



Verification and certification report form for GS project activities

VERIFICATION AND CERTIFICATION REPORT

Title of the project activity	"Methane Gas Capture and Electricity Production at Kubratovo Wastewater Treatment Plant, Sofia, Bulgaria"
GS Reference number of the project activity	4238
Version number of the verification and certification report	1.4 Aa
Completion date of the verification and certification report	04/01/2017
Monitoring period number and duration of this monitoring period	First Monitoring Period (01/04/2014 – 31/05/2016) – two years and two months
Version number of monitoring report to which this report applies	04
Crediting period of the project activity corresponding to this monitoring period	01/04/2014 – 01/04/2021
Project participant(s)	Sofiyska Voda AD
Host Party	Bulgaria
Sectoral scope(s), selected methodology(ies)	AMS-I.C ver. 20.0 of 01/06/2014 - Thermal Energy Production with or without electricity - SS 01 AMS-III.H ver. 17 of 28/11/2014 - Methane recovery in wastewater treatment - SS 13 SSM AMS-I.D ver. 18 of 28/11/2014 - Grid connected renewable electricity generation - SS 01
Estimated GHG emission reductions or net anthropogenic GHG removals for this monitoring period in the registered PDD	152,265 tCO ₂ e
Certified GHG emission reductions or net anthropogenic GHG removals for this monitoring period	130,376 tCO ₂ e
Name of DOE	RINA Services S.p.A. (RINA)

Name, position and signature of the approver of the verification and certification report	Laura Severino – Sector Manager, Sustainability, Environment & Climate Change 
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SECTION A. Executive summary

Purpose and general description of the project

The purpose of the project is to utilise the available renewable energy sources in the form of biomass received as a result from sludge treatment by the town of Sofia Municipality wastewater treatment plant, located in the Kubratovo (Kubratovo WWTP). Methane produced in Kubratovo WWTP is captured in common methane tanks (four digesters for anaerobic sludge treatment) serving as a buffer and then supplied to the newly installed CHP gas engines (three co-generations sets) for electricity and heat production, which in turn will substitute both the plant's electricity purchases from the grid and diesel fuel usage. Excess electricity is supplied to the grid.

The main purpose of the project is to transform the existing low tech sludge treatment process at Kubratovo WWTP that existed before implementation of the project into an advanced treatment process matching the best sludge treatment practice available. The project replaces the baseline sludge drying beds and landfill sludge options disposal with mesophilic digestion of all primary and secondary sludge followed by mechanical dewatering in order to reduce GHG emissions.

The project was successfully validated by RINA and registered by the GS as a retroactive GS VER project.

Location

The project activity is situated in the Sofia region, near the village of Kubratovo, Bulgaria. The village of Kubratovo is located some 20 km outside the centre of Sofia, the capital of Bulgaria. The geographical coordinates of the project are: Latitude - 42°45'10.70"N and Longitude - 23°22'11.56"E

Scope of verification

Verification is the periodic independent review and ex-post determination by a 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. Certification is the written assurance by a DOE that, during a specific period in time, a project activity achieved the emission reductions as verified. The objective of this verification is to verify and certify emission reductions reported for the "Methane Gas Capture and Electricity Production at Kubratovo Wastewater Treatment Plant, Sofia", Bulgaria for the period 01/04/2014 to 31/05/2016.

The scope of the verification is to verify that:

- The project activity has been implemented and operated in accordance with the registered PDD or any approved revised PDD;
- The monitoring plan, including compliance with any guidance provided by the Board regarding deviations from the provisions of a registered plan and/or methodology;
- The data and calculation of GHG emission reductions have been assessed to correctly support the emission reductions being claimed.

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

Verification process

Verification is conducted using RINA procedures in line with the GS requirements and requirements specified in the CDM Validation and Verification Standard available at the time of the verification starts, and applying standard auditing techniques. RINA assesses and determines that the implementation and operation of the project activity, and steps taken to report emission reductions comply with the GS criteria. The verification assessment involved a document review of relevant documentation and the on-site visit.

Verification 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 monitoring.

Conclusion

RINA commissioned by Sofiyska Voda AD has performed the verification of the emission reductions reported for the project activity "Methane Gas Capture and Electricity Production at Kubratovo Wastewater Treatment Plant, Sofia, Bulgaria", GS Registration Reference No. 4238 for the monitoring period 01/04/2014 to 31/05/2016, with regard to the relevant GS requirements and principles for project activities. The project was validated by RINA (validation report 1.3 of 27/05/2016) and it was registered on 01/04/2016.

The GHG emission reductions are calculated on the basis of the approved methodologies /5,6,7/ and the monitoring plan included in the registered PDD version 05 of 30/03/2016. In our opinion the GHG emission reductions reported for the project in the monitoring report version 04 of 30/12/2016 are fairly stated.

SECTION B. Verification team, technical reviewer and approver**B.1. Verification team member**

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk review	On-site inspection	Interview(s)	Verification findings
1.	Team Leader	IR	RACHEV	KONSTANTIN	RINA Bulgaria	X	X	X	X
2.	Verifier	IR	RACHEV	KONSTANTIN	RINA Bulgaria	x	x	x	x

B.2. Technical reviewer and approver of the verification and certification report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer	IR	Menon	Rekha	RINA India
2.	Approver	IR	Severino	Laura	RINA Central Office

SECTION C. Application of materiality**C.1. Consideration of materiality in planning the verification**

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.	Human error in the quantification of emissions. Human error in monitoring data presentation and readings. Omission of the periodic calibration / check of the measuring equipment.	Low	The project owner has established a strong monitoring system (Scada software) and a procedure for monitoring reporting and data flow as well as the PP is certified against ISO 9001, ISO 14001 and OHSAS 18001. The client also appointed staff and head of the GS team who were trained and responsible for meter readings and recordings and auditing of these monitored data. The installation and calibration of the monitoring equipment was also stipulated in the system. The internal monitoring and management system has also established the QA/QC procedure to ensure the veracity and validity of the monitoring procedure and monitoring records.	Depending on the monitoring period being verified, conduct increased verifying during the months when there is a greater likelihood of errors and issues with data quality control due to project participants' leave schedules.
2.	Undue reliance on a poorly designed information system, which may have few effective quality control	Low		Depending on how the data is generated, processed and reported, place greater emphasis on verifying data captured and processed manually and/or in spreadsheets versus those that generated from automated system.
3.	Manual adjustment of otherwise automatically recorded activity levels.	Low		

			Calibration procedure is also available ensuring periodical checks of the used measuring equipment. So the risk level is low.	
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C.2. Consideration of materiality in conducting the verification

1. The project is a small scale GS project activity and a 5 percent materiality threshold is applied.
2. At the beginning of the verification, the team has assessed the nature, scale and complexity of the verification tasks by carrying out a strategic analysis of all activities relevant to the project activity. The verification team has collected and reviewed the information relevant to assess, that the designated verification team is sufficiently competent to carry out the verification and to ensure that it is able to conduct the necessary risk analysis.
3. During the course of the verification, no errors related to the materiality threshold of 5 per cent have been identified in the data set. Further, any individual or aggregate errors, omission or misstatement identified, which resulted in discrepancies have been considered material and requested to be corrected.

RINA confirms that the claimed emission reductions are free from material errors, omissions or misstatements, with a reasonable level of assurance, and proceeds with the verification as defined in the verification plan.

SECTION D. Means of verification

D.1. Desk review

The monitoring report version 01 of 13/07/2016, ver. 02 of 08/08/2016, ver. 03 of 30/11/2016 and ver 04 of 30/12/2016, the registered PDD version 05 of 30/03/2016, the emission reductions calculation spreadsheets, were assessed as part of the verification. The list of all documents reviewed are referenced during the verification is available in Appendix 3 below.

D.2. On-site inspection

Duration of on-site inspection: 26/07/2016 to 26/07/2016				
No.	Activity performed on-site	Site location	Date	Team member
1.	Local citizens attitude; contribution of the project to the local citizens; complains; organization scheme and responsibilities; data collecting and archiving; technical amendments (if there); environmental responsibilities and fulfilment of legal requirements; social responsibilities and communication with local citizens; calibration and maintenance of the used monitoring equipment; monitoring data; GHG emission reduction estimation and calculations; baseline and project emission estimations. GS Passport detailed sections discussion; safeguarding principles; SD indicators and Sustainability MP; grievance mechanism data and details. Project site area tour	Kubratovo WWTP - Sofia Region, near the village of Kubratovo, Bulgaria	26/07/2016	Konstantin Rachev

D.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Preslavski	Boris	Sofiyska Voda – Chief Engineer	26/07/2016	Organization scheme and responsibilities; data collecting and archiving; technical specification of the used equipment; environmental responsibilities and fulfilment of legal requirements; social responsibilities and communication with local citizens; calibration and maintenance of the used monitoring equipment; data collecting and archiving.	Konstantin Rachev
2	Rangelov	Jelyaz	Sofiyska Voda – WWTP Manager	26/07/2016	WWTP details. Monitoring data. Software usages.	Konstantin Rachev
3	Dimitrov	Hristo	Sofiyska Voda – Sludge shop	26/07/2016	Calibration and maintenance of the used monitoring equipment; data collecting and archiving; technical details	Konstantin Rachev
4	Milkov	Viktor	Green Carbon Bulgaria – project consultant	26/07/2016	MR detailed sections discussion; Monitoring data; GHG Emission reduction estimation and calculations	Konstantin Rachev
5	Tatev	Rosen	Village Svetovracane citizen	26/07/2016	Local citizens attitude; contribution of the project to the local citizens; complains	Konstantin Rachev
6	Atanasova	Nadya	Village Voinegovtsi citizen	26/07/2016	Local citizens attitude; contribution of the project to the local citizens; complains	Konstantin Rachev
7	Petkova	Liliya	Village Benkovski citizen	26/07/2016	Local citizens attitude; contribution of the project to the local citizens; complains	Konstantin Rachev
8	Bankova	Milena	Municipality of Sofia – Region of Novi Iskar – Environmental Specialist	26/07/2016	Local citizens attitude; contribution of the project to the local citizens; complains; environmental responsibilities and fulfilment of legal requirements; social responsibilities and communication with local citizens	Konstantin Rachev

D.4. Sampling approach

N/A

No sampling approach is used for this project activity.

D.5. Clarification requests, corrective action requests and forward action requests raised

Areas of verification findings	No. of CR	No. of CAR	No. of FAR
Compliance of the monitoring report with the monitoring report form			
Compliance of the project implementation with the registered PDD			
Post-registration changes			

Compliance of the monitoring plan with the monitoring methodology including applicable tool and standardized baseline			
Compliance of monitoring activities with the registered monitoring plan			
Compliance with the calibration frequency requirements for measuring instruments	1	4	
Assessment of data and calculation of emission reductions or net removals			
Others (please specify)			
Total	1	4	

SECTION E. Verification findings

E.1. Compliance of the monitoring report with the monitoring report form

Means of verification	The used MR form is CDM-MR-FORM version 05.1
Findings	N/A
Conclusion	The MR form is the latest version available in the UNFCCC website /23/

E.2. Remaining forward action requests from validation and/or previous verification

No FARs have been raised during the validation phase /40/ and GS feedback round.

E.3. Compliance of the project implementation with the registered project design document

Means of verification	The project activity was shifted from JI to GS registration and was registered as retroactive project under the requirements of The Gold Standard Foundation in 2016 /40/. The project implementation follows the data presented in the registered PDD.
Findings	N/A
Conclusion	The project is fully implemented according to the description presented in the PDD, which is discussed above. The verifier confirms, through physical inspection at site that all features of the GS project activity including the equipment's, data collecting systems and storage have been implemented in accordance with the registered PDD. The project activity is completely operational and the same has been confirmed on-site.

E.4. Post-registration changes

E.4.1. Temporary deviations from the registered monitoring plan, monitoring methodology or standardized baseline

N/A

E.4.2. Corrections

E.4.3. N/A Changes to the start date of the crediting period

N/A

E.4.4. Inclusion of a monitoring plan to a registered project activity

N/A

E.4.5. Permanent changes from registered monitoring plan, monitoring methodology or standardized baseline

N/A

E.4.6. Changes to the project design of a registered project activity**E.4.7. N/A Types of changes specific to afforestation and reforestation project activities**

N/A

E.5. Compliance of monitoring plan with the monitoring methodology including applicable tool and standardized baseline

Means of verification	The MP complies to the applicable methodologies and tools approved in the registered PDD /1,2,5,6,7,9-14/.
Findings	N/A
Conclusion	The monitoring plan of the project activity is in accordance with the approved baseline and monitoring methodologies: AMS-I.C ver. 20.0 of 01/06/2014 - Thermal Energy Production with or without electricity - SS 01 AMS-III.H ver. 17 of 28/11/2014 - Methane recovery in wastewater treatment - SS 13 SSM AMS-I.D ver. 18 of 28/11/2014 - Grid connected renewable electricity generation - SS 01

E.6. Compliance of monitoring activities with the registered monitoring plan**E.6.1. Data and parameters fixed ex ante or at renewal of crediting period**

Means of verification	All data and parameters that were fixed ex ante in the registered PDD /1/ are properly used during this verification phase (01/04/2014 to 31/05/2016) and correspond to the registered PDD /1/. The estimation data is presented in the excel sheet "VER calculation sheet" /17/. The next fixed ex ante data is used for the ER calculations /1,2,40/: 1. $EF_{EL,y}$ - tCO₂/MWh – value applied 1.0190 2. $MCF_{s,BL,final}$ – value applied 0.4 3. DOCs - value applied 0.5 4. DOC_F - value applied 0.5 5. F - value applied 0.5 6. UF_{BL} - value applied 0.89 7. GWP_{CH_4} - value applied 25 8. η_{flare} - % - value applied 80 9. $\eta_{BL,thermal}$ - % - value applied 92 10. EF_{FF,CO_2} - tCO₂/TJ - value applied 54.30 11. $NCV_{i,y}$ - GJ/t - value applied 46.50 12. $EF_{CO_2,i,y}$ - tCO₂/GJ - value applied 76.30 13. $PE_{fugitive,s,y}$ - Nm³ - value applied 0.05 14. D_{CH_4} – kg/m³ – value applied 0.670 These figures have been crosschecked by the next requirements: /11,12,5,26,13,41,7/
Findings	N/A
Conclusion	RINA confirms that the parameters listed above are fixed ex-ante and used for baseline, project emissions and leakage emissions calculation in accordance with the applied methodology and methodological tools and they are the same used at the validation stage

E.6.2. Data and parameters monitored

Means of verification	All data and parameters that are monitored are properly measured and quoted during this verification phase (01/04/2014 to 31/05/2016) /2, 17,18/ and correspond to the applicable methodologies from the registered PDD /1, 5-7, 40/. The monitoring data is presented in the excel sheet /18/ and the final ER estimations are given in the sheet "VER calculation excel sheet" /17/. The final figures are also presented in the MR /2/. All figures and estimations were checked during the on-site
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	visit in the used software – SCADA energy and SCADA Technological /31/. The next monitoring parameters during this monitoring period are used: 1. Amount of dry matter in the sludge in the year y - Measure the total quantity of sludge entering the digesters on a wet basis - $S_{final,PJ,y}$ 2. The net quantity of heat supplied by the project activity during the year y - Steam thermal energy meter would be used to measure the quantity of heat generated by the boiler - $EG_{thermal,y}$ 3. Electricity generated by the CHP in the year y – it will be measured ex-post and recorded monthly - $EG_{grid,y}$ 4. Quantity of biogas generated by the anaerobic digesters - The biogas flow is monitored by integrated digital gas-flow meter taking into account the temperature and pressure of the gas. The final result is normalised - $BG_{burnt,y}$ 5. Quantity of sludge entering the anaerobic digesters - Measured by liquid flowmeter - $Q_{DG_{s,inlet}}$ 6. Dry substance content in the sludge - Laboratory samples and the results are recorded hourly, monthly and yearly - ρ_{sludge} 7. Methane content in biogas in the year y - The fraction of methane in the gas should be measured with a continuous analyser using equipment that can directly measure methane content in the biogas - $W_{CH4,y}$ 8. Quantity of fossil fuel (naphta) used for emergency needs in the year y. - The yearly quantity is calculated using accounting documents for the purchased quantity of fuel during the reported period the initial and the residual content of the reservoirs - FC_y 9. Volumetric flow of the gaseous stream - The quantity of biogas is measured continuously - $V_{t,db}$ 10. Mass flow of methane in the residual biogas flared - The quantity and quality of biogas is measured continuously and normalized - F_{CH4} F
Findings	N/A
Conclusion	The monitoring has been carried out in accordance with the monitoring plan contained in the registered PD. All the parameters were monitored and determined as per the registered monitoring plan. Referring to clause 389-391 of the VVS version09.0, DOE confirms through site visit verification, from the document review, the actual monitoring system complies with the registered monitoring plan. During the verification, all the relevant monitoring parameters of the registered monitoring plan have been verified with regard to the appropriateness of the verification method; the correctness of the values applied for ER calculation, the accuracy and applied QA/QC measures. It is confirmed that all the monitoring parameters have been measured/determined without material misstatements and are in line with all applicable standards and relevant requirements. RINA confirms: - That all the parameters stated in the registered PDD have been monitored; - The responsibilities and authorities for monitoring and reporting are in accordance with those stated in the registered PDD; - The monitoring results are consistently recorded as per the approved frequency; Quality assurance and quality control procedure have been applied in accordance with the registered PDD.

E.6.3. Implementation of sampling plan

Means of verification	N/A
Findings	N/A
Conclusion	N/A

E.7. Compliance with the calibration frequency requirements for measuring instruments

Means of verification	The used measuring equipment are properly calibrated as per the applicable legal requirements – Order A441 of 13/10/2011 /2/, /39/ for calibration frequency issued by the State Agency for Metrological and Technical Surveillance. After the
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	calibration period a new measuring equipment is installed. The next measuring equipment during the verification period is used: 1. Automatic gas analyser, flow meter system "Awite" (serial number 564_09): - calibrated every six months by external company "Drager" /42/ 2. Automatic gas analyser, flow-meter system „Binder , Combimass eco basic“ (serial number IBExU05ATEX1068) – the meter is integral part of flow meter system "Awite" 3. Digital Electric meter - Combined device Integra 1630 (serial number 486543): Calibrated every four year /39/. There is a period (from 01/04/2014 to 27/01/2016.) without proper calibration and a maximum equipment mistake was used in ER calculation ensuring conservative approach. Please refer to raised CAR 04. 3.1 Digital Electric meter - Schneider Electric PM 5560 (serial number 600008706) – new installed on 28/01/2016 as per Protocol of exchange /43/ 4. Four inlet sludge flow to digesters (serial numbers: 000015791/X001, 000015791/X003, 000015791/X004, 000015791/X002) – there is not requirements for external calibration /39/. The information is continuously recorder in SCADA Technological /31/ 5. Five Automatic gas analyser flow meter system (serial numbers: S.No.C080650, S.No.C080647, S.No.C080649, S.No.C080648, S.No.C120564) – there is not requirements for external calibration /39/. The information is continuously recorder in SCADA Technological /31/. 6. Turbine gas meter (serial number 450345/2011) – the meter is using for cross – checking purpose 7. Three digital thermal energy meters "Kamstrup" (serial numbers: 69303430/2013, 69303431/2013, 69303432/2013) – $EG_{thermal}$ – installed on 30/12/2013 with factory calibration and recalibrated in December 2015 (available calibration sticker on the device, check during the on-site visit). The period of calibration is 2 years /39/.
Findings	1 CR and 3CARs are documented. Please refer to Appendix 4 of the report and the same has been closed.
Conclusion	The verifier confirms that the calibration confirms the proper functioning of the monitoring equipment and is valid for the whole verification monitoring period. According to clause 373 (b), and 402 of VVS version 09.0, verification team has checked calibration records to confirm that the frequency of calibration is carried out as specified in the registered monitoring plan (clause 387, 390, and 394 of VVS, version 09.0)

E.8. Assessment of data and calculation of emission reductions or net removals

E.8.1. Calculation of baseline GHG emissions or baseline net GHG removals by sinks

Means of verification	The calculation data for this verification phase (01/04/2014 to 31/05/2016) are presented in the MR /2/ and in the next excel sheets: Sofiyska_voda_monitoing_data /18/ and Sofiyska_voda_VER_Calculation_ver.01_13.07.2016 /17/. All the data is also available in the used software: SCADA Energy and SCADA Technological /31/. The calculations correspond to the applicable and approved methodologies: /1, 2, 5-7, 40/. All the data have been cross – checked between the excel files and used SCADA software. The main formulas that are used are: $BE_{s, final, y} = S_{final, BL, y} * DOC_s * UF_{BL} * MCF_{s, BL, final} * DOC_F * F * 16/12 * GWP_{CH4}$ $BE_{grid, y} = EG_{grid, y} \times EF_{grid, y}$ $BE_{thermal, CO2, y} = \left(\frac{EG_{thermal, y}}{\eta_{BL, thermal}} \right) \times EF_{FF, CO2}$ The total estimated baseline emissions are: 143,753 tCO_{2,e}
Findings	N/A

Conclusion	RINA confirms that baseline emissions have been appropriately calculated and are consistent with site visit observations, the applied methodology, registered PDD and the validation report.
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E.8.2. Calculation of project GHG emissions or actual net GHG removals by sinks

Means of verification	The calculation data for this verification phase (01/04/2014 to 31/05/2016) are presented in the MR /2/ and in the next excel sheets: Sofiyska_voda_monitoing_data /18/ and Sofiyska_voda_VER_Calculation_ver.01_13.07.2016 /17/. All the data is also available in the used software: SCADA Energy and SCADA Technological /31/. The calculations correspond to the applicable and approved methodologies: /1, 2, 5-7, 40/. All the data have been cross – checked between the excel files and used SCADA software. The main formulas that are used are: $PE_y = PE_{power,y} + PE_{fugitive,y} + PE_{flare}$ $PE_{power,y} = PE_{FC,y} = FC_{j,y} \times COEF_{,y}$ $COEF_{,y} = NCV_{,y} \times EF_{CO_2,,y}$ PE_{flare} are determined: $F_{CH_4,t} = V_{t,db} * V_{CH_4,t,db} * \rho_{CH_4,t}$ $F_{CH_4,t} = V_{t,db} * w_{CH_4,y} * D_{CH_4}$ $PE_{flare} = F_{CH_4,t} * GWP_{CH_4} * ((100 - \eta_{flare}) / 100)$ The total estimated project emissions are: 13,377 tCO_{2,e}	
Findings	N/A	
Conclusion	RINA confirms that the project emissions have been appropriately calculated and are consistent with site visit observations, the applied methodology, registered PDD and the validation report.	

E.8.3. Calculation of leakage GHG emissions

Means of verification	No leakage emissions are considered for this project activity
Findings	N/A
Conclusion	N/A

E.8.4. Summary of calculation of GHG emission reductions or net anthropogenic GHG removals by sinks

Means of verification	The calculation data for this verification phase (01/04/2014 to 31/05/2016) are presented in the MR /2/ and in the next excel sheets: Sofiyska_voda_monitoing_data /18/ and Sofiyska_voda_VER_Calculation_ver.01_13.07.2016 /17/. All the data have been cross – checked between the excel files and used SCADA software. The main formulae that is used is: $ER = BE - PE - LE$ The total ER for this verification period is 130,376 tCO_{2,e}	
Findings	N/A	
Conclusion	RINA confirms: - All the data and parameters were monitored in accordance with the registered PDD; - The data presented in the monitoring report /02/ were assessed by reviewing in detail project documentation, collection of monitored data, observation of established monitoring and reporting practices and assessment of the reliability of monitoring equipment. - The calculation of emission reductions have been carried out in accordance with the formulae and methods described in the registered PDD, the applied	

	methodology and methodological tools; Emission factor and default values have been applied in the calculation in accordance to the registered PDD.
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E.8.5. Comparison of actual GHG emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PDD

Means of verification	During this verification phase (01/04/2014 to 31/05/2016) /2/, 17/ there is lower ER results achieved compared to the estimated in the registered PDD /1/. This is based on lower production activity during this verification period /19/,/20/. The value presented in the registered PDD /1/ is 152,265 for this monitoring period and the achieved reductions are 130,376 tCO ₂ , which is lower.
Findings	N/A
Conclusion	The emission reduction calculations provided in the spreadsheet have been verified to be correct and in line with the registered PDD.

E.8.6. Remarks on difference from estimated value in registered PDD

Means of verification	The actual difference is 14.4% less than the estimated ER in the PDD /1/ and this is based on the continuing modernisation of the WWTP.
Findings	N/A
Conclusion	The emission reduction calculations provided in the spreadsheet have been verified to be correct and in line with the registered PDD.

E.8.7. Actual GHG emission reductions or net anthropogenic GHG removals by sinks during the first commitment period and the period from 1 January 2013 onwards

Means of verification	GHG emission reductions or net GHG removals by sinks reported up to 31 December 2012	GHG emission reductions or net GHG removals by sinks reported from 1 January 2013 onwards
	NA	130,376 tCO ₂ e
Findings	N/A	
Conclusion	The actual monitoring period does not fall into the first commitment period.	

E.8.8. Assessment of the sustainability parameters

Means of verification	All sustainability parameters that are assessed are properly measured and quoted during this verification phase (01/04/2014 to 31/05/2016) /2/, 16/ and correspond to the registered GS Passport /16, 40/. They are properly listed in Section E.6.2. The next parameters are monitored during this verification period: 1. Indicator: Air quality – the chosen parameters are: emissions of CH₄, SO₂, NO_x, CO and dust and they have to be measured ones per two years as per the applicable legal requirements /25/. Two external air emission measurements have been conducted /35,36/ and no emissions above the legal limit were observed. Methane and dust emissions are not measured because all the produced methane is captured and burned and no diesel is used for this verification period. The company is also certified against ISO 14001 /29/. 2. Parameter: Water quality and quantity - The PP measures inlet and outlet quantity and quality of the wastewater as per the issued Permission /22/. During the verification period monthly measuring data have been verified /34/. No penalties are raised by the competent authorities. The PP also used internal accredited Laboratory for the required measurements /21/. The measured parameters are in the range of legal limits. The company is also certified against ISO 14001 /29/. 3. Parameter: Waste oil disposal - the waste oil is separately collected and sent to the competent company as per common contract /32/. During this verification period two contracts were verified and all Identification records for sending the waste oil have been verified /25,32/. The company is also certified against ISO 14001 /29/. 4. Parameter: number of employees receiving vocational training. This is
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	measured annually covering all working places for which are available risk assessment and labour trainings for different staff working places /33/. The PP is also certified against OHSAS 18001 /28/. 5. Parameter: number of jobs created – this is measured annually. The PP is a big company that provides employee to the local villagers. During the on-site visit of the project was verified the signed collective Labour Agreement covered 2015 and 2016 (also checked during the validation phase /40/). There is also checked the Project List of employees /27/, that consist the same number of employees /40/. 6. Parameter: heavy metals content and Quantity of sludge transported to agricultural application. All protocols for heavy metals content analysis in the final sludge were available and checked /37/ and all weigh – bridge bills are available on-site. Total of 171,186 tonnes were transported for fertilizers for the verification period. 7. Number of male and female employees engaged by the project and number of trainings related to the environmental awareness. As per the Project List of employees /27/ during this period the same number of employees have been observed /27,40/. Protocols for conducted trainings were also verified /33/. The company is also certified against ISO 14001 /29/. For this project activity the next sustainability monitoring indicators are also applied /2, 16, 40/: 1. Emission measurements of CH₄, SO₂, NO_x, CO and dust: For this indicator and for this verification period two periodic air measurements have been checked /2, 35,36/. The values correspond to the applicable legal requirements /25/. No methane emissions are emitted in the atmosphere and no dust is emitted because no naphtha is used during this verification period. 2. Water quality and quantity: the company possesses a Permission for wastewater discharge into surface water /22/ and as per it all measurements for inlet and outlet water are conducted. During the on-site visit was checked the monthly conducted measurements /34/. The measurements are conducted by the internal accredited laboratory /21/. 3. Waste oil disposal: Company gives the waste oil to the license company as per sign contract. For this verification period two Contracts have been checked /32/. For each transmission of waste oil mutual identification document was filled as were examined 8 pieces for this verification period /32/. 4. Number of employees receiving vocational training: Employee`s training are conducted periodically follows the applicable legal and internal requirements. During the on-site visit 39 internal and external protocols for conducted training have been verified /33/. Most of them covering health and safety requirements, environmental issues as well as working with equipment under pressure and lifting installations. 5. Number of jobs created by the project: The same number of staff is hired for the entire verification period checked during the validation and verification phase /40, 27/. Total of 27 employees are hired by the project activity /27/. 6. Heavy metals content and Quantity of sludge shipped for agricultural application: For this verification period 17th protocols for heavy metals content analysis in the final sludge have been verified. Total of 171,186 tons of dried sludge have been transported for use as fertilizer during this monitoring period, checked during the on-site visit of the project. For every shipping a weight-bill is available, showing the quantity of the sludge. Number of male and female employees engaged by the project. Number of trainings related to the environmental awareness carried out annually: The same number of male and female is hired for the entire verification period checked during the validation and verification phase /40, 27/. Total of 27 employees are hired by the project activity /27/. Total of 11 women is hired /27/. Employee`s training are conducted periodically follows the applicable legal and internal requirements as well as the ISO 14001 and OHSAS engagements /28,29/. During the on-site visit 39 internal and external protocols for conducted training have been verified /33/. Most of them covering health and safety requirements and environmental issues.
Findings	N/A

Conclusion	RINA confirms that monitoring of all the sustainable development monitoring parameters during this monitoring period is in line with registered GS passport and are consistent with site visit observations
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SECTION F. Internal quality control

The draft final verification report before being submitted to the client will be/is subjected to an independent technical review to confirm that all verification activities has been completed according to the pertinent RINA's procedures. The technical review will be/is performed by a technical reviewer(s) qualified in accordance with the RINA's qualification procedure.

SECTION G. Verification opinion

RINA Services Spa (RINA) has performed verification of the emission reductions reported for the project activity "Methane Gas Capture and Electricity Production at Kubratovo Wastewater Treatment Plant, Sofia, Bulgaria", GS Registration Reference No. 4238 for the period 01/04/2014 – 31/05/2016, with regard to the relevant GS requirements and principles. The project participants are responsible for the preparation for the collection of data in accordance with the monitoring plan and the reporting emission reductions from the project. It is RINA's responsibility to express an independent verification opinion on the reported emission reductions from the project and does not express any opinion on the selected baseline scenario or on the validated and registered PDD. Based on documented evidences and corroborated by an on-site assessment RINA can confirm that: (i) the project has been implemented and operated as per the registered PDD; (ii) the monitoring report and other supporting documents provided are complete and verifiable and in accordance with the applicable GS requirements and principles; (iii) the monitoring is in place as per the applied baseline and monitoring methodology; (iv) the monitoring complies with the registered monitoring plan; (v) the monitoring plan in the registered PDD is as per the applied baseline and monitoring methodology.

SECTION H. Certification statement

It is RINA's opinion that the GHG emission reductions stated in the monitoring report version 04 of 30/12/2016 for the project activity "Methane Gas Capture and Electricity Production at Kubratovo Wastewater Treatment Plant, Sofia" in Bulgaria, for the period from 01/04/2014 to 31/05/2016 are fairly stated. The GHG emission reductions were calculated correctly on the basis of the approved monitoring methodologies /5/,/6/,/7/. Hence RINA is able to certify that the emission reductions from the project during the monitoring period from 01/04/2014 to 31/05/2016 amount to 130,376 tCO₂e.

GHG Emission Reductions or Removals	01/04/2014 – 31/12/2014 tCO₂e	01/01/2015 – 31/12/2015 tCO₂e	01/01/2016 - 31/05/2016 tCO₂e	TOTAL 01/04/2014 - 31/05/2016
Baseline Emissions	49,223	65,237	29,293	143,753
Project Emissions	4,248	6,325	2,804	13,377
Leakage	0	0	0	0
Net GHG emission reductions or removals	44,975	58,912	26,489	130,376

Appendix 1. Abbreviations

Abbreviations	Full texts
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
ER	Emission Reductions
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)
UNFCCC	United Nations Framework Convention on Climate Change
VER	Voluntary Emission Reduction
MOEW	Ministry of Environment and Water
WWTP	Waste Water Treatment Plant

Appendix 2. Competence of team members and technical reviewers



CERTIFICATO DI QUALIFICA PER GLI SCHEMI VOLONTARI* QUALIFICATION CERTIFICATE FOR VOLUNTARY SCHEMES*

Si attesta che il sig./sig.ra:
We declare that Mr/Mrs/Ms:

Rachev Konstantin

è qualificato come:
is qualified as:

TEC, VAL, VER, TL

per le seguenti aree tecniche:
for the following technical areas:

AREE TECNICHE TECHNICAL AREAS	DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION	SCOPO SETTORIALE SECTORAL SCOPE
1.2	Renewables	1
5.1	Chemical Industry	5
13.1	Solid waste and wastewater	13

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	19/07/2016	First issue with new template

Responsabile di schema
Scheme Leader
Rita Valoroso

*SCHEMI VOLONTARI/ VOLUNTARY SCHEMES: ACR American Carbon Registry, CCB The Climate, Community & Biodiversity Alliance, GS Gold Standard, JI Joint Implementation, SCS Social Carbon Standard, VCS Verified Carbon Standard.

TEC: Technical expert; VAL: Validator; VER: Verifier; TL: Team leader; FIN EXP: Financial Expert; ITRP: Independent technical reviewer

RINA Services S.p.A. è accreditato/ricosciuto da
RINA Services S.p.A. is accredited /recognized by

UNFCCC	quali Entità Operative Designate (DOE), per condurre la Validazione e la Verifica di Progetti CDM as Designated Operational Entity (DOE), to carry out Validation and Verification of CDM Projects
VCSA	per condurre la Validazione e la Verifica di Progetti VCS to carry out Validation and Verification of VCS Projects
GS Foundation	per condurre la Validazione e la Verifica di Progetti GS to carry out Validation and Verification of GS Projects
Ecologic Institute	per condurre la Validazione e la Verifica di rapporti SCS to carry out Validation and Verification of SCS Reports
American Carbon Registry ACR	per condurre la Validazione e la Verifica di Progetti ACR to carry out Validation and Verification of ACR projects
The Climate, Community & Biodiversity Alliance CCB	per condurre la Validazione e la Verifica di Progetti co-benefit CCB to carry out Validation and Verification of co-benefit CCB projects

GHG_QUAL_CERT_EN_07_16 Voluntary(Certificate)

Page 1 of 1



CERTIFICATO DI QUALIFICA PER GLI SCHEMI VOLONTARI*
QUALIFICATION CERTIFICATE FOR VOLUNTARY SCHEMES*

Si attesta che il sig./sig.ra:
 We declare that Mr/Mrs/Ms:

Rekha Menon

è qualificato come:
 is qualified as:

TEC, VAL, VER, TL, ITRP

per le seguenti aree tecniche:
 for the following technical areas:

AREE TECNICHE TECHNICAL AREAS	DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION	SCOPO SETTORIALE SECTORAL SCOPE
1.2	Renewables	1
2.1	Electricity distribution	2
13.1	Solid waste and wastewater	13
13.2	Manure	13
14.1	Afforestation and reforestation	14

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	19/07/2016	First issue with new template (this certificate is linked to CDM qualification)

Responsabile di schema
 Scheme Leader
 Rita Valoroso

*SCHEMI VOLONTARI/ VOLUNTARY SCHEMES: ACR American Carbon Registry, CCB The Climate, Community & Biodiversity Alliance, GS Gold Standard, JI Joint Implementation, SCS Social Carbon Standard, VCS Verified Carbon Standard.

TEC: Technical expert; VAL: Validator; VER: Verifier; TL: Team leader; FIN EXP: Financial Expert; ITRP: Independent technical reviewer

RINA Services S.p.A. è accreditata/ riconosciuta da
 RINA Services S.p.A. is accredited/ recognized by

UNFCCC	quali Entità Operativa Designate (DOE), per condurre la Validazione e la Verifica di Progetti CDM as Designated Operational Entity (DOE), to carry out Validation and Verification of CDM Projects
VCSA	per condurre la Validazione e la Verifica di Progetti VCS to carry out Validation and Verification of VCS Projects
GS Foundation	per condurre la Validazione e la Verifica di Progetti GS to carry out Validation and Verification of GS Projects
Ecologic Institute	per condurre la Validazione e la Verifica di rapporti SCS to carry out Validation and Verification of SCS Reports
American Carbon Registry ACR	per condurre la Validazione e la Verifica di Progetti ACR to carry out Validation and Verification of ACR projects
The Climate, Community & Biodiversity Alliance CCB	per condurre la Validazione e la Verifica di Progetti co-benefit CCB to carry out Validation and Verification of co-benefit CCB projects

GHG_QUAL_CERT_EN_07_16 Voluntary(Certificate)

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Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1	Sofiyska Voda AD	GS-PDD for project activity "Methane Gas Capture and Electricity Production at Kubratovo Wastewater Treatment Plant, Sofia, Bulgaria" in Bulgaria	version 05 of 30/03/2016	Project participants
2	Sofiyska Voda AD	MR for project activity "Methane Gas Capture and Electricity Production at Kubratovo	version 01 of 13/07/2016, ver. 02	Project participants

		Wastewater Treatment Plant, Sofia, Bulgaria” in Bulgaria	of 08/08/2016, ver. 03 of 30/11/2016 and ver. 04 of 30/12/2016	
3	The Gold Standard	GS Requirements	version 2.2 of 1 June 2012	Others
4	The Gold Standard	Toolkit and related Annexes (A – S)	version 2.2 of 1 June 2012	Others
5	CDM Executive Board	Baseline and monitoring methodology AMS-III.H “Methane recovery in wastewater treatment”	version 17 of 28/11/2014	Others
6	CDM Executive Board	Baseline and monitoring methodology “AMS-I.C”, “Thermal Energy Production with or without electricity”	version 20.0 of 01/06/2014	Others
7	CDM Executive Board	SSM AMS-I.D “Grid connected renewable electricity generation”	ver. 18 of 28/11/2014	Others
8	CDM Executive Board	Validation and Verification Standard	version 09 of 20/02/2015	Others
9	CDM Executive Board	Methodological Tool “Tool to calculate project or leakage CO ₂ emissions from fossil combustion”	version 02 of 02/08/2008	Others
10	CDM Executive Board	Tool to calculate the Emission Factor for an electricity system	ver. 04 of 04/10/2013	Others
11	CDM Executive Board	Methodological Tool “Tool to calculate baseline, project and/or leakage emissions from electricity consumption”	version 01 of 16/05/2008	Others
12	CDM Executive Board	Methodological Tool “Emissions from solid waste disposal sites”	version 07 of 16/04/2015	Others
13	CDM Executive Board	Methodological Tool “Project emissions from flaring”	version 02 of 20/07/2012	Others
14	CDM Executive Board	Methodological Tool “Project and leakage emissions from anaerobic digesters”	version 01 of 02/03/2012	Others
15	Sofiyska Voda AD	Methane Gas Capture and Electricity Production at Kubratovo Wastewater Treatment Plant, Sofia, Bulgaria Project LSC Report	version 2 of 28/07/2015	Project participants
16	Sofiyska Voda AD	Methane Gas Capture and Electricity Production at Kubratovo Wastewater Treatment Plant, Sofia, Bulgaria Project GS Passport	version 06 of 26/05/2016	Project participants
17	Sofiyska Voda AD	Methane Gas Capture and Electricity Production at Kubratovo Wastewater Treatment Plant, Sofia, Bulgaria Project VER calculation excel sheet	version 01 of 13/07/2016, ver. 02 of 08/08/2016 and ver. 03 of 30/12/2016	Project participants
18	Sofiyska Voda AD	Methane Gas Capture and Electricity Production at Kubratovo Wastewater Treatment Plant, Sofia, Bulgaria Project Sofiyska Voda monitoring data excel sheet	version 01 of 13/07/2016 and ver. 02 of 08/08/2016.	Project participants
19	Sofiyska Voda AD	Flow diagram – WWTP Kubratovo	Up to date	Project participants
20	Sofiyska Voda AD	Technical data and schemes of WWTP Kubratovo	Up to data	Project participants
21	Bulgarian Accreditation Agency	Sofiyska Voda AD Laboratory reaccreditation Order 110 of 06/03/2014 and Certificate for Accreditation valid up to 06/03/2018	06/03/2014	Others
22	Ministry of Environment and Water of Bulgaria	Permission for wastewater discharge into surface water N 1295 of 14/04/2014	14/04/2014	Others
23	CDM Executive Board	Rules and References, Methodologies, etc	Website: http://cdm.unfccc.int/	Others
24	The Gold Standard	Rules and References, Methodologies, etc.	Website: http://www.goldstandard.org/	Others

25	Ministry of Environmental and Water	Environmental laws and requirements	Website: http://www.moew.government.bg/?&lang=en	Others
26	2006 IPCC Guidelines for National Greenhouse Gas Inventories	2006 IPCC Guidelines for National Greenhouse Gas Inventories	Website: http://www.ipcc-nggip.iges.or.jp/public/2006gl/	Others
27	Sofiyska Voda AD	Project List of employees (names, work position, town of living and type of contract) - total of 27 employees	version 1 of 26/07/2016	Project participants
28	TUV NORD	Certificate covering BS OHSAS 18001:2007 (Occupation Health and Safety Management system), issued on 16/01/2015	16/01/2015	Project participants
29	TUV NORD	Certificate covering EN ISO 14001:2004 (Environmental Management system), issued on 16/01/2015	16/01/2015	Project participants
30	The Gold Standard	E-mail from GS (Mrs. Pinar Osturk dated 19/02/2016	19/02/2016	Others
31	Sofiyska Voda AD	Plant monitoring records for the crediting period from the used database: Scada Technological and Scada Energy	01/04/2014 – 31/05/2016	Project participants
32	Sofiyska Voda AD	Contracts with companies “Ekologika Bulgaria” of 26/06/2015 and “Mobi Shop” of 11/04/2013 for buying of hazardous waste. Identification records of 13/05/2014; 24/07/2014; 21/10/2014; 29/04/2015; 06/08/2015; 18/11/2015; 29/02/2016; 14/04/2016;	26/06/2015 11/04/2013	Project participants
33	Sofiyska Voda AD	39 internal and external protocols of conducted trainings for the crediting period	01/04/2014 – 31/05/2016	Project participants
34	Sofiyska Voda AD	Monthly measuring data of wastewater in the inlet and outlet of the WWTP for the crediting period	01/04/2014 – 31/05/2016	Project participants
35	“HESPA” Laboratory	Protocols NN 50-52 of 21/11/2014 for own air emission measurement covering the three co - generators	21/11/2014	Project participants
36	SGS	Protocols NN 126-128 of 10/02/2016 for own air emission measurement covering the three co – generators	10/02/2016	Project participants
37	SGS and Akvateratest Laboratories	Protocols of 2014 and 2015 for heavy metals content analysis in the final sludge	01/04/2014 – 31/05/2016	Project participants
38	Sofiyska Voda AD	Calibration Protocols of Draeger Awite covering the verification period	01/04/2014 – 31/05/2016	Project participants
39	State Agency for Metrological and Technical Surveillance	Order A441 of 13/10/2011 for calibration frequency	A441 of 13/10/2011	Others
40	RINA	Final Validation Report	ver. 1.3 of 27/05/2016	Others
41	Sofiyska Voda AD	EPC Contract between companies Sofiyska Voda AD and Pazel Finance and Leasing for Co – generators	09/04/2008	Project participants
42	Drager	Measuring equipment AWITE Calibration protocols date:	18/12/2013, 19/06/2014, 04/12/2014, 30/06/2015, 16/12/2015, 17/05/2016	Project participants
43	Sofiyska Voda AD	Electricity meter exchange protocol of 28/01/206	28/01/206	Project

		Old meter Integra (ser. N 486543) – Installation date July 2009 New meter – Schneider Electric PM 5560 (ser. N 600 008 706)		participants
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Appendix 4. Clarification requests, corrective action requests and forward action requests

Table 1. Remaining FAR from validation and/or previous verification

FAR ID	Xx	Section no.	E.2	Date: DD/MM/YYYY
Description of FAR				
N/A				
Project participant response				Date: DD/MM/YYYY
Documentation provided by project participant				
DOE assessment				Date: DD/MM/YYYY

Table 2. CR from this verification

CR ID	01	Section no.	E.7	Date: 29/07/2016
Description of CR				
The PP is requested to clarify the function of the pointed two digital electronic meters located in the company substation (listed in Table 2: List of measuring equipment)				
Project participant response				Date: 01/08/2016
The electric meters are not relevant for the monitoring of the project and will be removed from the table of metering devices (Table 2 of the Monitoring Report).				
Documentation provided by project participant				
Monitoring Report ver. 02 of 08/08/2016				
DOE assessment				Date: 17/08/2016
The listed two digital electronic meters located in the company substation (listed in Table 2: List of measuring equipment) are now removed. Please refer to Monitoring Report ver. 02 of 08/08/2016. This CR is closed.				

Table 3. CAR from this verification

CAR ID	01	Section no.	A	Date: 29/07/2016
Description of CAR				
The GS reference number is not correctly presented in the MR ver. 01 of 13/07/2016				
Project participant response				Date: 01/08/2016
The reference number of the project is corrected as per the registration in GS register.				
Documentation provided by project participant				
Monitoring Report ver. 02 of 08/08/2016				
DOE assessment				Date: 17/08/2016
The GS reference number is now correctly presented in the MR ver. 02 of 08/08/2016. This CAR is closed.				

CAR ID	02	Section no.	E.7	Date: 29/07/2016
Description of CAR				
The real serial numbers of the quoted measuring equipment for parameter EG grid in Table 2: List of measuring equipment in the MR ver. 01 of 13/07/2016 are not presented				
Project participant response				Date: 01/08/2016

The correct serial numbers (old and new meter) of the electric meters used for measuring of parameter EGgrid are amended in Table 2 of the Monitoring Report.	
Documentation provided by project participant	
Monitoring Report ver. 02 of 08/08/2016	
DOE assessment	Date: 17/08/2016
The real serial numbers of the quoted measuring equipment for parameter EG grid in Table 2: List of measuring equipment in the MR ver. 02 of 08/08/2016 are now presented. This CAR is closed.	

CAR ID	03	Section no.	E.7	Date: 29/07/2016
Description of CAR				
The used measuring equipment for parameter EG thermal in Table 2: List of measuring equipment in the MR ver. 01 of 13/07/2016 are not presented.				
Project participant response				Date: 01/08/2016
Three thermal meters used for registration and recording of the thermal energy generated by the CHP are listed in Table 2 with measuring equipment.				
Documentation provided by project participant				
Monitoring Report ver. 02 of 08/08/2016				
DOE assessment				Date: 17/08/2016
The used measuring equipment (three meters) for parameter EG thermal in Table 2: List of measuring equipment in the MR ver. 02 of 08/08/2016 are now presented. This CAR is closed.				

CAR ID	04	Section no.	E.7	Date: 29/07/2016
Description of CAR				
During the on-site visit of the project it was found that the meter located in the CHP (EG _{grid}) was installed in July 2009 and has been replaced on 01/28/2016 as per Protocol of replacement /43/. According to the requirements for calibration of electric meters /39/, they must be checked on a four-year interval. For this monitoring period the same device is available without periodical checking for the period from 01/04/2014 to 27/01/2016.				
Project participant response				Date: 01/08/2016
In order to follow a conservative approach the readings of the electric meter have been decreased with the maximal mistake assigned to the model of electric meters, i.e. -0.5% for the period in which calibration had not been made (01/04/2014 to 27/01/2016). The quantity of emission reductions have been re-calculated according to the corrected records of electric energy generated by the CHP.				
Documentation provided by project participant				
- Monitoring Report ver. 02 of 08/08/2016; - Methane Gas Capture and Electricity Production at Kubratovo Wastewater Treatment Plant, Sofia, Bulgaria Project VER calculation excel sheet, version 02 of 08/08/2016 - Methane Gas Capture and Electricity Production at Kubratovo Wastewater Treatment Plant, Sofia, Bulgaria Project Sofiyska Voda_monitoring data excel sheet, version 02 of 08/08/2016				
DOE assessment				Date: 17/08/2016
A conservative approach is being followed. Re-estimations on the applicable figures are applied. This CAR is closed.				

Table 4. FAR from this verification

FAR ID	Xx	Section No.		Date: DD/MM/YYYY
Description of FAR				
N/A				
Project participant response				Date: DD/MM/YYYY
Documentation provided by project participant				
DOE assessment				Date: DD/MM/YYYY

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Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
01.0	10/06/2016	Initial publication.