



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	GS 4238
Version number of the verification and certification report	1.2Aa
Completion date of the verification and certification report	26/03/2020
Monitoring period number and duration of this monitoring period	2 nd Monitoring period 01/06/2016 – 31/08/2018 (27 months)
Version number of monitoring report to which this report applies	4 of 04/03/2020
Crediting period of the project activity corresponding to this monitoring period	01/04/2014 to 01/04/2021
Project participant(s)	Sofiyska Voda AD
Host Party	Bulgaria
Sectoral scope(s), selected methodology(ies)	Sectoral Scopes – 01 and 13 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 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 PD	158,121 tCO _{2e} (27 months)
Certified GHG emission reductions or net anthropogenic GHG removals for this monitoring period	176,841 tCO _{2e} (27 months)
Name of VVB	RINA Services S.p.A (RINA)
Name, position and signature of the approver of the verification and certification report	Laura Severino Head of Certification Innovation & Sustainability 

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, each of 7,000m³) serving as a buffer and then supplied to the newly installed CHP gas engines (three co-generations sets with 1,063 kW electric capacity and 1,088 kW thermal capacity each) 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 VVB 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 VVB 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 01/06/2016 – 31/08/2018.

The scope of the verification is to verify that:

- The project activity has been implemented and operated in accordance with the registered PD or any approved revised PD;
- 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 is performing 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 01/06/2016 to 31/08/2018, regarding the relevant GS requirements and principles for project activities. The project was validated by RINA Services (validation report 1.3 of 27/05/2016) and it was registered on 01/04/2016.

Final verification report.

The GHG emission reductions are calculated based on the approved methodologies /5,6,7/ and the monitoring plan included in the registered PD version 05 of 30/03/2016. In our opinion the GHG emission reductions reported for the project in the monitoring report version 04 of 04/03/2020 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 VVB or outsourced entity)	Involvement in			
						Desk review	On-site inspection	Interview(s)	Verification findings
1.	Team Leader, Verifier and Local expert	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 VVB or outsourced entity)
1.	Technical reviewer and Technical expert	IR	Amalorpavanathan	Cyril Augustus A	RINA India
2.	Approver	IR	Severino	Laura	RINA HQ

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 ISO 45001. 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	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		

			management system has also established the QA/QC procedure to ensure the veracity and validity of the monitoring procedure and monitoring records. 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

The project is a small scale GS project activity and a 5 percent materiality threshold is applied. 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.

During the course of the verification, error related to the materiality threshold of 7 per cent has been identified in the data set. The main reason was that the company uses GWP of Methane 28 instead of 25.

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 16/09/2019 and amended version 02 of 05/12/2019, ver. 03 of 04/02/2020 and ver. 04 of 04/03/2020 /2/, the registered PD version 05 of 30/03/2016 /1/, the emission reductions calculation spreadsheets /17,18/, 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: 14/11/2019 to 14/11/2019				
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; SD indicators and Sustainability MP; grievance mechanism data and details. GS4GG new requirements and project registration was also observed. Project site area tour	Kubratovo WWTP - Sofia Region, near the village of Kubratovo, Bulgaria	14/11/2019	Konstantin Rachev

D.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Rangelov	Jelyaz	Sofiyska Voda – WWTP Deputy Director	14/11/2019	WWTP details. Monitoring data. Software usages.	Konstantin Rachev
2	Nikolov	Vasil	WWTP – Senior Manager	14/11/2019	WWTP details. Monitoring data. Software usages.	Konstantin Rachev
3	Dimitrov	Hristo	Sofiyska Voda – Treatment and dewatering sewage Manager	14/11/2019	Calibration and maintenance of the used monitoring equipment; data collecting and archiving; technical details	Konstantin Rachev
4	Milkov	Viktor	Green Carbon Bulgaria – project consultant	14/11/2019	MR detailed sections discussion; Monitoring data; GHG Emission reduction estimation and calculations	Konstantin Rachev
5	Tatev	Rosen	Village Svetovracane citizen	14/11/2019	Local citizens attitude; contribution of the project to the local citizens; complains	Konstantin Rachev
6	Atanasova	Nadya	Village Voinegovtsi citizen	14/11/2019	Local citizens attitude; contribution of the project to the local citizens; complains	Konstantin Rachev
7	Petkova	Liliya	Village Benkovski citizen	14/11/2019	Local citizens attitude; contribution of the project to the local citizens; complains	Konstantin Rachev
8	Petrova	Teodora	Environmental protection Manager	14/11/2019	Environmental responsibilities and fulfilment of legal requirements; social responsibilities and communication with local citizens	Konstantin Rachev
9	Doneva – Kiryanova	Hristina	OHS Manager	14/11/2019	Occupation Health and Safety requirements and trainings	Konstantin Rachev

During the on-site assessment three local citizens, Sofiyska Voda Environmental protection Manager and other responsible staff have been interviewed. All of them were with positive opinion for the realized ongoing project activity and no complaints have been issued. All applicable legal environmental permissions have been issued and no remarks by the local competent authority are raised. No official complains are received.

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 PD			

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	CR 1 to CR 4		
Assessment of data and calculation of emission reductions or net removals			
Others: GS Monitoring Parameters	CR 5 to CR 10		
Total	10		0

SECTION E. Verification findings

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

Means of verification	The used MR form is GS4GG MR Template /52/.
Findings	N/A
Conclusion	The PP does use the GS4GG Monitoring Report Form /52/

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

No FARs have been raised during the first verification phase and GS feedback round. The PP has received a Letter of Approval N 26-00-1543 dated of 19/01/2016 /44/.

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 PD. Alongside with this verification period, the PP applied for re-registration under GS4GG requirements. An Annex 1 form has been issued and sent for that purpose to the Secretariat and the process for re-registration has been started /30, 47,48,49,50,51/.
Findings	N/A
Conclusion	The project is fully implemented according to the description presented in the PD, 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 PD. 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

N/A

E.4.3. 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

N/A

E.4.7. 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 PD /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 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 PD /1/ are properly used during this verification phase (01/06/2016 to 31/08/2018) and correspond to the registered PD /1/. The estimation data is presented in the excel sheet "VER calculation sheet" /17 and 18/. Data and parameters fixed ex ante, used for the ER calculations /1,2,40/: 1. $EF_{EL,y}$ - tCO_2/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 /45/ - IPCC Climate Change Synthesis Report of 2014 (page 87) /45/ 8. η_{flare} - % - value applied 80 9. $\eta_{BL,thermal}$ - % - value applied 92 10. EF_{FF,CO_2} - tCO_2/TJ - value applied 54.30 11. $NCV_{i,y}$ - GJ/t - value applied 46.50 12. $EF_{CO_2,i,y}$ - tCO_2/GJ - value applied 76.30 13. $PE_{fugitive,s,y}$ - value applied 0.05 14. D_{CH_4} – kg/m^3 – value applied 0.670 These figures have been crosschecked by the next requirements: /1,2,5, 7,11,12,13, 17,18, 26,41,45, 51/
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 (01/01/2016 to 31/08/2018) /2, 17,18/ and correspond to the applicable methodologies from the registered PD /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 visit in the used software – SCADA energy and SCADA Technological /31/. Monitoring parameters for this monitoring period 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 - $S_{final,PJ,y}$ The value for this monitoring period is: 87,132.64 t 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 - $EG_{thermal,y}$ The value for this monitoring period is: 195.66 TJ 3. Electricity generated by the CHP in the year y – it will be measured ex-post and recorded monthly - $EG_{grid,y}$ The value for this monitoring period is: 51,356.14 MWh 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 - $BG_{burnt,y}$ The value for this monitoring period is: 28 477 253.92 Nm³ 5. Quantity of sludge entering the anaerobic digesters - Measured by liquid flowmeter - $Q_DG_{s_inlet}$ The value for this monitoring period is: 1 569 280.00 m³ 6. Dry substance content in the sludge - Laboratory samples and the results are recorded hourly, monthly and yearly - $\rho_{sludge} /t/m^3 /$ 7. Methane content in biogas in the year y - The fraction of methane in the gas is being measuring 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 The value for this monitoring period is: 0 /t/ 9. Volumetric flow of the gaseous stream - The quantity of biogas is measured continuously - $V_{t,db}$ The value for this monitoring period is: 229,118.11 m³CH₄ 10. Mass flow of methane in the residual biogas flared - The quantity and quality of biogas is measured continuously and normalized - F_{CH4}. Methane in the residual biogas flared The value for this monitoring period is: 153,509.13 kgCH₄/year
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. VVB confirms through the conducted on-site visit verification, document review, and verification of the used monitoring system that complies with the registered monitoring plan. During the verification, all the relevant monitoring parameters of the registered monitoring plan have been verified with regards 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 PD have been monitored;

	- The responsibilities and authorities for monitoring and reporting are in accordance with those stated in the registered PD; - 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 PD, as well as applicable GS requirements /47-51/.
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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 – A333 of 29/05/2014; A791 of 30/09/2015; A616 of 11/09/2018 for calibration frequency /39/ for calibration frequency issued by the State Agency for Metrological and Technical Surveillance. 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/ - CR 1. This CR is closed in FVR. 2. Automatic gas analyser, flow-meter system „Binder, Combimass eco basic“ (Model 022218-0620J1 S/N 642404) – the meter is integral part of flow meter system “Awite” 3. Digital Electric meter – Schneider Electric PM 5560 (serial number 600008706): Calibrated every four year /43/ - last calibration date on 28/01/2016. Documented CR 2. The documented CR 2 is closed in the FVR. 3.1 Digital Electric meter (measured electricity exported / imported (combined) to the grid) - /43/. The meter is ZQM 202C.8 with serial number 95591478, calibrated every 4 year. Last calibration date on 06/04/2017 /43/. 3.2 Digital Electric meter (measured electricity exported / imported (combined) to the grid) - /43/. The meter is ZQM 202C.8 with serial number 95591477, calibrated every 4 year. Last calibration date on 06/04/2017 (/43/. Refer to CR 2. 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. Heat Meter of gas utilizer – measured generated heat from exhaust gasses by the CHP. CR 3 is documented. The CR3 is closed in FVR. 8. Four digital thermal energy meters “Kamstrup” (serial numbers: 69303430/2013, 69303431/2013, 69303432/2013, 69303436/2013) – 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 during the first verification phase). The period of calibration is 2 years /39/. During 2nd periodic verification has been verified four calibration protocols of 23/05/2017. Documented CR 4. The documented CR 4 is closed in the FVR
Findings	4 CRs are documented. Four CRs have been successfully implemented in MR ver. 02 of 05/12/2019.

Conclusion	The description of the used meters presented in the monitoring report is in line with the operation as confirmed through the site visit observation. All the conducted measuring data for the monitoring period correspond to the applicable legal and other requirements.
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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 (01/06/2016 to 31/08/2018) are presented in the MR /2/ and in the next excel sheets: Sofiyska_voda_monitoing_data_2016_2018 /18/ and Sofiyska_voda_VER_Calculation_ver 2_2016-2018 /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: 193,121 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 PD and the validation report.

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 (01/06/2016 to 31/08/2018) are presented in the MR /2/ and in the next excel sheets: Sofiyska_voda_monitoing_data_2016_2018 /18/ and Sofiyska_voda_VER_Calculation_ver. 2_2016-2018 /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: $PE_y = PE_{power,y} + PE_{fugitive,y} + PE_{flare}$ $PE_{power,y} = PE_{FC,y} = FC_{j,y} \times COEF_{,y}$ $COEF_{,y} = NCV_{,y} \times EF_{CO2,,y}$ PE_{flare} are determined: $F_{CH4,t} = V_{t,db} * V_{CH4,t,db} * \rho_{CH4,t}$ $F_{CH4,t} = V_{t,db} * W_{CH4,y} * D_{CH4}$ $PE_{flare} = F_{CH4,t} * GWP_{CH4} * ((100 - \eta_{flare})/100)$ The total estimated project emissions are: 16,280 tCO_{2,e}
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Findings	None
Conclusion	RINA confirms that project emissions have been appropriately calculated and are consistent with site visit observations, the applied methodology, registered PD and the validation report, as well as applicable GS requirements /47-52/.

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 (01/06/2016 to 31/08/2018) are presented in the MR /2/ and in the next excel sheets: Sofiyska_voda_monitoing_data_2016_2018 /18/ and Sofiyska_voda_VER_Calculation_ver. 2_2016-2018 /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: $ER = BE - PE - LE$ The total ER for this verification period is 176,841 tCO_{2e} (27 months)
Findings	N/A
Conclusion	RINA confirms: - All the data and parameters were monitored in accordance with the registered PD /1/; - 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 has been carried out in accordance with the formulae and methods described in the registered PD, the applied methodology and methodological tools; Emission factor and default values have been applied in the calculation in accordance to the registered PD.

E.8.5. Comparison of actual GHG emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PD

Means of verification	During this verification phase (01/06/2016 to 31/08/2018 – total of 27 months) /2/, there is higher ER results achieved (11.8%) compared to the estimated one in the registered PD /1/ which is caused by increasing of incoming municipality wastewater as well as improving the technological processes. The value presented in the registered PD /1/ (on average annual basis) is 70,276 tCO_{2e}. for this monitoring period and the real achieved reductions on average annual basis are 78,596 tCO_{2e}. The estimation is based on average monthly generated emission reduction.
Findings	None
Conclusion	The emission reduction calculations provided in the spreadsheet have been verified to be correct and in line with the registered PD.

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

Means of verification	The actual difference is 11.8 % (higher).
Findings	None.
Conclusion	This is a normal operation difference due to increasing of incoming municipality wastewater as well as improving the technological processes

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 Removals	01/06/2016 – 31/12/2016 tCO₂e	01/01/2017 – 31/12/2017 tCO₂e	01/01/2018 – 31/08/2018 tCO₂e	TOTAL 01/06/2016 - 31/08/2018
	Baseline Emissions	45,301	86,250	61,570	193,121
	Project Emissions	3,965	8,074	4,241	16,280
	Leakage	0	0	0	0
	Net GHG emission reductions or removals	41,336	78,176	57,329	176,841
Findings	None				
Conclusion	The emission reduction calculations provided in the spreadsheets have been verified to be correct and in line with the registered PD and MR for this verification phase.				

E.8.8. Assessment of the sustainability parameters

Means of verification	The information is presented in Section D. 2 Data and parameters monitored. SDG Contributions targeted: - SDG 13 - Climate action - SDG 11 – Sustainable cities and Communities - SDG 6 – Clean water and sanitation
Findings	6 CRs are documented.
Conclusion	RINA confirms that monitoring of all monitoring SD parameters during this monitoring period is in line with registered project and are consistent with site visit observations, as well as applicable GS requirements /47-52/

SECTION F. Internal quality control

The draft final verification report before being submitted to the client is subjected to an independent technical review to confirm that all verification activities have been completed according to the pertinent RINA's procedures. The technical review 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 01/06/2016 – 31/08/2018 (27 months), 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 PD. 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 PD; (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 PD 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 04/03/2020 for the project activity "Methane Gas Capture and Electricity Production at Kubratovo Wastewater Treatment Plant, Sofia" in Bulgaria, for the period from 01/06/2016 to 31/08/2018 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 01/06/2016 to 31/08/2018 amount to **176,841 tCO₂e**.

GHG Emission Reductions or Removals	01/06/2016 – 31/12/2016 tCO₂e	01/01/2017 – 31/12/2017 tCO₂e	01/01/2018 – 31/08/2018 tCO₂e	TOTAL 01/06/2016 - 31/08/2018
Baseline Emissions	45,301	86,250	61,570	193,121
Project Emissions	3,965	8,074	4,241	16,280
Leakage	0	0	0	0
Net GHG emission reductions or removals	41,336	78,176	57,329	176,841

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
VVB	Validation and Verification Body
EB	Executive Board
EIA	Environmental Impact Assessment
ER	Emission Reductions
FAR	Forward Action Request
GHG(s)	Greenhouse gas(es)
GS	Gold Standard
GS4GG	Gold Standard for Global Goals
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
PD	Project Design
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

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/riconosciuto da
RINA Services S.p.A. is accredited /recognized by

UNFCOC	quali Entità Operativa Designata (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
Ecologica 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

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:

Cyril Augustus Arokiasamy Amalorpavanathan

è qualificato come:
is qualified as:

TEC, VAL, VER, TL, Local Expert, 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
1.1	Thermal energy generation	1
1.2	Renewables	1
3.1	Energy Demand	3
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 (this certificate is linked to CDM qualification)
2	09/10/2017	Qualification update as ITRP

Responsabile di schema
Scheme Leader
Laura SEVERINO



*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/riconosciuto da
RINA Services S.p.A. is accredited /recognized by

UNFCCC	quale Entità Operativa Designata (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
Ecologica 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

Appendix 3. Documents reviewed or referenced

No	Author	Title	References to the document	Provider
1	Sofiyska Voda AD	GS-PD 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 participant
2	Sofiyska Voda AD	MR for project activity “Methane Gas Capture and Electricity Production at Kubratovo Wastewater Treatment Plant, Sofia, Bulgaria” in Bulgaria	version 01 of 16/09/2019 version 02 of 05/12/2019 version 03 of 04/02/2020 version 04 of 04/03/2020	Project participant
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	AMS-I.D “Grid connected renewable electricity generation”	ver. 18 of 28/11/2014	Others
8	CDM Executive Board	Validation and Verification Standard	version 02 of 29/11/2018	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 participant
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 participant
17	Sofiyska Voda AD	Methane Gas Capture and Electricity Production at Kubratovo Wastewater Treatment Plant, Sofia, Bulgaria Project - Sofiyska Voda VER calculation excel sheet	version 01 of 16/09/2019 version 02 of 04/02/2020	Project participant
18	Sofiyska Voda AD	Methane Gas Capture and Electricity Production at Kubratovo Wastewater Treatment Plant, Sofia, Bulgaria Project - Sofiyska	version 01 of 16/09/2019 version 02 of	Project participant

		Voda_monitoring data_2016_2018 excel sheet	04/02/2020	
19	Sofiyska Voda AD	Flow diagram – WWTP Kubratovo	Up to date	Project participant
20	Sofiyska Voda AD	Technical data and schemes of WWTP Kubratovo	Up to date	Project participant
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 and Certificate of reaccreditation N50 LI/12.03.2018, valid up to 12/03/2022.	06/03/2014 12.03.2018	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: https://cdm.unfccc.int/EB/index.html	Others English language
24	The Gold Standard	Rules and References, Methodologies, etc.	Website: https://www.goldstandard.org/articles/gold-standard-global-goals	Others English language
25	Ministry of Environmental and Water	Environmental laws and requirements	Website: https://www.moew.government.bg/en/	Others English language
26	2006 IPCC Guidelines for National Greenhouse Gas Inventories	2006 IPCC Guidelines for National Greenhouse Gas Inventories	Website: https://www.ipcc-nggip.iges.or.jp/public/2006gl/	Others English language
27	Sofiyska Voda AD	Project List of employees (names, work position, town of living and type of contract) - total of 27 employees for years from 2015 to 2017. List of employees for 2018 – total 32 full time on shifts employed (from which 9 women).	10/09/2015 26/07/2016 05/12/2019	Project participant
28	TUV NORD	Certificate covering BS OHSAS 18001:2007 (Occupation Health and Safety Management system), issued on 16/01/2015 and Certificate covering ISO 45001:2018, issued on 16/01/2018	16/01/2015 16/01/2018	Project participant
29	TUV NORD	Certificate covering EN ISO 14001:2004 (Environmental Management system), issued on 16/01/2015 and Certificate covering ISO 14001:2015, issued on 16/01/2018 Certificate covering ISO 9001:2015, issued on 04/07/2019	16/01/2015 16/01/2018	Project participant
30	The Gold Standard	E-mail from GS (Mrs. Annyta Luo dated 13/11/2019, concerning the transition to GS4GG Requirements	13/11/2019	Others
31	Sofiyska Voda AD	Plant monitoring records for the crediting period from the used database: Scada Technological and Scada Energy	01/06/2016 – 31/08/2018	Project participant
32	Sofiyska Voda AD	Contract with companies “Ekologika Bulgaria” of 26/06/2015 and Annex of 11/05/2016 for buying of hazardous waste. Identification records of 03/06/2016; 09/09/2016; 10/11/2016; 14/02/2017; 20/04/2017; 29/05/2017; 08/09/2017; 04/12/2017; 29/01/2018; 30/03/2018; 15/08/2018	26/06/2015 11/05/2016	Project participant
33	Sofiyska Voda AD	Internal and external protocols of conducted health and safety trainings covering the crediting period	01/06/2016 – 31/08/2018	Project participant
34	Sofiyska Voda AD	Monthly measuring data of wastewater in the	01/06/2016 –	Project

		inlet and outlet of the WWTP for the crediting period	31/08/2018	participant
35	Ministry of Environment and Water – Executive Environment Agency	Protocols 2439, 2440 and 2442 of 16/11/2018 for own air emission measurement covering the three co – generators.	16/11/2018	Project participant
36	SGS	Protocols NN 126-129 of 10/02/2016 for own air emission measurement covering the three co – generators and two boilers.	10/02/2016	Project participant
37	Sofiyska Voda AD Laboratory; SGS Laboratory; Akvateratest Laboratory	Protocols covered years: 2016, 2017 and 2018 for heavy metals content analysis in the final sludge. The next Protocols date have been verified: 11/10/2016, 27/07/2016; 07/03/2017, 26/03/2017, 12/06/2017, 11/09/2017, 12/09/2017, 06/11/2017, 13/11/2017; 19/03/2018, 27/06/2018, 26/07/2018, 30/07/2018	01/06/2016 – 31/08/2018	Project participant
38	Sofiyska Voda AD	Calibration Protocols of Drager Awite covering the verification period.	01/06/2016 – 31/08/2018	Project participant
39	State Agency for Metrological and Technical Surveillance	Orders: A333 of 29/05/2014 for calibration frequency A791 of 30/09/2015 for calibration frequency A616 of 11/09/2018 for calibration frequency	29/05/2014 30/09/2015 11/09/2018	Others
40	RINA	Final Verification Report, covering the 1 st verification monitoring period 01/04/2014 to 31/05/2016	ver. 1.4 of 04/01/2017	Others
41	Sofiyska Voda AD	EPC Contract between companies Sofiyska Voda AD and Pazel Finance and Leasing for Co – generators	09/04/2008	Project participant
42	Drager	Measuring equipment AWITE Calibration protocol files dates: 17/05/2016; 17/11/2016; 23/05/2017; 11/10/2017 20/04/2018; 22/10/2018;	17/05/2016 17/11/2016 23/05/2017 11/10/2017 20/04/2018 22/10/2018	Project participant
43	Sofiyska Voda AD	Electricity meter exchange protocol of 06/04/2017 New meters type and serial number: ZMQ 202C.8 (ser.N 95591478) and ZMQ 202C.8 (ser.N 95591477).	28/01/2016 06/04/2017	Project participant
44	MOEW	Letter of Approval N 26-00-1543 dated of 19/01/2016	19/01/2016	Project participant
45	IPCC	IPCC Climate Change 2014 Synthesis Report	2014	Other
46	“Pehlivanov Engineering” Laboratory	Protocols of 29/12/2017 for own air emission measurement covering the biogas boilers.	29/12/2017	Project participant
47	GS4GG	PRINCIPLES & REQUIREMENTS	Version 1.2, Published October 2019	Others
48	GS4GG	SAFEGUARDING PRINCIPLES & REQUIREMENTS	Version 1.2, Published October 2019	Others
49	GS4GG	RENEWABLE ENERGY ACTIVITY REQUIREMENTS; GHG EMISSIONS REDUCTION & SEQUESTRATION PRODUCT REQUIREMENTS	Version 1.2, Published October 2019	Others
50	GS4GG	Gold Standard: Certification Procedures & Requirements for Validation/Verification Bodies (VVBs)	14/08/2017	Others

51	GS4GG	GS4GG Transition Annex	09/03/2020	Others
52	GS4GG	GS4GG MR Template	Ver. 1 of June 2017	

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				
<i>None</i>				
Project participant response				Date: DD/MM/YYYY
Documentation provided by project participant				
VVB assessment				Date: DD/MM/YYYY

Table 2. CR from this verification

CR ID	01	Section no.	E7	Date: 27/11/2019
Description of CR				
Please provide calibration Protocols for the whole monitoring period, provided by external company "Drager".				
Project participant response				Date 05/12/2019
<i>The required protocols have been presented to the VVB for inspection.</i>				
Documentation provided by project participant				
<i>Protocols for calibration of the gas analyser at a six months period.</i>				
VVB assessment				Date: 07/01/2020
For this monitoring period total of seven Calibration files have been verified.				

CR ID	02	Section no.	E7	Date: 27/11/2019
Description of CR				
The PP is requested to clarify the type and serial number of the used electric measuring equipment, pointed in line 3 and line 5 of Table 2 "List of measuring equipment".				
Project participant response				Date: 05/12/2019
<i>The type and serial numbers of the electric meters referred have been corrected in Table 2 of the MR-v.02 of 05/12/2019</i>				
Documentation provided by project participant				
<i>Monitoring report v.02 of 05/12/2019</i>				
VVB assessment				Date: 07/01/2020
The type and serial number of the used electric measuring equipment pointed in line 3 and line 5 of Table 2 "List of measuring equipment" are now correctly applied in MR ver. 02 of 05/12/2019.				

CR ID	03	Section no.	E7	Date: 05/12/2019
Description of CR				
The PP is requested to present the required files for measuring device installation data in 2017, pointed in line 19 of Table 2 "List of measuring equipment".				
Project participant response				Date: 05/12/2019
<i>The required protocols have been presented to the VVB for inspection.</i>				
Documentation provided by project participant				
<i>Protocols for inspection of heat meters,</i>				
VVB assessment				Date: 07/01/2020
The date of calibration is on 13/11/2017 as per present Protocol. After that the devices were installed.				

CR ID	04	Section no.	E7	Date: 27/11/2019
Description of CR				
The PP is requested to present the recalibration files / evidences done in 2017 for four Digital thermal energy meters, listed in line 16, 17, 18 and 20 of Table 2 "List of measuring equipment".				
Project participant response				Date: 05/12/2019
<i>The required documents have been presented to the VVB for inspection.</i>				
Documentation provided by project participant				
<i>Copies of calibration protocols.</i>				
VVB assessment				Date: 07/01/2020
Four Calibration Protocols of 23/05/2017 have been presented and verified by the VVB.				

CR ID	05	Section no.	E 8.8	Date: 27/11/2019
Description of CR				
The PP is requested to present Protocols for own air emission measurement covering this verification phase.				
Project participant response				Date: 05/12/2019
<i>The required protocols have been presented to the VVB for inspection.</i>				
Documentation provided by project participant				
<i>Protocols for emissions in the air for CHP 7 boiler.</i>				
VVB assessment				Date: 07/01/2020
Protocols are presented.				

CR ID	06	Section no.	E 8.8	Date: 27/11/2019
Description of CR				
The PP is requested to present information whether there is amendment is the used Permission for wastewater discharge into surface water N 1295 of 14/04/2014.				
Project participant response				Date: 05/12/2019
<i>The waste water discharge permit has been presented to VVB</i>				
Documentation provided by project participant				
<i>Waste water discharge permission N1295/14.04.2014 valid to 2020.</i>				
VVB assessment				Date: 07/01/2020
The Permission was presented. No amendments are observed.				

CR ID	07	Section no.	E 8.8	Date: 27/11/2019
Description of CR				
The PP is requested to present actual waste oil collection contract and all supporting documents, covering this verification phase.				
Project participant response				Date: 05/12/2019
<i>The required information has been presented to the VVB.</i>				
Documentation provided by project participant				
<i>Copies of waste oil collection contracts and quantities collected for disposal.</i>				
VVB assessment				Date: 07/01/2020
The actual waste collecting Contract and all waste transfer Protocols have been presented and verified.				

CR ID	08	Section no.	E 8.8	Date: 27/11/2019
Description of CR				
The PP is requested to present all Internal and external Protocols of conducted trainings for the current verification phase.				
Project participant response				Date: 05/12/2019
<i>Available protocols for trainings have been presented to the VVB for inspection.</i>				
Documentation provided by project participant				
<i>Training protocols.</i>				
VVB assessment				Date: 07/01/2020
Training records are provided.				

CR ID	09	Section no.	E 8.8	Date: 27/11/2019
Description of CR				
The PP is requested to present an official list of employees, covering the project design, involved during this monitoring period.				
Project participant response				Date: 05/12/2019
<i>The required information has been presented to the VVB.</i>				
Documentation provided by project participant				
<i>List of employees.</i>				
VVB assessment				Date: 07/01/2020
Required records are presented.				

CR ID	10	Section no.	E 8.8	Date: 27/11/2019
Description of CR				
The PP is requested to present actual Protocols for heavy metals content analysis in the final sludge, covering the verification phase.				
Project participant response				Date: 05/12/2019
<i>The required protocols have been presented to the VVB for inspection.</i>				
Documentation provided by project participant				
<i>Heavy metals content in the final sludge protocols.</i>				
VVB assessment				Date: 07/01/2020
Actual Protocols for heavy metals content analysis in the final sludge have been presented and verified, covering the current monitoring period.				

Table 3. CAR from this verification

CAR ID	01	Section no.		Date: DD/MM/YYYY
Description of CAR				
<i>N/A</i>				
Project participant response				Date: DD/MM/YYYY
Documentation provided by project participant				
VVB assessment				Date: DD/MM/YYYY

Table 4. FAR from this verification

FAR ID	xx	Section No.		Date: DD/MM/YYYY
Description of FAR				
<i>N/A</i>				
Project participant response				Date: DD/MM/YYYY
Documentation provided by project participant				
VVB assessment				Date: DD/MM/YYYY

Document information

Version	Date	Description
01.0	10/06/2016	Initial publication.