultation					

Checklist Question		Reference	MoV ¹	Comments	Conclusion
E.1.1	Are the local stakeholders be invited by the PP prior to the publication of the PDD to the UNFCCC website?	/2/ /6/ /7/	DR, I	The local stakeholder consultation meeting was held on 21/02/2012 in line with the GS Requirements /6/ /7/ . The stakeholder meeting has been organized before the construction starting, therefore the project activity is applying for regular registration.	OK
E.1.2	Are the stakeholders invited being considered as regards commenting the proposed project activity?	/3/	DR, I	The local people, local authorities, local non-governmental organizations, Ministry of Environment and Urbanization, GS Local Representative, NGO supporters of the GS are invited to the local stakeholder meeting as confirmed through the LSC Report /3/ .	OK
E.1.3	Is the summary of the comments received from the stakeholders, provided in the PDD complete?	/1/ /3/	DR	The summary of the comments received from the stakeholders are presented in the LSC Report /3/ and under Section E of the PDD /1/ .	OK
E.1.4	Has due account been taken by the project participants of any stakeholder comments received?	/3/ /6/ /7/	DR	The stakeholder comments received have been taken account as explained in the LSC Report /3/ and under Section E of the PDD /1/ . No negative comments have been received.	OK
E.1.5	If a stakeholder consultation process is required by regulations/laws in the host Country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	/3/ /6/ /7/	DR	The stakeholder consultation process is not required by regulations/laws in the host Country.	OK

TABLE 2 RESOLUTION OF CORRECTIVE ACTION REQUESTS AND CLARIFICATION REQUESTS

Corrective action and/ or clarification requests	Reference to Table 1	Response by project participants	Validation conclusion
CAR 1 The project is a small-scale project; however, the “Project Design Document Form for CDM Project Activities (F-CDM-PDD), Version 04.0” is applied. Therefore, PDD version 01 of 31/08/2012 /1/ does not follow “CDM Executive Board: “Guidelines for completing the project design document form for small-scale CDM project activities” /20/. The selected methodologies are not included in the cover page of the PDD as per the guidelines.	A.1.2	The “Project Design Document Form for Small-Scale CDM Project Activities (F-CDM-SSC-PDD has been applied. Moreover, applied methodology has been added to cover page . Response to Review 1 1. Map has been added to section A.2.4, 2. Load factor, lifetime etc. info added. 3. It has been added under section B.2 4. Applied crediting period is the first crediting period and this statement has been added to section C.2.1 5. It has been stated as 7 years and 0 months. 6. Space has been added between contact information tables	Review 1 (17/12/2012): The PDD version 02 /1/ has been updated in line with the “Guidelines for completing the project design document form for small-scale CDM project” /20/. However, the following sections have not been completed in line with the guideline /20/ as explained below: 1 A map, which provides the physical/geographical location of the project activity, is not presented under Section A.2.4. 2 The information about the age and average lifetime of the equipment, load factors and efficiencies is not described under Section A.3. 3 It has not been demonstrated that the project activity qualifies as Type I, II, and/or III during every year of the crediting period in accordance with project activity eligibility in the CDM Project Standard /9/ under Section B.2. 4 It is not indicated whether the applied renewable crediting period is the first, second or third under Section C.2.1. 5 The length of the crediting period of the project activity is not stated in years and months under Section C.2.3. 6 There is no space between two contact information tables, which are presented under Appendix 1. The PDD version 02 /1/ has not been completed in line with the “Guidelines for completing the project design document form for small-scale CDM project” /20/;

Corrective action and/ or clarification requests	Reference to Table 1	Response by project participants	Validation conclusion
			hence, <u>CAR 1 is not closed.</u> Review 2 (22/01/2013): 1 A map, which provides the physical/geographical location of the project activity is given under Section A.2.4 of the PDD version 03 /1/. 2 The information about the age and average lifetime of the equipment, load factors and efficiencies is presented under Section A.1 of the PDD version 03 /1/. 3 It has been demonstrated under Section B.2 of the PDD version 03 /1/ that the project activity qualifies as Type I in accordance with project activity eligibility in the CDM Project Standard /9/. 4 It is indicated under Section C.2.1 of the PDD version 03 /1 it is first crediting period. 5 The crediting period of the project activity is defined as 7 years 0 month under Section C.2.3 of the PDD version 03 /1. 6 The table is revised accordingly. The PDD version 03 /1/ has been completed in line with the "Guidelines for completing the project design document form for small-scale CDM project" /20/; hence, <u>CAR 1 is closed.</u>
CAR 2 The project is a small-scale project; however, the "Project Design Document Form for Small-Scale CDM Project Activities (F-CDM-SSC-PDD) /21/" is not applied.	A.1.3	The "Project Design Document Form for Small-Scale CDM Project Activities (F-CDM-SSC-PDD has been applied.	Review 1 (17/12/2012): The PDD version 02 /1/ has been updated in line with the "Project Design Document Form for Small-Scale CDM Project Activities (F-CDM-SSC-PDD) /21/"; hence,

Corrective action and/ or clarification requests	Reference to Table 1	Response by project participants	Validation conclusion
			<u>CAR 2 is closed.</u>
CAR 3 The applicability of ACM0002 has not been justified step by step in line with the methodology in the PDD version 01 /1/. The project activity is the installation of wind power plant. However, it has not been justified clearly under section B.2 of the PDD version 01 /1/. The project activity does not involve capacity additions, retrofits or replacements. However, it has not been justified clearly in the PDD version 01 /1/.	B.1.3	The applicability of ACM0002 has been justified step-by-step in line with the methodology	Review 1 (17/12/2012): The applicability of ACM0002 /12/ has been demonstrated step by step in line with the ACM0002 in the PDD version 02 /1/. Also, the applicability of baseline tool /14/ is demonstrated. The applicability conditions have been presented clearly; hence, <u>CAR 3 is closed.</u>
CAR 4 A flow diagram of the project boundary, physically delineating the project activity must be included in the PDD as per the “Guidelines for completing the project design document form for small-scale CDM project activities” /20/.	B.2.1	The flow diagram has been added to PDD	Review 1 (17/12/2012): A flow diagram of the project boundary, physically delineating the project activity has been included in the PDD version 02 /1/; hence, <u>CAR 4 is closed.</u>
CAR 5 The starting date of the project activity is not clear in the PDD version 01 /1/. The starting date shall be defined under section C.1.1 of the PDD. However, this section refers to starting date of crediting period.	B.4.3.1 B.4.9.1	Start date of project activity is determined as 15/04/2012, date of construction start. Response to Review 1: Start date has been defined as turbine agreement date in v3 of PDD. Construction agreement is dated 03/04/2012, in general it takes 2-3 weeks to mobilize the construction facilities and team therefore it has been assumed as 15/04/2012 as a conservative estimation.	Review 1 (17/12/2012): Start date of project activity is defined as 15/04/2012, which is the date of construction start date in the PDD version 02 /1/. Please justify the construction start date by providing objective evidence. Also, the defined starting date is not real first action according to the timeline of project activity. The start date of project activity is not defined in accordance with the CDM Glossary of Terms /11/; hence, <u>CAR 5 is not closed.</u> Review 2 (22/01/2013): Start date of project activity is defined as 20/12/2011, which is the date of turbine

Corrective action and/ or clarification requests	Reference to Table 1	Response by project participants	Validation conclusion
			agreement /27/. The start date of project activity is defined in accordance with the CDM Glossary of Terms /11/; hence, <u>CAR 5 is closed.</u>
CAR 6 The timeline of the project activity, which is presented at Table 1 of the PDD version 01 /1/, does not confirm that continuous actions in parallel with the implementation were taken to secure project status. The project owner has signed the carbon certification agreement with the Global Tan Energy on 24/01/2012 /42/. However, the timeline does not include this agreement. Also, it shall be demonstrated by the PP that carbon reduction revenue was seriously considered in the decision to proceed with the project activity.	B.4.3.3 B.4.9.1	The carbon agreement has been added to milestones. Also, previous messages for collecting offers have been provided as supporting evidence of prior consideration. Response to review 1 Response has been submitted in CAR5 and evidences has been provided to DOE for prior consideration which demonstrates the prior consideration.	Review 1 (17/12/2012): The PP has been requested offers from carbon developers on 15/11/2011 as confirmed through the email /52/. The carbon certification agreement with the Global Tan Energy /42/ is included to the timeline of the project activity. The project start date has not been confirmed. Prior consideration will be evaluated after CAR 5 is closed; hence, <u>CAR 6 is not closed.</u> Review 2 (22/01/2013): Start date of project activity is defined as 20/12/2011, which is the date of turbine agreement /27/. The PP has been requested offers from carbon developers on 15/11/2011 as confirmed through the email /52/. The emails show that carbon reduction revenue was seriously considered in the decision to proceed with the project activity; hence, <u>CAR 6 is closed.</u>
CAR 7 The common practice does not comply with the "Tool for the demonstration and assessment of additionality, version 06.0.0" /13/.	B.4.6.1 B.4.6.2 B.4.6.3 B.4.6.4 B.4.6.5 B.4.9.1	Referred tool is not applicable to project activity. Proposed project is not fuel switch, methane destruction or technology switch project. Response to Review 1: The common practice has been renewed as per "Tool for the demonstration and	Review 1 (17/12/2012): The common practice analysis is applicable to the project activity since the measure is the switch of technology with or without change of energy source. The "measures" is any change from the baseline projection to the project activity projection. The baseline for the project activity is the

Corrective action and/ or clarification requests	Reference to Table 1	Response by project participants	Validation conclusion
		assessment of additionality, version 06.0.0" Response to Review 2: Names of steps has been changed as per applied tool. Common Practice excel sheet has been corrected. 148 power plants has been defined as Nall. Common practice excel sheet and PDD are consistent. Mistakes about the Ares and Bores have been corrected. However, Ndiff has not been changed because these projects has different technologies as per financial model. Types of these projects are BOT(build-operate-transfer) As per tool, Nall should be defined as all plants that deliver same capacity in the applicable geographical area (Turkey). Because the project capacity is 10 MW, Plants whose capacity within the range of 5 MW to 15 MW were listed. Therefore 180 plants has been listed. Identification of the N all had been stated in step 1 and step 2.	electricity produced by the fossil fuel based power plant and the project activity is electricity production by a renewable source. The PP's explanation was not found acceptable; hence, <u>CAR 7 is not closed.</u> Review 2 (29/01/2013): The steps are named as 1, 2, 3, 4 in the tool. However, in the PDD steps are named as Sub-Step 4a, 4b, 4c, 4d that is not in line with the tool /13/. 146 power plants are defined as N_{all} in the common practice excel sheet /54/, which does not include VER projects. However, it is given as 148 in the PDD version 03 /1/. Please justify that Ares (Alaçati) and Bores (Bozcaada) projects benefits from VER revenue since the project are not available in the GS Registry /59/. When the VER projects are included, the number of project listed in the common practice excel sheet /54/ is 180. However, more than 500 projects are available in the Turkish Electrical Energy 10-Year Generation Capacity Projection (2012-2021) /55/, which is referred as a source. Please clarify how 180 projects are defined. The common practice could not been validated; hence, <u>CAR 7 is not closed.</u> Review 3 (20/02/2013): The steps are named in line with the tool /13/. 148 power plants are defined as N_{all} in both common practice excel sheet /54/ and PDD

Corrective action and/ or clarification requests	Reference to Table 1	Response by project participants	Validation conclusion
			version 04 /1/. It is corrected that Ares (Alaçati) and Bores (Bozcaada) projects does not benefit from VER revenue. The mentioned request was not related with the Nall. But, since Nall could be justified, the explanation was found acceptable. The common practice could be validated; hence, <u>CAR 7 is closed.</u>
CAR 8 The provided source (footnote 30 of the PDD version 01) for breakdown by source of the electricity generation is not available. The PDD version 01 /1/ does not follow the “Tool to calculate the emission factor for an electricity system /14/” version 02.2.1 of 29/08/2011. The applied tool consists of 6 steps. However, in the PDD version 01 /1/, 7 steps are applied. OM Calculation Option (a) simple OM is selected to calculate the operating margin (OM) emission factor of the grid as per the tool since the average share of electricity generation by low-cost/must-run plants for five most recent years is found to be less than 50%. The ex-ante option is selected for OM, from the years 2008 to 2010. No TEIAS website links provided in the PDD version 01 /1/ are available. All footnotes and source refer to TEIAS web site shall be revised. BM Calculation The build margin (BM) emission factor calculation is not in line with the latest version of methodological tool “Tool to calculate the	B.5.1.1 B.5.1.3 B.5.4.1 B.5.4.2 B.5.4.3 B.5.4.4	The footnote 30 has been revised. All footnotes have been revised. Steps have been updated for EF calculation. BM calculation has been revised based on applied tool Response to Review 1 Source 31 and 32 have been controlled and links are available. Step1: Source 33, 34 and 35 have been controlled and links are available. OM Calculation Footnote has been corrected. Consumption figures of 2008-2010 has been corrected, and total consumption of these years has been added. BM Calculation Calculations has been updated and further clarification has been added. References for Gross generation is available as excel sheet (Generation 2010) and also in the link provided in excel sheet	Review 1 (17/12/2012): The provided source (31 and 32) for breakdown by source of the electricity generation is not available. Step 1: Footnote 33, 34 and 35 are not available. OM Calculation Footnote 39 is not available; therefore, gross generation could not be justified. Consumption figures of 2008-2010 given at Table 10 of PDD version 02 belongs to only 2010. BM Calculation It is not clear how power units that started to supply electricity to the grid most recently (SET5-units) have been determined. The annual electricity generation (AEGSET-5-units) does not match with the reference. Also, the determination is not included in the excel sheet, therefore it is not reproducible. BM calculation is not in line with the applied tool since the power plants are not listed and VER projects are not excluded before defining sample data.

Corrective action and/ or clarification requests	Reference to Table 1	Response by project participants	Validation conclusion
emission factor for an electricity system /14/".		so it can be easily reproducible.. Response to Review 2 The reference has been revised. Table has been tabulated based on annual generation capacity and the designation 'installed capacity" has been removed from title of the table 8. Unit of the amounts has been added to table. References and value applied have been corrected. Moreover, values for calculations of net electricity generation have been revised in ER calculation sheet and PDD. Carbon dioxide emission factor of LPG, Naphta and Natural Gas has been corrected. Percentage generation given in Table 14 has been revised. BM Calculation The list has been corrected. Determining the SET5-unit Moreover, power plants starting to supply to the grid in 2010 has been listed based on commissioning date and then 5 power plants has been chosen after excluding VER projects and capacity addition to the existing power plants(which are defined as 'ilave'.	As per the tool, if the annual electricity generation of that set is comprises at least 20% of the annual electricity generation of the project electricity system ($AEG_{SET-sample-CDM} \geq 0.2 \times AEG_{total}$), then sample group $SET_{sample-CDM}$ is used to calculate the build margin. Gross generation used in OM calculation could not been justified and BM calculation is not reproducible and correct, hence <u>CAR 8 is not closed.</u> Review 2 (22/01/2013): 1 The breakdown by source of the electricity generation (Table 8 of the PDD) could not be validated. The figures given in the Table 8 does not match with reference source (Annual Development of Turkey Installed Capacity by Primary Energy Resources in Turkey, 1940-1983 and 1984-2010) /57/. The figures also is not in line with the "Installed capacity" of ER excel sheet /5/. Please also clarify the unit of the amounts in the Table 8. 2 EG_y (Net electricity generated and delivered to the grid by all power sources serving the system, not including low-cost/must run power plants in year y) which is given as 211,207.7 GWh under Section B.6.2 of the PDD version 03 /1/ is not correct. The "value applied" and provided reference* belongs to gross electricity

Corrective action and/ or clarification requests	Reference to Table 1	Response by project participants	Validation conclusion
		For every combination of 5 power plants has been lower than 20 % of the AEGtotal Hydro power plants has been excluded from the total generation. The excel sheet named as cohort build by VER hydro+waste defines hydro power plants capacity. These excel sheet is adjacent to “cohort VER Wind+ GEOBM” sheet 1. There is not sufficient data available about the power plants Annual capacity addition are reported as whole sum of thermal, geothermal+wind and hydro power therefore, to be conservative, all thermal power plants is assumed to use natural gas	generation. *http://www.teias.gov.tr/T%C3%BCrkiyeElektrik%C4%B0statistikleri/istatistik2010/front%20page%202010-%C3%A7i%C3%A7ek%20kitap/uretim%20uketim(22-45)/40(06-10).xls 3 Carbon dioxide emission factor of LPG, Naphta and Natural Gas given at Table 13 of the PDD version 03 /1/ does not match with the reference /58/ and ER excel sheet /5/. 4 Percent generation given at Table 14 of the PDD version 03 /1/ is not in line with the ER excel sheet /5/. BM Calculation: 5 It is not clear how power units that started to supply electricity to the gird most recently (SET5-units) have been determined. The defined most five recent plants are not in line with the reference, Turkish Electrical Energy 10-Year Generation Capacity Projection (2011-2020) /55/. SET5-units defined in the PDD version 03 /1/ includes power plants commissioned in only January 2010. 6 “cohort VER Wind+ GEOBM” sheet of ER excel sheet /5/ includes only wind and geothermal power plants. Please clarify why hydro power plants that benefits from VER revenue are not excluded. 7 Capacity addition of Natural gas in 2009

Corrective action and/ or clarification requests	Reference to Table 1	Response by project participants	Validation conclusion
			is assumed as 18787.9 MWh in the BM calculation /5/. However, 18787.9 MWh is the installed capacity of total thermal power plants, which includes fuel oil, diesel oil, lignite, coal etc. Please clarify. OM and BM calculation could not been justified, hence <u>CAR 8 is not closed.</u> Review 3 (25/02/2013): 1 The link is available. 2 The explanation was found acceptable. 3 Carbon dioxide emission factor of LPG, Naphta and Natural Gas given at Table 13 of the PDD version 04 /1/ is in line with the reference /58/ and ER excel sheet /5/. 4 Percent generation given at Table 14 of the PDD version 03 /1/ is in line with the ER excel sheet /5/. BM Calculation: 5 Even the power plants started to supply electricity to the grid most recently is not presented in the excel sheet, the defined power plants in the PDD has been verified through the reference. 6 The explanation was found acceptable. 7 All thermal power plants are assumed to use natural gas. The assumption was found acceptable since it is in the

Corrective action and/ or clarification requests	Reference to Table 1	Response by project participants	Validation conclusion
			conservative side. Hence, <u>CAR 8 is closed.</u>
CAR 9 The monitoring plan (data and parameters fixed ex ante) does not include all data and parameters fixed ex ante such as $FC_{i,y}$ required by the applied methodology /12/ and baseline tool /14/. Please ensure that all necessary parameters are included.	B.6.1.1	All necessary parameters has been added to section B.6.2	Review 1 (17/12/2012): The PDD version 02 /1/ includes all data and parameters fixed ex ante required by the applied methodology /12/ and baseline tool /14/. Hence, <u>CAR 9 is closed.</u>
CAR 10 Net Electricity delivered to the grid by power plants in Turkey in year 2010 ($EG_{y,Total}$): – The provided source (TEIAS website link) does not run. – The year is defined as 2010 is not correct since the data from the period 2008-2010 is used in the OM calculation. – The notation of the parameter defined as $EG_{y,Total}$ is not in line with the methodological tool /14/. – Both EG_y and $EG_{y,Total}$ is included to data and parameters fixed ex-ante section. EG_y is defined as “Net Electricity delivered to the grid by proposed project in year y” which shall be $EG_{facility,y}$ and shall monitored ex-post. The ex-post monitoring plan already includes this parameter. Generation efficiency of thermal power plants (GE): The net energy conversion efficiency of power unit are taken from Annex 1 of the “Tool to calculate the emission factor for an electricity system” which is deemed reasonable. – The notation (GE) and definition (generation	B.6.1.2	Net Electricity delivered to the grid by power plants in Turkey in year 2010 ($EG_{y,Total}$): Teiaş link has been revised Defined year has been revised Notation has been corrected Parameters have been corrected Generation efficiency of thermal power plants (GE): Notation and definition has been corrected based on applied tool Net calorific value of fuels types (NCV): Notation and definition has been corrected based on applied tool Source has been revised Response to Review 1 Link has been updated in v3 of PDD.	Review 1 (17/12/2012): Net Electricity delivered to the grid by power plants in Turkey in year 2010 ($EG_{y,Total}$): – The provided source (http://www.teias.gov.tr/T%C3%BCrkiyeElektrik%C4%B0statistikleri/istatistik2010/front%20page%202010%C3%A7i%C3%A7ek%20kitap/uretim%20tuketim(22-45)/40(06-10).xls) does not run. – Defined year is corrected. – The notation of the parameter is corrected in line with the methodological tool /14/. – The parameters have been clarified. Generation efficiency of thermal power plants (GE): The notation and definition of the parameter is corrected in line with the methodological tool /14/. Net calorific value of fuels types (NCV): – The notation and definition of the parameter is corrected in line with the methodological tool /14/ and source

Corrective action and/ or clarification requests	Reference to Table 1	Response by project participants	Validation conclusion
efficiency of thermal power plants) of the parameter is not in line with the methodological tool /14/. Net calorific value of fuels types (NCV): - The notation (NCV) and definition (net calorific value of fuels types) of the parameter is not in line with the methodological tool /14/. - The provided source (TEIAS website link) does not run.			(TEIAS website link) has been revised. The provided source for EGy is not available; hence, <u>CAR 10 is not closed.</u> Review 2 (22/01/2013): The reference link has been updated; hence, <u>CAR 10 is closed.</u>
CAR 11 The parameter defined as “Solid wastes will be collected and disposed appropriately” in the monitoring plan does not match with the SD matrix. Please ensure that the parameters defined in the SD matrix are in line with the monitoring plan. Also, the GS monitoring plan does not include following parameters which have been scored positive and shall be monitored: - <i>Access to affordable and clean energy services</i>: Fossil fuel replaced (+) - <i>Quantitative employment and income generation</i>: Payment made to staff (+)	B.6.3.1	-Mitigation measure has been revised in monitoring plan -Parameters has been added to monitoring plan	Review 1 (17/12/2012): The parameters defined in the SD matrix matches with the monitoring plan. All non-neutral scored parameters are included to the monitoring plan. Hence, <u>CAR 11 is closed.</u>
CAR 12 The following issues regarding the monitoring way of Sustainability Monitoring Plan shall be clarified: - <i>Water quality</i>: Wastewater is disposed as required the relevant regulations. The parameter is monitored once annually through assessing disposal methods during site visits. However, the monitoring way is not sufficient and clear. Please clarify	B.6.3.2	-<u>Water Quality</u>: 'Checking waste disposal records " has been added -<u>Biodiversity</u>: It has been revised, expert opinion changed as ornithology report conducted by ornithologist who is an expert of branch of zoology that concerns the study of birds. - <u>Soil Condition</u>: "Checking waste disposal records" has been added -<u>Air Quality</u>: Pictures are given to	Review 1 (17/12/2012): - <i>Water quality</i>: "Checking waste disposal records" has been added to monitoring plan which is found as a sufficient monitoring way. - <i>Biodiversity</i>: The parameter is monitored through the ornithology report. - <i>Soil condition</i>: "Checking waste disposal records" has been added to monitoring

Corrective action and/ or clarification requests	Reference to Table 1	Response by project participants	Validation conclusion
disposal methods and how it is monitored. - <i>Biodiversity</i>: Number of bird species and affected species is monitored once and it is confirmed through the expert opinion. Please clarify the expert opinion. As per the FAR#5 raised by GS, ornithology study shall be conducted by ornithology. - <i>Soil condition</i>: Solid waste will be collected and disposed appropriately. The parameter is monitored annually through on site observation. Recyclable and non-recyclable wastes will be stored temporarily and will be disposed by the Manyas Municipality. Excavated soil will be used for landscaping. However, the monitoring way defined as "site visit" is not sufficient and clear. - <i>Air Quality</i>: The dust emissions is measured once after construction. It is mentioned in the monitoring plan that the parameter is monitored through the documentation of measures such as pictures. However, the monitoring way is not sufficient and clear. Please clarify who measure the parameter and how it is monitored through the pictures.		demonstrate that measures are implemented to minimize dust emissions. It is already given in Passport that it will be monitored by the project owner. Further information about dust modeling is given in passport. Since the construction was already completed, pictures have been included in passport also.	plan which is found as a sufficient monitoring way. - <i>Air Quality</i>: The dust emission is monitored through the documentation of measures such as pictures. Since the construction has already completed, the pictures are included to GS Passport. Also, no negative comments have received from stakeholders during on site visit. In order to prevent the dust generation, roads has been sprinkled with water regularly, loads on the hauling vehicles have been covered while in transport. Hence, <u>CAR 12 is closed.</u>
CAR 13 The following issues regarding the future target of Sustainability Monitoring Plan shall be clarified - <i>Quality of employment</i>: All relevant staff is trained for health and safety. Relevant staffs will be certified for working high voltage. However, the listed trainings in SD matrix are not presented in the monitoring plan. The future target does not match. - <i>Balance of payments and investment</i>: The baseline situation and future target could not be justified since the provided references are	B.6.3.3	-These have been added to future target - all references has been checked, they are available Response to Review 1 References have been checked. They are available.	Review 1 (17/12/2012): - <i>Quality of employment</i>: The listed trainings in SD matrix are clearly presented in the monitoring plan. - <i>Balance of payments and investment</i>: The baseline situation and future target could not be justified since the provided references are not available. The baseline situation and future target could not be justified since the references are not available; hence, <u>CAR 13 is not closed.</u>

Corrective action and/ or clarification requests	Reference to Table 1	Response by project participants	Validation conclusion
not available.			Review 2 (22/01/2013): – <i>Balance of payments and investment:</i> The baseline situation and future target has been justified through the provided references. Hence, <u>CAR 13 is closed.</u>
CAR 14 The benchmark indicator has been selected as the equity IRR after taxes, and the threshold value of the benchmark indicator has been established as 15%, based on Worldbank loan appraisal document /47/. The analysis is conducted in real terms. The PP needs to provide evidence that the benchmark of 15%, from a document dated 1 May 2009, is still valid, and that the value of 15% refers to real (as opposed to nominal) equity IRR after taxes (as opposed to before taxes). Moreover, the PDD does not clearly demonstrate substep 2b from the additionality tool.	B.4.4.2 B.4.4.3	Gold Standard still refers and request use of to the WB study and accepts this as reference as this is the most up to date available document. Therefore, it is used in the benchmark analysis. Request about sub step 2b was not understood. However, all requirements of the tool and GS are met as there exist many projects registered in this way. Further clarification should be provided if there is any inconsistency. Response to Review 1 Registration review form for a recently registered GS hydro project has been submitted as evidence. However, DOE is expected follow GS updates and approach closely to avoid such comments or present an alternative otherwise. At least, recently registered projects can be checked to see registration body's approach. Further clarification has been added for DOE to show that it is equity IRR. Substep 2b heading included in v3 of PDD.	Review 1 (17/12/2012): No evidence has been provided that the World Bank and/or Gold Standard still consider this document up to date. No evidence has been provided that 15% mentioned in the loan approval document of the World Bank represents: is this figure nominal or real (corrected for inflation). The PDD does not consistently label the calculated parameter as “equity IRR” or “project IRR”, does not consistently indicate whether it is before taxes or after taxes, and does not consistently indicate whether it is nominal or real. The PDD does mention a substep 2a and a substep 2c, but does not mention a substep 2b. The information that belongs to substep 2b is now presented as part of substep 2a. Hence, <u>CAR 14 is not closed.</u> Review 2 (26/12/2012): The last two sentences of the first paragraph of the response have been ignored as non-responsive. The registration review form provided by the project participants shows that as of August 2012, Gold Standard was of the opinion that the 15% equity IRR stated in the World Bank

Corrective action and/ or clarification requests	Reference to Table 1	Response by project participants	Validation conclusion
			loan appraisal document is up to date. It could be confirmed in the revised PDD that the calculations and benchmark are presented as equity IRR in a consistent manner. It could be confirmed in the revised PDD that Substep 2b has been clearly included. Hence, <u>CAR 14 is closed.</u>
CAR 15 No breakdown or justification has been provided for the investment costs and O&M costs.	B.4.4.5 B.4.4.6	Agreements have been provided to DOE, which should be sufficient for justification of the investment costs. O&M costs have been based on previous projects of the investor, which is at comparable scale with the proposed project. Related documents have been provided to DOE. Response to Review 2 Since project was still at design& consruction phase, it is not possible to provide source for all cost items in OPEX sheet. Financial is not final document but shows the situation with best estimation. Costs are either given with references or justified with sources. For the proposed project, for justification of the OPEX, realized opex costs of a similar size Wind power plant of the same company has been used. We can not document the cost of staff which will be recruited at least one year later. As can be seen from the opex cost of the similar plant, estimation for proposed project activity is very conservative.	Review 1 (17/12/2012): No breakdown of the investment costs and O&M costs with sources (name document, page number) for each of the components of the investment costs and O&M costs is provided in the PDD and/or financial model provided to the DOE. Hence, CAR 15 is not closed. Review 2 (17/12/2012): No information is provided on the breakdown of investment. More justification than has been provided should be given for the O&M costs, which seem high in comparison to other windpark projects. The opex costs from another windpower plant from the same company have been provided without supporting evidence. The data (for the alternative windpower plant) have been used to calculate annual O&M costs that would be “appropriate” for the proposed project.. More justification for both the O&M and investment costs should be provided, preferably through a breakdown with sources for each component. Hence, CAR 15 is not closed.

Corrective action and/ or clarification requests	Reference to Table 1	Response by project participants	Validation conclusion
		Breakdown of investment is available in financial model submitted to DOE. You can see all costs including turbine, electrification, cabling etc. in excel table. Agreements are also submitted to DOE. For OM costs, we have already used real and official figures from a similar size(15MW) plant of the same project owner. Reference for grid fee link is available in excel sheet. Maintenance cost is assumed as 40K/year/turbine. Recent offer received from turbine supplier will be submitted together with revised PDD which shows maintenance cost as €26K for first two years and €44.5K(~\$58K) for rest of the operation period. Hence maintenance cost is also conservative. For staff cost and overhead mangemnet costs, monthly staff cost figure and invoice from Fina enerji(mother company) to Manres (license owner of Gunaydin wPP) has been submitted also.	Review 3 (02/03/2013): The financial model provided to the DOE breaks down the investment cost as follows (all amounts in 1000 USD): Construction work: 1158. This is based on the Construction Agreement which we have, and is calculated by converting the TL amount in the agreement into 1000 USD. This is correct. Electrification & cabling: 1068. This is based on summing amounts from three agreements: 1. Power Transformer Agreement (175000 EUR), 2. Transmission Line Construction Agreement (795000 TL) and 3. Cale Agreement (465284 USD). This is correct. Turbine costs: 14561. This is based on the Turbine Agreement, which states a EUR amount which is converted to USD. This is correct. Design & Consultancy. This is taken as 839, which is calculated as 5% of the previous three cost items. <u>Hence, CAR 15 is closed.</u>
CR 1 The PDD version 01 /1/ does not include information whether the project activity is a debundled component of a larger project activity.	A.2.5	It has been defined in section A.6	Review 1 (17/12/2012): It has been stated under Section A.6 of the PDD version 02 /1/ that the project activity is not a debundled component of a larger project activity; hence, <u>CR 1 is closed.</u>
CR 2 As the proposed project activity is a GS VER project, the validation of participation requirement for CDM/JI is not required.	A.3.5	It has been indicated in section A.4	Review 1 (17/12/2012): It has been stated under Section A.4 of the PDD version 02 /1/ that the PPs are private

Corrective action and/ or clarification requests	Reference to Table 1	Response by project participants	Validation conclusion
However, it is not clearly indicated in the PDD whether the PPs are private or public entities.			entities; hence, <u>CR 2 is closed.</u>
CR 3 The PDD version 01 /1/ does not mention whether the project involve other emission sources not foreseen by the methodology, which contribute by more than 1% (e.g. back up diesel generators).	B.2.5.	All sources included are given in section B.3. Diesel generator etc are not required to be included by the methodology any more as they minor emission source.	Review 1 (17/12/2012): The PP's explanation was found acceptable; hence, <u>CR 3 is closed.</u>
CR 4 Footnote 9 is not available.	B.3.1	Footnote has been revised Link seems working and document can be downloaded. Screen shot of the link and document has been provided as evidence (CR4.jpg) together with revised PDD v3.	Review 1 (17/12/2012): Footnote 9* is not available. http://www.teias.gov.tr/T%C3%BCrkiyeElektrik%C4%B0statistikleri/istatistik2010/front%20page%202010-%C3%A7i%C3%A7ek%20kitap/uretim%20tuketim(22-45)/36.xls Hence, <u>CR 4 is not closed.</u>
CR 5 In GS Passport, the source is referred to Preliminary EIA Report /30/; however, the referred page number of EIA Report in the whole GS Passport does not match with the EIA Report.	B.4.7.3	Footnotes have been revised. Gunaydin WF ESIA report has been used as reference instead of Pre-EIA report.	Review 1 (17/12/2012): The reference given in the GS Passport has been updated; hence, <u>CR 5 is closed.</u>
CR 6 The project does not employ and is not complicit in any form of child labour. Turkey has ratified ILO Convention 138 (Minimum Age Convention) and 182 (Worst Forms of Child Labour Convention) /48/. It is stated in the GS Passport that Turkey is a party of IPEC. Please clarify the IPEC and provide reference.	B.4.7.6	IPEC is the ILO's international programme on the elimination of child Labour. Relevant references have been added to GS Passport.	Review 1 (17/12/2012): The IPEC is clarified and reference is included to the GS Passport; hence, <u>CR 6 is closed.</u>
CR 7 It has been mentioned by the PP during on site visit that all employees hired for construction period attends Health and Safety Training, However, the training records could not been	B.4.7.8	These documents have been provided to DOE.	Review 1 (17/12/2012): The training records have been submitted and it has been confirmed that the employees have attended Health and Safety Training; hence, <u>CR 7 is closed.</u>

Corrective action and/ or clarification requests	Reference to Table 1	Response by project participants	Validation conclusion
provided.			
CR 8 The record that shows that the waste (waste oil, sewage, excavation etc.) was disposed properly during the construction has not been provided during the site visit.	B.4.7.9	The maintenance of the equipment during the construction phase were carried out by the service of the vehicles and were dealt by the subcontractor (Bektaş İnşaat). Waste oils were taken by the service while maintenance. Maintenance bills have been provided. All excavation wastes were used for road and foundation filling.	Review 1 (17/12/2012): The maintenance records have been provided. The service company have took the waste oil occurred during maintenance. Hence, <u>CR 8 is closed.</u>
CR 9 The justification choices are documented in the GS Passport /2/. The SD matrix is mainly based on Preliminary EIA Report /30/ of the project. However, the referred page number of EIA Report in the whole GS Passport does not match with the EIA Report.	B.4.8.2	Footnotes have been revised. Gunaydin WF ESIA report has been used as reference instead of Pre-EIA report.	Review 1 (17/12/2012): The reference given in the GS Passport has been updated; hence, <u>CR 9 is closed.</u>
CR 10 The expected crediting starting date is defined as 01/10/2012 under section C.2.2 of the PDD version /1/. Please clarify whether the project activity has been commissioned.	C.1.1	The project has been commissioned in 20/11/2012. Provisional Acceptance Report has been submitted to DOE. Commissioning date has been added to DOE. Response to Review 1 Crediting period updated in PDD.	Review 1 (17/12/2012): The project activity has been commissioned on 20/11/2012 as confirmed through the Temporary Acceptance Protocol /53/ that is issued by Ministry of Energy and Natural Resources. The crediting period start date is defined as 01/12/2012; however, it does not match with the estimated emission reductions calculation given under Section B.6.4 of PDD version 02 /1/. Hence, <u>CR 10 is not closed.</u> Review 2 (22/01/2013): The crediting period start date is defined as 01/12/2012; and estimated emission reductions calculation has been revised accordingly.

Corrective action and/ or clarification requests	Reference to Table 1	Response by project participants	Validation conclusion
			Hence, <u>CR 10 is closed.</u>
CR 11 The income tax calculation takes depreciation into account. No evidence has been provided that the calculation of the depreciation amounts is in line with Turkish accounting practices.	B.4.4.10	This is not an accounting table submitted to tax office. It is a financial projection based on projections and parameters at time of investment decision. Reference of the depreciation period has been added in revised version. (http://www.gib.gov.tr/fileadmin/mevzuatek/eski/verusulteb333ek.html) Response to Review 1 DOE should seriously consider the comment and purpose of the financial model as it is mainly based on many assumptions and has contingency item. Impact of depreciation is very small compared to other uncertainties and the actual balance sheet which should be submitted to tax office will naturally be different than the financial model given here. However, it is not clear why the CR is not closed if the document is sufficient.	Review 1 (17/12/2012): The first two sentences have been ignored as unresponsive to the issue raised. The added information and reference mentioned in the last sentence and provided in the PDD is sufficient to confirm the calculation of the depreciation amount. Hence, <u>CR 11 is not closed.</u> Review 2 (26/12/2012): It is typo; the conclusion of the previous review should have been "CR 11 is closed". Hence, <u>CR 11 is closed.</u>
CR 12 Three parameters have been identified for variation in the sensitivity analysis. However, no justification for this selection has been provided.	B.4.4.11	Parameters used includes all variables which may affect the project IRR. Further clarification has been added to PDD. Response to Review 1 The reason why CR 12 is not closed has not been explained. Please, kindly state the reason.	Review 1 (17/12/2012): It is customary that the choice of parameters to be varied in the sensitivity analysis is justified with reference to guidelines for the assessment of investment analysis, and the share of the selected parameter(s) in total costs / revenues over the lifetime of the project. In the PDD, an alternative justification is provided, that the parameters varied are all parameters that affect the equity IRR of the project. In the context of this project, this argument is correct – a more comprehensive sensitivity

Corrective action and/ or clarification requests	Reference to Table 1	Response by project participants	Validation conclusion
			analysis is not possible. Hence, <u>CR 12 is not closed.</u> Review 2 (26/12/2012): It is typo; the conclusion of the previous review should have been "CR 12 is closed." Hence, <u>CR 12 is closed.</u>
CR 13 The three parameters selected for the sensitivity analysis have not been varied to reach the benchmark, nor has it been justified that the chances of this happening are small.	B.4.4.12	Further clarification has been added for investment and operation cost. There exist paragraph about tariff which is based on historical prices also. Since the investment is realized and costs have been justified with agreements, there is no probability to see a reduction in investment cost. Operating cost has very minor impact on IRR. Tariff has been defined as the main parameter subject to change and the fluctuation is defined to show the benchmark IRR. Response to Review 1 Percentage changes to reach benchmark equity IRR has been added to sensitivity analysis	Review 1 (17/12/2012): While the argumentation added in the PDD is helpful in explaining why significant changes in the parameters (and hence equity IRR) are not likely, the switching values (the percentage change in the parameters which equates the equity IRR with the benchmark) have not been provided for each of the three parameters selected for the investment analysis. Hence, <u>CR 13 is not closed.</u> Review 2 (26/12/2012): With reference to the revised PDD, it could be confirmed that the switching values (Percentage changes for each of the selected parameters necessary for the calculated equity IRR to reach benchmark equity IRR) have been added to the sensitivity analysis. Hence, <u>CR 13 is closed.</u>