VERIFICATION REPORT

SOMA WIND POWER PLANT

(GOLD STANDARD PROJECT ID: GS655)

Monitoring Period:
1 July 2012 to 31 December 2012

REPORT NO. 2013-0091

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VERIFICATION REPORT

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Summary:

DNV Climate Change Services AS (DNV) has performed the verification of the emission reductions reported for the Gold Standard project activity "Soma Wind Power Plant"(Gold Standard Project ID: GS655) for the period 1 July 2012 to 31 December 2012.

In our opinion, the GHG emission reductions and information on the project's Gold Standard Sustainable Indicators reported for the project in the monitoring report (Version 03) of 30 January 2013 are fairly stated.

The GHG emission reductions were calculated correctly on the basis of the approved monitoring methodology ACM0002 (version 12.1) and the monitoring plan contained in the Project Design Document version 3.3 of 4 July 2012.

DNV Climate Change Services AS is able to verify that the emission reductions from the Gold standard project activity "Soma Wind Power Plant" during the period of 1 July 2012 to 31 December 2012 amount to 104 569 tonnes of CO_2 equivalent.

Report No.: 2013-0091	**Indexing terms**	
Report title: Soma Wind Power Plant	Key words Climate Change Kyoto Protocol Validation Clean Development Mechanism	Service Area Verification Market Sector Process Industry
Work carried out by: Patrice Massicard, Giovanni Tenderini, Ole Andreas Flagstad	☒ No distribution without permission from the client or responsible organisational unit ☐ free distribution within DNV after 3 years ☐ Strictly confidential ☐ Unrestricted distribution	
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Abbreviations

CAR	Corrective Action Request
CDM	Clean Development Mechanism
CEF	Carbon Emission Factor
CL	Clarification request
CO_2	Carbon dioxide
CO_{2e}	Carbon dioxide equivalent
DNV	Det Norske Veritas
DOE	Designated Operational Entity
EMRA	Energy Market Regulatory Authority
FAR	Forward Action Request
GHG	Greenhouse gas(es)
GS	Gold Standard
IPCC	Intergovernmental Panel on Climate Change
MP	Monitoring Plan
PDD	Project Design Document
MFRC/PMUM	Market Financial Reconciliation Center / Piyasa Mali Uzlaştırma Merkezi
TEİAŞ	Turkish Electricity Transmission Company
UNFCCC	United Nations Framework Convention on Climate Change
WEPP	Wind Energy Power Plant

1 INTRODUCTION

EcoSecurities International Limited has commissioned DNV Climate Change Services AS (DNV) to carry out the verification of emission reductions reported for the Gold Standard project "Soma Wind Power Plant" (the project) for the period 1 July 2012 to 31 December 2012. This report contains the findings from the verification and a verification statement for the verified emission reductions.

The project was registered as a Gold Standard (GS) project activity (Project ID: GS655) on 23 January 2012 and has a crediting period starting on 13 August 2010 /1/, which correspond to the commissioning date of the first set of turbines implemented (ref. section 3.2 for details). This is within two years prior to the registration with GS, so that all emission reductions achieved from the commissioning date can be claimed. The first verification covered the period from 13 August 2010 to 30 June 2012. This verification has verified the emission reductions occurring for the period from 1 July 2012 to 31 December 2012.

1.1 Objective

Verification is the periodic independent review and *ex post* determination by a Designated Operational Entity (DOE) of the monitored reductions in GHG emissions that have occurred as a result of the registered GS project activity during a defined monitoring period.

The objective of this verification was to verify emission reductions reported for the Soma Wind Power Plant for the period 1 July 2012 to 31 December 2012 along with the GS indicators for sustainability criteria.

1.2 Scope

The scope of the verification is:

- To verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan.
- To evaluate the GHG emission reduction data and information on the project's Gold Standard Sustainable Indicators and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data and information on the project's Gold Standard Sustainable Indicators, respectively, is free from material misstatement.
- To verify that reported GHG emission data is sufficiently supported by evidence.

The verification shall ensure that reported emission reductions are complete and accurate in order to be certified by the Gold Standard.

1.3 Description of the project activity

Title of project activity:	*Soma Wind Power Plant*
Baseline and monitoring methodology	*ACM0002 (version 12.1)*
Project Participants:	*Bilgin Rüzgar Santrali Enerji Üretimi A.Ş.*
	JPMorgan Ventures Energy Corporation

Location of the project activity: *Soma and Kırkağaç towns, Manisa province, Turkey*
Project's crediting period: *13 August 2010 to 12 August 2017 (renewable)*
Period verified in this verification: *1 July 2012 to 31 December 2012*

1.4 Methodology for determining emission reductions

In line with the applied methodology ACM0002 version 12.1 /54/, the emission reductions are determined as the difference between baseline emissions, project emissions and leakage:

$ER_y = BE_y - PE_y - L_y$.

PE_y and L_y are considered to be zero as stated in the registered GS PDD and GS validation report (hereafter referred to as PDD and validation report) and as per the methodology /1/ /5/ /54/. Therefore, the emission reductions are accounted as:

$ER_y = BE_y = EG_{facility,y} \times EF_{grid,CM,y.}$

$EF_{grid,CM,y}$ is the emission factor of the grid (tCO_2/MWh), which has been fixed *ex-ante* for the entire first crediting period at 0.59384 tCO_2/MWh, as per the registered PDD and the validation report /1//5/.

$EG_{facility,y}$ is the net electricity generation supplied to the grid, which is determined by the electricity output to the grid minus the electricity imported from the grid /1/ /2/.

2 METHODOLOGY

The verification of the emission reductions has assessed all factors and issues that constitute the basis for emission reductions from the project. These include:

i) Review of project documentation /1/ - /6/ ;
ii) The net electricity supplied by the project to the grid which is multiplied by a fixed grid baseline combined emission factor of 0.59384 tCO_2/MWh /1//5/;
iii) The actual installed capacity of the power plant to ensure the conformance with the descriptions in the registered PDD /1/;

Moreover, DNV has reviewed the information provided on the project's Gold Standard Sustainable Indicators.

DNV has during its preparations identified the key reporting risks and used the assessment to determine to which extent the project operator's control systems were adequate for mitigation of these key reporting risks. In addition, other areas that can have an impact on reported emission reductions have also undergone a detailed audit testing.

Verification team

Role	***Last Name***	***First Name***	***Country***	***Type of involvement***					
				Desk review	Site visit	Reporting	Supervision of work	Technical review	TA 1.2 competence
Team leader (Verifier) with local knowledge	Massicard	Patrice	Norway	✓	✓	✓	✓		
Expert	Tenderini	Giovanni	Italy	✓	✓	✓			✓
Assessor Under Training (observer)	Flagstad	Ole Andreas	Norway	✓	✓				
Technical reviewer	Espejo	Andrés	Italy					✓	✓

Duration of verification

Preparations: *From 7 January 2013 to 14 January 2013*

On-site verification: *17 January 2013*

Reporting, calculation checks and QA/QC*: From 21 January 2013 to 20 March 2013*

2.1 Review of documentation

The verification has been performed based on the review of the following documentation provided by the project participants:

- The monitoring report of the monitoring period from 1 July 2012 to 31 December 2012, version 01 dated 8 January 2013 and Version 03 dated 30 January 2013 /2/
- The registered PDD, including the monitoring plan and the corresponding validation report /1/ /5/
- The emission reduction calculations provided in the form of a spreadsheet submitted by EcoSecurities International Limited /3/
- An evaluation of data management, the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions /1/ /2//5//6//7//10/
- Baseline and monitoring methodology ACM0002 version 12.1 applied by the project /54/
- Gold Standard Sustainable Indicators of the proposed project during this monitoring period from 1 July 2012 to 31 December 2012 /17/-/52/
- Other information and references relevant to the project activity's resulting emission reductions /14//15/.

2.2 Site visit

DNV's team performed an on-site visit for Soma Wind Power Plant project on 17 January 2013. The key personnel of the project were interviewed or assisted the verification team /62//63//64//65/. Additionally, DNV interviewed residents from the nearby villages of Kozluoren and Heciz Köyü, including the village head (Muhtar) /60//61/:

- Zeki SEN Head (Muhtar) of Kozluoren village
- Hami Koy, resident from Heciz village

The interviews were conducted in local language with the help of an independent translator /66/. The interview topics included:

- General perception of the project
- Disturbance during the construction phase
- Disturbance to local animal life
- Contribution to livelihood
- Rehabilitation of roads
- Safety on site

During this site visit, DNV has applied standard auditing techniques to assess the quality of information provided. The following aspects of the GS project activity have been verified:

- The implementation and operation of the GS project activity as per the registered PDD /1/;
- The information flow for generating, aggregating and reporting of the monitoring parameters /1/ /2/ /5/; and
- The operational and data collection procedures are implemented in accordance with the monitoring plan in the PDD /1/.

Further, the following activities were performed:

- A cross-check between information provided in the monitoring report and data from other sources /1/-/7/
- A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the PDD and the selected methodology /1/ /2/ /10/ /54/;
- A review of calculations and assumptions made in determining the GHG data and emission reductions /3/ /6/;
- An identification that quality control and quality assurance procedures are in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters /8/ ; and
- Gold Standard Sustainable Indicators of the proposed project during this monitoring period /17/-/52/

The data presented in the monitoring report was assessed by review of the detailed project documentation and production records, as well as by interviews with personnel at project site, and observation of collection of measurements, observation of established monitoring and reporting practices and assessment of the reliability of monitoring equipment. This has enabled the verification team to assess the accuracy and completeness of reported monitoring results; to verify the correct application of the approved monitoring methodology and the

determination of the emission reductions. It can be confirmed through the site visit that quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

In addition, all parameters required by the monitoring methodology ACM0002 version 12.1 and the management system were assessed during the site visit /54/.

2.3 Reporting of findings

A corrective action request (CAR) is issued, where:

i. Non-conformities with the monitoring plan or methodology are found in monitoring and reporting, or if the evidence provided to prove conformity is insufficient;
ii. Mistakes have been made in applying assumptions, data or calculations of emission reductions which will impair the estimate of emission reductions;
iii. Issues identified in a FAR during validation to be verified during verification have not been resolved by the project participants.

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

A forward action request (FAR) is issued for actions if the monitoring and reporting require attention and/or adjustment for the next monitoring period.

The verification team identified one CAR, 4 CLs and one FAR. Additionally one FAR has been raised by the GS committee during issuance review. The CARs and CLs have been adequately responded to by the project proponent by among others revising the monitoring report to Version 03, dated 30 January 2013. The CAR and CLs have been clearly addressed and thus been closed by DNV. The CAR, CLs raised and the response provided is as attached in Appendix A of this report. The FARs will be addressed during the next verification.

3 VERIFICATION FINDINGS

This section summarises the findings from the verification of the emission reductions reported for the "Soma Wind Power Plant" for the period 1 July 2012 to 31 December 2012.

3.1 Remaining issues, CARs, FARs from previous validation / verification

There was one FAR raised by the DOE and three FAR raised by the GS committee from the previous verification.

- FAR 1 concerned the monitoring manual developed by the project participant. It was to be updated in order to be consistent with the hourly reading and reporting practise on site. DNV has verified the revised monitoring manual and confirmed that it is in line with monitoring practise on site.
- FAR 2 was raised by GS in order to follow up the tree planting progress planted 110 trees were plant in June 2012 and 100 new trees will be planted in 2013. During the site visit in January 2013, the verification team observed the 110 trees planted in June 2012 and confirmed they were in good condition.
- FAR3 was raised by GS in order to verify the diesel consumption with review of invoices. During the site visit, DNV could verify both the logbook where every refill of tank is noted and the accumulated working hours of the generator, and the diesel invoices. It should be noted that the fuel invoices are not directly comparable with the log book information since fuel is purchased in larger quantities only a few times a year in order to feed the generator when needed. Therefore, DNV is of the opinion that the logbook and working hours of the diesel generator should be the primary source for estimating the emissions related to fuel consumption. The invoices are used for plausibility check, and DNV can confirm that the total amount of fuel purchased over the monitoring period is comparable with the consumption noted on the logbook.
- FAR4 was raised by GS and requested the DOE to perform further interviews of local villagers in local language, and in independent manner. For this purpose DNV has hired a translator /66/ and interviewed a village's head(ie Muhtar) and a resident from nearby villages /61//62/. There was no negative impact reported by the interviewees.

3.2 Project implementation

As part of the site visit, DNV confirms that the project implementation is in accordance with the project description contained in registered PDD of 4 July 2012 /1/.

The verification team confirmed through visual inspection and document review that all physical features of the proposed GS project activity including data collection systems and storage systems have been implemented in accordance with the registered GS PDD. DNV confirmed during the on-site visit that the GS project is completely operational. The project is a wind (*renewable type*) power plant, located in Soma and Kırkağaç towns in Manisa province of Turkey.

As verified by DNV during the site visit, through visual inspection of the project site and control room, the actual installed capacity of the project activity (36*2.5 MW) is consistent with the capacity stated in the registered PDD of 4 July 2012 /1/.

The turbines are divided in two groups: Soma I, which contains 24 turbines and Soma II, which has 12 turbines. The electricity produced by each set of turbines is delivered to the 154 kV substation via underground cabling and 3 MVA step up transformers. The electricity from Kırkağaç substation (Soma II) is combined with electricity from Soma I and the total 90 MW are then transmitted to the Turkish national grid via 154 kV TEİAŞ Soma B Substation. Two meters (one main and one backup) of Actaris SL7000 type have been installed to measure the electricity produced for each set of turbine (total 4 meters) /10/.

The project was implemented in 3 phases which was confirmed by Acceptance protocols from the Ministry of Energy and Natural Resources /9/. The implementation was confirmed as follows:

- Turbines T1 to T13, with total of 32.5MW, started operation on 13 August 2010
- Turbines T14 to T24, with total of 27.5MW, started operation on 23 September 2010
- Turbines T25 to T36, with total of 30 MW (ie Soma II) were in operation from 11 November 2010

The monitoring procedure of electricity supplied to the grid was verified during the site visit /8/, and are considered to be adequate. The electricity meters are bi-directional with accuracy of 0.2 and the serial numbers 53042303, 53042305 (main meters) and 53042304, 53042306 (backup meters) as verified by DNV through visual inspection of the meters during the site visit. The accuracy of the meters and the serial numbers are not specified in the registered PDD /1/. DNV confirms that the accuracy represents the current good practice in Turkey.

Electricity meters' maintenance and calibration is undertaken by TEİAŞ (the grid operator) who ensures the accuracy and measurement quality /1//2/. Both main and back-up meters are sealed and locked in the main control room at the project site to guarantee the integrity of the instruments. The installation and operation of the monitoring meters were consistent with the registered PDD /1/. The control system at the wind power plant (SCADA system) is automated and assures continuous operation according the availability of wind resource.

On-site training for operating and maintaining the equipment was provided by the equipment supplier, e.g. the service basic, turbine technology and electrical system training carried out by Nordex Academy, Concycle Wind Training by Woodward, theoretical and practical safety instruction training carried out by Triowind, technique, health and safety training carried out and Ideal, etc. /28//29//30//31//32//34/. Employees of the proposed project participated in different trainings to fulfil the request of their work, and DNV confirms that the training certificates have been provided during the site visit. DNV was able to confirm that this training certificates and procedure implementation were appropriate by checking the training record and interviewing the key personnel of the plant /28//29//30//31//32//34//35/

Malfunctioning of equipment has been monitored by the project and no report/insidents of malfunctioning was issued during this monitoring period.

3.3 Information (data and variables) provided in the monitoring report that is different from that stated in the registered PDD

The estimated annual gross electricity generation in the registered GS PDD is 307 500 MWh, which correspond to 155 014 MWh for a period equivalent to this monitoring period i.e. 184 days /1//2/. The actual measured gross electricity generation from the project during this monitoring period is 176 089.56 MWh for this monitoring period. Therefore, the actual electricity generation for this monitoring period is 14% higher than the value estimated in the

registered GS PDD /1/. This is due to seasonal variation of the wind, since the monitoring period only cover a period of 6 month. The total electricity production of the project in 2012 was 122 041+176 089=298 130 MWh, which is 3% lower than estimated in the GS PDD.

As per the GS PDD, the estimated total emission reductions equivalent for this monitoring period are 92 053 tCO_2, while the actual emission reductions achieved during this monitoring period are 104 569 tCO_2, which is 14% higher than the estimation in the GS PDD. However the total emission reduction achieved in 2012 is 72 473+104 569= 177 042 tCO_2, which is 3% lower than the GS PDD estimates.

3.4 Compliance of monitoring plan with monitoring methodology

DNV is able to confirm that the monitoring plan contained in the registered GS PDD of 4 July 2012 is in accordance with the approved methodology applied by the project activity, i.e. ACM0002 (version 12.1) /1/ /54/.

3.5 Compliance of monitoring with the monitoring plan

The monitoring has been carried out in accordance with the monitoring plan contained in the registered GS PDD of 4 July 2012 /1/.

All parameters stated in the validated monitoring plan are monitored and reported appropriately. The monitoring report lists each parameter required by the registered monitoring plan and the information flow for these parameters (i.e. from data generation, aggregation, to recording, calculation and reporting) is provided in the monitoring report /2/. The information flow for each parameter is further verified in the following sections.

3.5.1 Monitoring parameters

According to the monitoring plan of registered GS PDD of 4 July 2012, there is only one parameter to be monitored, which is $EG_{facility,y}$, the net electricity supplied to the grid by the proposed project /1/.

The table 1 below relates to the parameters in the monitoring plan / methodology:

	Assessment/ Observation
Data / Parameter: (as in monitoring plan of PDD):	$EG_{facility,y}$: Net electricity supplied to the grid by the project
Measuring frequency:	continuously
Reporting frequency:	Reported monthly in the PMUM/MFRC reports /6/ and monthly readings report /7/ provided by TEİAŞ
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and reporting frequency is in accordance with the monitoring plan and monitoring methodology. The monitoring plan specifies monthly recording frequency /1/. Until January 2012, the electricity readings were done monthly by authorized person from TEIAS and a representative of the project participant, co-signing the monthly report. From January 2012 onwards, the electricity is measured automatically and remotely so that no

	representative of TEIAS is needed on site /11/. The monthly report from TEIAS is verified and signed by the project participant. Copies of these monthly reports have been provided to DNV /7/. The monthly electricity data by TEIAS are further processed by MFRC/PMUM for invoicing purposes. The MFRC/PMUM reported data are based on TEIAS reading after deducting the transmission losses between the soma power plant and the Soma B substation DNV finds this procedure of reporting the electricity data to be acceptable and in accordance with the monitoring plan /1/ and monitoring manual developed with the project participant /8/.
Type of monitoring equipment:	Bi-directional electricity meters Actaris SL7000 • Main meter A with serial number 53042303 (used for ER calculation) • Main meter B with serial number 53042305 (used for ER calculation) • Backup meter A with serial number 53042304 (not used for ER calculation) • Backup meter B with serial number 53042306 (not used for ER calculation) It is stated in the registered GS PDD that there are two electricity meters /1/. It was confirmed during the site visit that there are two meters each for Soma I and Soma II (one main and one backup). Readings from the main meters are recorded on the remote station by TEİAŞ and is used for invoicing and calculation purposes. Both the main and backup meters are bi-directional, i.e. measuring both imported and exported electricity to the grid. The accuracy of these meters is 0.2, which represents the good practice in Turkey. Only data generated from the main meters is used for the ER calculation, and no data from the backup meters is used /3/. The data is cross checked with the data generated by the MFRC/PMUM system /6/, DNV considers that the set-up of the meters accurately measures the electricity generated by the proposed project.

Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, does the monitoring equipment represent good monitoring practise?	No meter accuracy is defined in the registered GS PDD /1/. DNV checked during the site visit through a visual inspection that the electricity meters have an accuracy class of 0.2, which represents good monitoring practice in Turkey.
Calibration frequency /interval:	Every 10 years
Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, does the selected frequency represent good monitoring practise?	Yes. The calibration interval is in line with the monitoring plan of the GS PDD /1/. In the registered GS PDD, it is stated that in accordance with the Inspection of Measurement and Measuring Instruments Regulation published in Turkish Official Gazette, the inspection of meters needs to be done once every 10 years /1/ /13/. DNV checked the document and can confirm the same.
Company performing the calibration:	Electricity meters' maintenance and calibration is undertaken by the grid operator TEİAŞ, which ensures the accuracy and measurement quality.
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Yes. Both the main meters (serial number 53042303 and 530423035) and the backup meters (serial number 530423034 and 530423036) were calibrated when they were installed in the year 2010. Certificates by Kesir Engineering were provided confirming the correct functioning within specified accuracy of the installed meters on-site /10/.
Is(are) calibration(s) valid for the whole reporting period?	Yes. The calibrations are valid until year 2020 /1//10//13/. However the quality of the meter is checked monthly by the grid operator TEİAŞ, to ensure that the meters are working properly /1/ /2/. Any evidence of the malfunction of the meters will trigger an earlier calibration or other corrective measures.
If applicable, has the reported data been cross-checked with other available data?	The reported data from main meter can be cross checked with the readings from the back up meters. DNV compared the main and back up meter readings from the monthly reports /7/ and is able to confirm that the difference between the readings of the main and the backup meters were within the accuracy range of the meter (<0.2%). Additionally, the SCADA system is continuously recording the electricity produced by each turbine and provide daily/monthly reports. The reported data have been cross

	checked with the monthly electricity generation recorded in the SCADA system and DNV can confirm the figures were consistent.
How were the values in the monitoring report verified?	Monthly meter records of the electricity exported to and imported from the grid have been provided by the project participant and verified by DNV. Both the monthly reading reports /7/ and MFRC/PMUM /6/ data have been verified by DNV during the verification. DNV was able to verify the calculation process and the conclusion is transparent and in accordance with the evidence reviewed /3/ /6/.
Does the data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes. DNV confirmed during the site visit that there are two bi-directional main meters used to continuously measure the electricity generated by the project and delivered to the grid /1//2/. These meters are owned by TEİAŞ, and TEİAŞ is responsible for the maintenance and calibration of the meters. Before, January 2012 a representative from TEİAŞ joined the monthly meters reading with the plant manager of the proposed project to confirm that the data are recorded correctly. Since January 2012, however, the data is being recorded at remote station and monthly PMUM reports are obtained by the project participant from TEİAŞ. DNV confirms through the site visit that these meters are sealed and locked in the main control room of the project site. Hourly and daily readings log book of the meters were also checked during the site visit and DNV confirms that the data were properly recorded for this monitoring period/14/. Furthermore, the electronic copies of the original data are also kept at the plant site, which is in accordance with the monitoring plan of the registered GS PDD /1/. All data is in compliance with the figures stated in the monitoring report Version 03 dated 30 January 2013 /2/ and ER spreadsheet /3/. The data management system has been set up in accordance with registered monitoring plan /1/. The correct transfer of data is checked by internal control process. The emission

	reductions are calculated using excel worksheet, and verified /3/.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	N/A

In accordance with the "Inspection of Measurement and Measuring Instruments Regulation" which was published in the Turkish Official Gazette (No. 22000, dated 24/7/1994) by Turkish Ministry of Industry and Commerce, the inspection of meters needs to be undertaken every 10 years /13/. This is stated in the monitoring plan of the registered GS PDD, and in the monitoring report /1//2/. DNV therefore confirms that the meters were calibrated covering this monitoring period as per the registered GS PDD, as the next calibration time would be in year 2020.

3.6 The Assessment of data and calculation of emission reductions

DNV confirms that appropriate methods and formula for calculating baseline emissions, project emissions and leakage have been followed, and the assumptions, emission factors and default values that are applied in the calculation have been justified /54/.

As stated in the section 1.4, the emission reductions ER_y by the project activity during the monitoring period is the difference between the baseline emission, project emissions and leakage /54/.

$ER_y = BE_y - PE_y - L_y$

3.6.1 Baseline emissions

Baseline emissions (BE_y in tCO_2) is the baseline emission factor ($EF_{grid,CM,y}$ in tCO_2/MWh) times the net electricity supplied by the project activity to the grid ($EG_{facility,y}$ in MWh) /54/.

$EF_{grid,CM,y}$ is emission factor of the grid, which was calculated *ex-ante* and will not be updated during the first crediting period. $EF_{grid,CM,y}$ of the proposed project in the registered GS PDD is 0.59384 tCO_2/MWh, which has been verified to be consistent with the registered GS PDD /1/.

$EG_{facility,y}$ is the net electricity supplied to the grid by the proposed project, which is determined by the electricity supplied to the grid minus the imported electricity from the grid /1/ /2/ /54/,i.e.

$EG_{facility,y} = EG_{export,\ main\ meter\ 1} + EG_{export,\ main\ meter\ 2} - EG_{import,\ main\ meter\ 1} - EG_{import,\ main\ meter\ 2}$

While *y* represents the monitoring period from 1 July 2012 to 31 December 2012.

The net amount of electricity generation and the resulting emission reductions are correctly reported in the final monitoring report Version 03 dated 30 January 2013 /2/. The designed load factor is not specified in the registered PDD /1/. DNV verified that the monthly load factor for the proposed project is 44%, which is reasonable based on DNV's industrial

knowledge. Hence, DNV was able to confirm the power generated during this monitoring period was reasonable.

The total net electricity exported to the grid by the project during this monitoring period from 1 July 2012 to 31 December 2012 was verified to be 176 089.56 MWh and the emission reductions for the same period are 104 569 tCO_2e /2/ /3/.

$EG_{facility,y} = EG_{output,y} – EG_{import,y} =$ MWh, and

$BE_y = EF_{grid,CM,y} * EG_{facility,y} = 104\ 569\ tCO_2e$

3.6.2 Project emissions

The project emissions are regarded as zero according to the methodology ACM0002 version 12.1 /54/.

There is one genset of 20 kW at each site of Soma-I and Soma-II. Although not required by the methodology nor the monitoring plan, the project participant has also recorded the diesel consumption of the back-up generators at the project sites over the monitoring period 1 July 2012 to 31 December 2012. DNV has verified the logbook for the diesel generators during site visit and could confirm that the generators worked for 5.8 hours at Soma I and 38.4 hours at Soma II. Assuming the default emission factor of 1.3 tCO_2, the emissions from the generators amount to 1.15 tCO_2 which is far below the materiality thresholds of 1% of the total emission reductions claimed by the project. Therefore, it is not required to consider the emissions from the diesel generator in the emission reduction calculations.

3.6.3 Leakage

There are no leakages that need to be considered in applying the methodology ACM0002 version 12.1 /54/.

3.6.4 Emission reductions

Therefore, the total emission reductions in this monitoring period are:

$ER_y = BE_y - PE_y - L_y = 104\ 569 - 0 - 0 = 104\ 569\ tCO_2e$.

As outlined above, the input data for calculating the emission reductions, the calculating process and the result are complete and transparent. Therefore, DNV is able to confirm the accuracy of the emission reductions.

3.7 Monitoring of Gold Standard Sustainable Indicators

Additional parameters monitored are in accordance with the sustainability monitoring plan of the project's gold standard. No substantial changes have been reported for the selected indicators during the verification period of the project.

I. Local/regional/global environment

3.7.1 Air quality

DNV confirmed through visual inspection during the site visit that at the project site the necessary road signs have been placed to request the proper use of the road, such as the speed limit sign and the warning sign among others. This is to minimize the dust dispersion and erosion during the excavation. DNV interviewed villagers during the previous (first)

verification and positive feedback were received. Other villagers including a Muhtar were interviewed independently during this verification, and they gave positive feedback concerning the measures taken by the project participant to reduce the dust during the construction process /60//61/.

To further reduce the dust after the construction of the project, the project participant signed the Rehabilitation of Road contract with Özyavuzlar İnşaat San.Ltd.Şti. in August 2010 to construct and rehabilitate the secondary roads within the area of project activity, and the work was completed in September 2010 /45/. The project participant also renewed the infrastructure of the roads at the Kozluoren Village in the end of 2010 after project construction /39//43/.

The references were provided to DNV during the verification process /39//43//44//45/.

3.7.2 Soil condition

DNV confirms that during the verification process, the project participant presented DNV the payment notification and forestation fee receipts issued by Regional Directorate of Forestry, Turkish Ministry of Environment and Forestry to the project participant on 9 September 2010, which demonstrated that the project participant paid the fee to replant of trees cut due to the construction of the proposed project /22/. It has been specified in the payment notification that the forestation fee is for the forestation of 3 208.72 square meter area /22/.

According to the Sustainability Monitoring Plan of the GS Passport for the proposed project, "the necessary amount of trees will be planted around the project area in coordination with the local forestry" /4/. To fulfill this requirement, the project participant has hired local villagers to plant 110 trees at the project site in June 2012. The newly planted trees were counted during site visit during the first verification by DNV in October 2012 and verified again during the site visit of this monitoring period in January 2013. The project participant has also established a plan to plant 100 additional trees in 2013, which shall be verified by the DOE conducting the next verification (Ref. FAR 1).

The project participant presented DNV with the agreements from June 2012 between them and the local villagers to plant the trees /52/. Relevant photos were also presented to DNV. The confirmation of tree plantation by local forestry was also provided /51/

Therefore it is in DNV's opinion that the project has been carried out according to the Sustainability Monitoring Plan of the GS Passport /4/.

3.7.3 Other pollutant: Noise and waste disposal

Alka Environmental Laboratory issued an External Ambient Noise Measurement Report for Soma Wind Farm in December 2010 /37/. Alka Environmental Laboratory is an independent third party certified by Turkish Accreditation Agency. The report is prepared in accordance with the Provisions of Article 14 of Environmental Law No. 2872; Ministry of Environment and Forestry Law No. 4856; and the Regulation for the Evaluation and Management of Environmental Noise /37/. The report confirmed that the maximum noise measured for the project is below the legal limits of 80 dBA applicable at the project site, and 65 dBA (in day time), 60 dBA (in the evening) and 55 dBA (at night) at the nearby residential area /37/. As the reported was carried out by an independent third party accredited by Turkish government, and it is based on the data when all turbines started operation, DNV considers the result reliable and reflected the conditions at the project site.

Concerning the waste disposal of the proposed project, the project participant agreed with Nordex Enerji A.Ş. that any waste material resulted from the construction of the proposed

project would be disposed of by Nordex Enerji A.Ş /16/. This was confirmed through the review of the relevant invoices /25/ and national waste removal forms available /24/ provided to DNV during the verification process and DNV was able to confirm that the national waste removal forms include both the solid waste and the waste oil.

DNV could also confirm via the site visit that solid waste undergoes collection, where recyclables are separated and dispatched to recycling centres.

3.7.4 Water quality and quantity

According to the Sustainability Monitoring Plan of the GS Passport for the proposed project, the project needs to provide water by tankers and big bottles, and dispose the waste water in accordance with current laws and regulation. The waste water from the project activity is collected in septic tanks that are regularly emptied by the local municipalities at Soma I and Soma II, as confirmed by the receipts available for 2012 /18/.

The project participant provided DNV with the receipts for utility water delivered to the project site in 2012 /19/.

The drinking water receipt samples from local shop at Soma were also provided to DNV /20/. The Public Hygiene Centre of Turkish Ministry of Health issued a Drinking Water Quality Report on 19 December 2011 to confirm that the sample water of the proposed project site area is in compliance with the Regulation Concerning Water Intended for Human Consumption /21/.

3.7.5 Biodiversity

As confirmed by the registered GS PDD and the validation report, the project complies with the terms of the EIA-exemption letter from Ministry of Environment and Forest /1//5/. It is also stated in the gold standard passport /4/, that the project is not located within migration path of birds. Nevertheless, as precaution measure, it was requested that a detailed study by independent party shall be prepared before the first verification with regards to migratory route of birds /1/. The independent study has been made in autumn 2012 during bird migration season and it was confirmed that there is no migration path at the project site /12/. Additionally, DNV could confirm via the site visit that red colour were painted on the tips of the turbine blade for the proposed project, and the flashing lights were installed on the nacelles' tops to increase turbine visibility at night, which is consistent with that in the monitoring plan and monitoring report /1//2/.

According to the gold standard passport, the project participant shall "keep security logbook on each shift member to monitor if any birds/bats are found or not" /4/. DNV checked the Security Logbook at the project site and found that the logbook was started in November 2011 /41/. The plant manager explained that it was first understood by the plant employees that if there was any bird found, this should be recorded, but since no bird were found in the past, no record was kept. The project participant issued two notifications later addressing this issue, and requesting a daily record to be kept no matter birds were found or not in June 2011 and November 2011 /42/. Therefore, the record started since November 2011 /41/. In order to confirm whether any bird detection was missed, DNV interviewed the local villagers and they confirmed that no bird body were found around the project site; hence DNV is able to confirm that the information provided by the project proponent is accurate.

II. Social Sustainability and Development

3.7.6 Quality of Employment

The project participant provided DNV with records of Health Check-up Report of Technical Personnel issued by State hospital as well as private doctors, and these reports confirmed that the technical personnel could continue their current work /49/. İDEAL Occupational Health and Safety Private Company, which is an accredited and independent third party, also issued the Occupational Health and Safety Report for the Soma wind power plant, confirming that the proposed project complies with Labour Law No. 4857, and the Regulation of the Ministry of Labour and Social Security No.: 25426 on occupational safety and health services /50/. Meanwhile, the initial assessment carried out November 2011 identified potential risks and suggested actions for the proposed project /50/, for project participant to further improve the health and safety situation for the proposed project. IDEAL conducted a new assessment in August 2012, which confirmed that all previous observations were implemented by the project participant /50/. Therefore, DNV consider that this parameter has been monitored adequately during the monitoring period.

In addition to the health and safety system, the project participant provided services to employees of the propose project, such as the personnel bus services and the daily meal. The relevant contracts were provided to DNV during the verification process /47//48/ . Furthermore, the project participant also organized extensive trainings for the employees of the proposed project based on the work requests, including the technical training, the fire and safety training, the management of high voltage and facilities training, the wind turbine training, etc. DNV confirms that all the training certificates have been provided at the verification stage /28//29//30//31//32//33//34//35/.

3.7.7 Quantitative employment and income generation

It is stated in the registered GS PDD that the project should provide employment opportunities for local people with wages above the local average /1/, and the project owner should keep employee records including gender city and position. The list of employee at the time of the site visit has been provided and verified by DNV /38/. The list of employee is continuously updated when necessary, thus complies with the annual monitoring requirement. There is in total 11 local employees as electrical technician or security staff, out of 36 employees in the proposed project /38/. DNV verifier interviewed one employee during this site visit (in addition to interviews conducted during previous site visit), and he gave positive feedback for working conditions and the compensation for his work /63/. The project participant also provided the annual salary report for each category of employees working at the plant site, and the average salary of the employees in each category is above that stated in the Structure of Earnings Survey 2010 for Aegean Region, which is the latest information available published by Turkish Statistical Institute /26//27/.

3.7.8 Livelihood of the poor

Since no positive impact is claimed for this parameter, it was clarified during the GS review of the first monitoring period that it is not further needed to monitor and report the contribution of the project to the livelihood of the poor.

Nevertheless, the project participant contributed to the livelihood of the local poor people in 2012 by making donations to villagers, which is listed in the Social Responsibility Report of Soma Wind Power Project provided to DNV /39/. The donation receipts and thanks letter of the above activities have been scanned and included in the Social Responsibility Report of Soma Wind Power Project /39/.

3.7.9 Public health and safety

DNV confirmed via direct supervision during the site visit as well as through photographs provided by the project participant /40/ that the project site is secured to safeguard the public from potential electricity-related risks. All the turbines are fenced at the project site to avoid any third party injury or accident related to high voltage. The switchgear area, the main control chamber, and the substation are also fenced in and guarded. These precautions are taken to protect the public from any potential high voltage hazard, and it is consistent with that requested in the registered PDD /1/.

It can be concluded that Gold Standard Sustainable Indicators have been properly recorded and no negative deviations with regard to the target of the selected parameters can be reported. The interviews with several stakeholders during the on-site assessment have not resulted in any complaints, the overall feedback to the project was positive.

3.8 Quality of evidence to determine emission reductions

DNV confirms that a complete set of data for this monitoring period was available to be verified and was in accordance with the registered GS PDD dated 4 July 2012 /1/.

All data in the project site are stored in an electronic server of the power plant that has a regular and systematic backup. The monitoring data recorded from the substation are stored as a hard copy as well as a soft copy and will be kept at least for 2 years after the end of the last crediting period /1//2/.

All necessary documentation were collected, referenced and aggregated and were easily accessible in hard-copy and electronic format. Measurements are performed by calibrated equipment, and the key data were cross-checked via other sources. No assumptions are used that have any material influence on reported emission reductions.

The only monitoring indicator is the net electricity supplied to the grid by the proposed project, which has been monitored with calibrated electricity meters.

Critical parameters used for the determination of the emission reductions were checked and confirmed during the site visit, which are listed below:

- Monthly reading reports of the electricity imported and output from the grid /7/;
- Hourly and daily readings from the bidirectional meter of electricity output to and imported from the grid for the project activity, recorded manually in logbook/14/;
- Electricity data generated by MFRC/PMUM used for invoicing, from 1 July 2012 to 31 December 2012 /6/.

During the site visit and documents' review, DNV could confirm that internal hourly records regarding the electricity produced by Soma Wind Farm and dispatched to the grid were correctly maintained. The monthly electricity readings and the MFRC/PMUM data related to the proposed project during this monitoring period were assessed by DNV /6//7/. DNV was able to verify that Soma Wind Farm has an automated control system where the operation and electricity generated, consumed and exported to the grid is continuously monitored.

All the data is in compliance with the figures stated in the monitoring report, emission reduction spreadsheet and the registered GS PDD /1/. The monthly recorded data were correctly transferred to the spreadsheet /3/.

It is concluded that in this monitoring period, the evidence for determination of ER is

sufficient and reasonable. DNV was able to confirm that the result of ER calculation is reliable /3/.

3.9 Management system and quality assurance

Bilgin Rüzgar Santrali Enerji Üretimi A.Ş. is responsible for operating the wind power plant and monitoring the project activity. The management system for the project has been verified to be in place by DNV on site. The organization structure with the responsibilities, personnel competencies, monitoring procedure and monitoring management have been properly identified and put into operation.

DNV confirmed through the site visit that the monitoring and reporting of electricity data is in accordance with the established operational procedures.

Data was collected according to the well-defined data collection procedures:

- The operation of each individual turbine is monitored continuously by a SCADA system in the control room. Operating parameters are recorded in the SCADA system as well as special events, shutdowns or maintenance requirements.
- Data of electricity exported is continuously measured and automatically recorded by the bidirectional meters (main and back up) on a monthly basis by TEIAS /7/;
- These reports are verified and signed by the Soma wind power plant manager monthly.
- The electricity data, including the electricity dispatched to the grid and imported from the grid by the power plant, is compared with the electricity data generated by MFRC/PMUM which is used as basis for invoicing /6/.
- An excel spreadsheet is used to calculate project emission reductions. The project participant collects data for electricity generation (EG_y) from both monthly readings /7/ and consolidated PMUM reports /6/. The most conservative values is used towards emission reduction calculations.
- Plausibility check of the reported values is done by back up meter monthly readings/7/.

DNV confirms that the responsibilities and authorities in the management and operational system for monitoring and reporting are in accordance with the responsibilities and authorities stated in the registered PDD and monitoring plan /1/ /2/.

4 VERIFICATION STATEMENT

DNV Climate Change Services AS (DNV) has performed the verification of the emission reductions that have been reported for the Gold Standard project activity "Soma Wind Power Plant" (Gold Standard Project ID: GS655) for the period 1 July 2012 to 31 December 2012.

The project participants are responsible for the collection of data in accordance with the monitoring plan and the reporting of GHG emissions reductions from the project.

It is DNV's responsibility to express an independent verification statement on the reported GHG emission reductions from the project and reported information on the project's Gold Standard Sustainable Indicators. DNV does not express any opinion on the selected baseline scenario or on the validated and registered PDD.

DNV conducted the verification on the basis of the monitoring methodology ACM0002 (version 12.1), the monitoring plan contained in the registered Project Design Document of 4 July 2012 and the monitoring report (Version 03) dated 30 January 2013. The verification included i) checking whether the provisions of the monitoring methodology and the monitoring plan were consistently and appropriately applied and ii) the collection of evidence supporting the reported data.

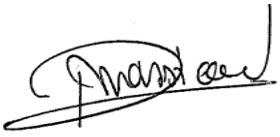
DNV's verification approach draws on an understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. DNV planned and performed the verification by obtaining evidence and other information and explanations that DNV considers necessary to give reasonable assurance that reported GHG emission reductions are fairly stated.

In our opinion the GHG emissions reductions and information on the project's Gold Standard Sustainable Indicators for the Gold Standard project activity "Soma Wind Power Plant" for the period 1 July 2012 to 31 December 2012 are fairly stated in the monitoring report (Version 03) dated 30 January 2013.

The GHG emission reductions were calculated correctly on the basis of the approved baseline and monitoring methodology ACM0002 (version 12.1) and the monitoring plan contained in the registered PDD of 4 July 2012.

DNV Climate Change Services AS is able to verify that the emission reductions from the Gold Standard project activity "Soma Wind Power Plant" during the period 1 July 2012 to 31 December 2012 amount to 104 569 tonnes of CO_2 equivalent.

Oslo, 20 March 2013



Patrice Massicard
Verifier
DNV Climate Change Services AS

Edwin Aalders
Approver
DNV Climate Change Services AS

5 REFERENCES

Documents provided by the Project Participants that relate directly to the GHG components of the project. These have been used as direct sources of evidence for the periodic verification conclusions, and are usually further checked through interviews with key personnel.

/1/ EcoSecurities International Limited: *Project Design Document of Soma Wind Power Plant* version 3.3 dated 4 July 2012.

/2/ EcoSecurities International Limited: *Monitoring Report of Soma Wind Power Plant* for the period of 1 July 2012 to 31 December 2012, version 01 of 8 January 2013, and Version 03 of 30 January 2013

/3/ EcoSecurities International Limited: ERs calculation spreadsheet: *Soma M1 workbook 30 January 2013.xlsx*

/4/ EcoSecurities International Limited: *Gold Standard Passport for Soma Wind Power Plant*

/5/ Bureau Veritas: Validation report for *Soma Wind Power Plant* version 06 dated 6 July 2012

/6/ Market Financial Reconciliation Center (MFRC/PMUM): *Data generated in MFRC/PMUM from 1 July 201 to 31 December 2012 for Soma Wind Farm*

/7/ TEIAS: monthly electricity metering reports for Soma I and Soma II *from 1 July 2012 to 31 December 2012 for Soma Wind Farm*

/8/ Ecosecurities International Limited: Monitoring Manual for Soma Wind Power Plant, version 1.1 of January 2013

/9/ Ministry of Energy and Natural Resources: Acceptance protocols for Soma wind power plant, dated 13 August 2010, 23 September 2010 and 11 November 2010

/10/ Kesir Mühendislik Elektrik A.Ş.: *Calibration of the meters used in the Soma Wind Power Plant (meter no. 53042303, 53042304, 53042305, 53042306)*, dated 19 June 2010

/11/ TEİAŞ: *Notification regarding change in monitoring mode of electricity (moving to remote reading and reporting rather than on-site reading)*, dated 23 October 2012

/12/ Prof. Dr. Levent Turan: Report on bird migration over the Soma Wind Farm project area, *Manisa Soma-WPP, Monitoring Studies, 2012 Autumn Season*, dated September 2012

/13/ Turkish Ministry of Industry and Commerce: *Inspection of Measurement and Measuring Instruments Regulation* dated 24 July 1994

/14/ Bilgin Enerji Yatırım Holding A.Ş.: *Logbook for hourly records of main and backup meters electricity data for the monitoring period*, from 1 July 2012 to 31 December 2012

/15/ Bilgin Enerji Yatırım Holding A.Ş.: *Soma diesel consumption and operating hours records for the on-site backup generators*, for the years 2010, 2011 and 2012

/16/ Nordex Enerji A.S. and Bilgin Rüzgar Santrali Enerji Üretimi A.Ş.: *Maintenance and Service Agreement for a period of 12 years, dated 6 July 2009*

/17/ ALKA Construction and Environmental industry Ltd: *Soma noise measurement report* dated 2 December 2010

/18/ Municipality of Gelenbe, Finance service division: samples receipt of waste water, September and November 2012

/19/ Mustafa Isik Hecis Köyü Muhtari: *Receipts for Utility Water* for July – December 2012.

/20/ Menzil Ticaret: *Sample Receipts for 19l drinking water* tanks, July September and November 2012

/21/ Public Hygiene Centre, Turkish Ministry of Health: *Drinking Water Quality Report confirming that the sample water is in compliance with the "Regulation Concerning Water Intended for Human Consumption"* dated 26 March 2012

/22/ Regional Directorate of Forestry, Ministry of Environment and Forestry: *Payment notification and the bank receipt for the payment for forestation fee* dated 03 September 2010

/23/ Bilgin Enerji Üretim A.S.: Soma Wind Energy Plant 2012 & 2013 action plan, dated 20 June 2012

/24/ Ministry of Environment and Environmental affairs: National Waste transportation forms Nordex Enerji A.S, dated 28 July 2012

/25/ Nordex Enerji A.S: receipt of waste disposal from Soma wind power plant, 28 July 2012

/26/ Turkish Statistical Institute: *TurkStat, Structure of Earnings Survey, 2010* www.tuik.gov.tr/IcerikGetir.do?istab_id=166

/27/ Bilgin Enerji Üretim A.Ş.: *Monthly salary report for the employees of Soma Wind Power Plant for year 2010 and 2011*

/28/ Woodward: *Training Certificate for the employees of Soma Wind Farm for Concycle Wind Training held on 7 to 11 February 2011*

/29/ Nordex Energy GmbH: *Service Training Basic Level, held from 21 to25 June 2010*

/30/ Nordex Academy: *Training Certificate for the employees of Soma Wind Farm for Turbine Technology on 29 October 2010*

/31/ Nordex Academy: *Training Certificate for the employees of Soma Wind Farm for Electrical system from 25 to 29 November 2010*

/32/ Triowind: *Training Certificate for the employees of Soma Wind Farm for theoretical and practical safety instruction training carried out in 2009, 2010, 2011 and 2012 (last on 19-10-2012)*

/33/ Eikhoff: Training certificate for windpower gearboxes for Nordex N90, October 2012

/34/ İDEAL: *Occupational Health and Safety Law Awareness Training Certificates for Soma wind farm employees, 17 November 2011*

/35/ Vali Yardimesa: *Private Security Training Certificates for Soma wind employee*

/36/ Some municipality, fire department: Fire training certificates, 14-16 November 2012

/37/ Alka Environmental Laboratory (accredited/independent third party): *Noise Measurement Report*, dated 2 December 2010, report No 2010 /851

/38/ Bilgin Rüzgar Santrali Enerji Üretimi A.S.: *Employment Information Summary of Soma Wind Power Plant for the period August 2010 to June 2012.*

/39/ Bilgin Enerji Yatırım Holding A.Ş.: *Social Responsibility Report for Soma Wind Power Plant for the period August 2010 to December 2012.*

/40/ Bilgin Enerji Yatırım Holding A.Ş.: Photopraghs of site's protection measures.

/41/ Bilgin Enerji Üretimi A.S.: *Security Logbook for recording if there is any bird found*

around the project site area starting since 11 November 2011

/42/ Bilgin Rüzgar Santrali Enerji Üretimi A.S.: *Internal notification to security guards of Aliağa Wind Farm that finding of birds should be photographed and recorded in security logbook* dated 7 June 2011 and 10 November 2011

/43/ Nimtas Insaat : *Invoice for supply of beton to road constuction*, 3 November 2010

/44/ Alpibilge Ltd Sti; *Invoice for materials for road reconstruction at Kozluoren village*, dated 7 September 2010

/45/ Bilgin Rüzgar Santrali Enerji Üretimi A.S.. and Özyavuzlar İnşaat San.Ltd.Şti.: *Rehabilitation of Roads Contract*, signed 14 August 2010

/46/ Ticket Restaurant and Bilgin Rüzgar Santrali Enerji Üretimi A.S.: *Contract for the personnel meals of Soma Wind Farm*, dated 6 April 2012

/47/ Ismail Isik Minibus transport and Bilgin Rüzgar Santrali Enerji Üretimi A.S.: *Contracts for the transport service for employees of Soma I Wind Farm , 20 May 2012 (valid 1 year)*

/48/ COBAN Minibuscu and Bilgin Rüzgar Santrali Enerji Üretimi A.S.: *Contracts for the transport service for employees of Soma II Wind Farm, 4 November 2011 and 6 November 2012 (valid 1 year)*

/49/ Bastabigli State Hospital and private doctors: *Health Check-ups of Technical Personnel of Soma Wind Farm in year 2011 and 2012*

/50/ İDEAL Occupational Health and Safety Private Company (accredited/independent third party): *Occupational Health and Safety Reports for Soma I and Soma II wind power plants*, carried out 17 November 2011 and 7 August 2012

/51/ Ministry of Environment and Forestry: *Confirmation of demand of tree plantation*, 28 June 2012

/52/ Bilgin Buzgar Santrali Enerji Uretmi A.S.: *Agreement with local villagers in May and June 2012 to re-plant the trees cut during the construction of the proposed project, as well as the relevant photos for the tree planting process, dated 26 and 27 June 2012.*

Background documents related to the design and/or methodologies employed in the design or other reference documents.

/53/ CDM Executive Board: *Validation and Verification Manual version 01.2*

/54/ CDM Executive Board: *ACM0002 " Consolidated baseline methodology for grid-connected electricity generation from renewable sources" version* 12.1

/55/ CDM Executive Board: *Tool to calculate baseline, project and/or leakage emissions from electricity consumption Version 01*
http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-05-v1.pdf

/56/ IPCC: *Revised 2006 IPCC Guidelines for National Greenhouse Gas Inventories Reference Manual*.

/57/ The Gold Standard: *Gold Standard Requirements version 2.1*

/58/ The Gold Standard: *Gold Standard Toolkit version 2.1*

/59/ The Gold Standard: *Gold Standard Annexes to Toolkit version 2.1*

Persons interviewed during the initial verification, or persons who contributed with other information that are not included in the documents listed above.

/60/ Zeki SEN Head (Muhtar) of Kozluoren village

/61/ Hami Koy, resident from Heciz village

/62/ Tayyar Iragac, Plant Manager, Soma wind power plant

/63/ Engin Basaran, employed by the plant as security chief

/64/ Burcu Kılıç, Verification Project Manager, Bilgin Enerji A.Ş.

/65/ Rohit Lohia, Regional Implementation Manager, EcoSecurities International Limited

/66/ Halil Sari, English Teacher and translator during interviews

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APPENDIX A

CORRECTIVE ACTION REQUESTS, CLARIFICATION REQUESTS AND FORWARD ACTION REQUESTS

Corrective action requests

CAR ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
CAR 1	Regarding sustainable parameter no 3 'quality of employment', an annual report from health and safety specialist is required, however it is stated that the report issued in November 2011 is valid till November 2012 and thus does not cover the whole monitoring period. Information on HSE report covering the monitoring period need to be provided in the MR.	As per the Article 17 of the recent occupational health and safety law no.6331 dated 20/06/2012, the H&S trainings shall be renewed in accordance with the new and changing risks, shall be repeated at regular intervals when it seen necessary. The law can be found from the website of the official gazette http://www.resmigazete.gov.tr/eskiler/2012/06/20120630-1.htm Based on the above mentioned law, the H&S training in November 2011, and the risk assessment reports prepared in November 2011 and August 2012 have not been renewed since there is no new risks occurred in the project site. The sustainable parameter no.3 'quality of employment' in the MR is updated accordingly.	A risk assessment report was established and November 2011 and further updated in August 2012. In the August 2012 reports, correction actions from the previous reports have been closed and there was no new risk identified. There is therefore no need for new H&S training as per the H&S law in Turkey and DNV consider that the parameter 'quality of employment' has been monitored appropriately. The MR has been updated to reflect this information. CAR1 is closed.

Clarification requests

CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
CL 1	UEVM Electricity generation data for December 2012 has not been provided and has not been considered in the ER workbook.	The generation data of December 2012 is considered in the ER workbook by providing the PMUM data.	The MPUM/UEVM data have been provided for December 2012. Since UEVM data are lower than the data from monthly report, the ER calculation sheet and MR have been revised accordingly. CL closed.
CL 2	In the personal training records, 2 employees have not passed the HSE training. It has been clarified that one of them (Mr Tayfun Canbay) passed similar training in previous work and thus new training was not deemed necessary. Please clarify why Mr ERKAN SEN, employed since February 2012, has to date not passed HSE training and whether this complies with the applicable regulations (sustainable parameter No 3).	Mr. Tayfun Canbay has passed the H&S training in an another wind park of our company. Mr. Erkan Şen has been familiarised regarding the all risks and H&S applications within the project site by the Plant Manager. Thus all staff is aware of occupational health and safety requirements at project site and HSE regulations are complied with. Further, a health and safety training shall be planned in February 2013 for any untrained staff.	The project participant has clarified that all new employee are aware of the H&S requirements on site and will be trained in February 2013. Therefore, the CL is closed.
CL 3	Regarding parameter 5 'other pollutant', it is explained that Nordex is responsible for the disposal of Turbines' waste. The maintenance contract should be provided to confirm this statement.	In accordance with the Article 5.9 of the Maintenance and Service Agreement, Nordex is responsible to arrange for the removal, transport, and disposal of all hazardous materials at the project site. The related pages of the M&S contract are provided.	The maintenance contract has been provided and DNV can confirm that Nordex is responsible for disposal of turbine's waste. Therefore, the CL is closed.
CL 4	Regarding parameter No 6 'Quantitative employment', the latest average wage available from statistical institute is from 2010. In order to compare with the 2012	For the Aegean Region in which the project site is located, the average wage is 1,241 TL as per the "Structure of Earnings Survey Report 2010" prepared by Turkish	The project participants refer to wage statistics database in the activity of electricity generation. It is found the wage increase from end of 2010 to 2012 is 7.7%.

CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	wages at the project site, the inflation rate in the country for 2010 and 2011 need to be considered.	Statistical Institute. Please note that this report is the latest report, published in March 2012 as mentioned on page 3 of the report. Nevertheless, for a comparison with the 2012 wages, instead of inflation the "Industrial Gross Wages – Salaries" index is suggested. As per Turkish Statistical Institute, Employment and wage statistics database, the wage index (base year 2005) at the end of Q4 -2010 is 171.3 and that at the end of Q3-2012 is 184.6 for electricity production sector. Thus, the wage increase from 2010 to 2012 is only 7.76%. Please refer to the link below for details: http://rapor.tuik.gov.tr/reports/rwservlet?sanayidb2=&report=ISRAPOR1r2.RDF&p_baz=2005&p_tablo=3&p_yil1=2010&p_yil2=2011&p_yil3=2012&p_f1=3511&p_kod=1&p_dil=2&desformat=html&ENVID=sanayidb2Env On the other hand, the monthly average gross salary of the Project is 2,384 TL in the year 2012 which is more than double the average wage salary as per Structure of Earnings Survey Report 2010. A-ccordingly, it can be confirmed that the employee salaries of the Project is much higher than the latest average wage available from Turkish Statistical Institute.	Even considering this increase, the average salary in year 2012 for the project is clearly higher than the average salary in the region. Therefore, the CL is closed.

Forward Action Requests From This Verification

FAR ID	Forward action request	Summary of how FAR has been addressed in this reporting period	Assessment of how FAR has been addressed
FAR 1	The project participant has developed a plan to plant 100 trees in 2013. The DOE conducting the next verification should verify the tree planting progress in 2013 in accordance with this plan.		
FAR 2	The **DOE** shall verify the Health and Training planned in February 2013 and confirm if the entire staff is planned to be trained or not.		

Forward Action Requests From Previous Validation/Verification

FAR ID	Forward action request	Response by Project Participants	DNV's assessment of response by Project Participants
FAR 1	The monitoring manual version 01 dated June 2012, specify that main and back up meter readings from the grid operator should be collected monthly and reported in spreadsheets. The difference should be verified to be within accuracy range of the meters. However the backs up meter monthly reading were not reported in the spreadsheet for the monitoring period. Instead, the main and back up meters are reported hourly in manual logbook on site, which is also considered acceptable by DNV. The monitoring manual need to be updated according to the actual practice on site.	The updated monitoring manual is provided to show that the meters are reported hourly in manual logbook on the Project Site.	The monitoring manual has been correctly updated. The logbook has also been verified during site visit and DNV can confirm that the hourly readings have been reported in the logbook during the monitoring period. FAR closed.
FAR 2	The **PP** shall share information and evidences on the tree planting progress at next verification and verification **DOE** shall also provide feedback based on the site visit observation.	The planting schedule to remediate soil movement in the Project area is to plant 100 trees over the years 2012 and 2013 at a rate of 100 trees each year. 110 trees were planted in June 2012. 100 trees are planned to be planted in 2013. Relative invoices, receipts and photographs are provided to the DOE.	Plantation of 110 trees in 2012 has been visually verified during site visit, as well as confirmed with invoices. It is planned to plant 100 new trees in 2013, as confirmed by internal document /23/. FAR closed.
FAR 3	Verification DOE shall verify diesel consumption that are also supported with review of diesel consumption	The logbook in which the diesel consumption is recorded at the project site is provided to the DOE with the fuel invoices.	The procedure for reporting diesel consumption has been verified on site. A logbook is maintained at every refill of the tank, showing the quantity of fuel added

FAR ID	Forward action request	Response by Project Participants	DNV's assessment of response by Project Participants
	invoices at next verification.		and the numbers of working hours of the diesel generator. Furthermore, invoices of fuel were provided. It should be noted that the fuel invoices are not directly comparable with the log book information since fuel is purchased in larger quantities only a few times a year in order to be ready for feeding the generator when needed. Therefore, DNV is of the opinion that the logbook and working hours of the diesel generator should be the primary source for estimating the emissions related to fuel consumption. It was only 6 working hours of the diesel generator during the monitoring period which is negligible in terms of emissions. FAR closed.
FAR 4	Verification DOE shall "independently" interview people by communicating in local language as to ensure transparent and free communication. Other interviewees shall be selected from the locals who are living in the vicinity of the project in terms of discussing respective issues at next verification in addition to potential interviewees including muhtar and project employees.	The DOE has interviewed with the local people with their independent local translator.	An independent translator has been hired by DNV during site visit to interview new villagers and muhtar. The interview topics covered the air quality during construction period, the project's contribution to the local livelihood, any harm observed to animals. There was no negative impact reported by the interviewees. FAR closed.

APPENDIX B

CURRICULA VITAE OF THE VERIFICATION TEAM MEMBERS

Patrice Massicard holds a Master degree in Mechanical Engineering and has an overall experience of around 10 years. Prior to joining DNV, having around 3 years' experience in Oil& Gas industry and 5 years' experience in mechanical industry covering equipment design. He has experience of around 2 years in DNV for the certification of oil & gas processing equipments, and 2 years' experience in the validation and verification of CDM, JI and GS projects. Among them, Patrice performed wind project verification in Turkey which provide him with local knowledge in the country according the GS requirements.

His qualification, industrial experience and experience in CDM demonstrate him sufficient sectoral competence in the filed oil & gas and mechanical industries.

Giovanni Tenderini holds a master degree in Energy Engineering focused on energy generation and conversion. He gained his three years professional experience in the power sector where he became familiar with International Financing Institutions project implementation methodologies (ADB, WB, IBRD, EBRD and other international banks) for organization and management of tender procedures for the award of engineering services and construction in the field of hydro and thermal power plants.
Moreover, as Power Engineer he has been in charge of the electro-mechanical design review, construction supervision, preparation of due diligences, feasibility studies, technical specifications and cost estimate of power generation projects mainly located in the Middle East area.
The current Project Manager position involves executing and managing Energy Efficiency projects, CDM/JI validation and verification assignments, executing and managing verification under voluntary schemes, and providing global support and training in the relevant specialized technical areas within the DNV KEMA global Climate Change Services team.
His qualification, industrial experience and experience in CDM demonstrate his sufficient financial expertise and sectoral competence in thermal energy generation from fossil fuels and biomass including thermal electricity from solar, energy generation from renewable energy sources, electricity distribution and energy demand.

Ole Andreas Flagstad holds a Master Degree in thermodynamics/energy efficiency and has an overall working experience of around 20 years. He has worked both in public and private sector, including 5 years with a research institute (IFE) where specific responsibilities included running an energy efficiency network in the food industry and direct intervention with the industry. Other work experience includes working in European research programmes, administering national research programmes and International Energy Agency annexes. Ole Andreas Flagstad has more than 5 years experience in validation and verification of projects within CDM, JI and other carbon credit schemes. His qualifications and experience in carbon credit schemes (primarily CDM and JI), qualifies him for different roles in a broad group of technical areas.

Andres Bernabé Espejo Holds a 6 year Bachelor/Master Degree in "Ingeniería de Montes" (Natural Resource Engineering) by the Polytechnic University of Madrid (Spain) . Having an overall experience of 7 years. Prior to joining DNV having 5 years experience in biomass generation, natural resource management, and generation with other renewables, covering the

management of forestry operations, management of grasslands and pasturelands, procurement of timber and biomass, management of forest states, pre-feasibility studies for renewable generation projects, etc.

He has experience of 2 years in validation and verification of numerous CDM projects.

His qualification, industrial experience and experience in CDM demonstrate him sufficient sectoral competence in Energy Generation from renewable energy sources (Technical Area 1.2), Forestry (Technical Area 14.1) and Agriculture (Technica Area 15.1).

Furthermore, his involvement in the development of various business plans demonstrate him sufficient financial expertise.

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