



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	2Aa
Completion date of the verification and certification report	17/03/2025
Monitoring period number and duration of this monitoring period	2 nd for CP 2 01/04/2023 – 31/03/2024 (1 year)
Version number of monitoring report to which this report applies	03 of 27/02/2025
Crediting period of the project activity corresponding to this monitoring period	01/04/2021 to 31/03/2028
Project participant(s)	Sofiyska Voda AD
Host Party	Bulgaria
Sectoral scope(s), selected methodology(ies)	Sectoral Scopes – 01 and 13 AMS-I.C ver. 21.0 of 14/06/2019 - Thermal Energy Production with or without electricity - SS 01 AMS-III.H ver. 19 of 14/06/2019 - Methane recovery in wastewater treatment - SS 13 AMS-I.F Ver. 03.0 of 28/11/2014 "Renewable electricity generation for captive use and mini-grid" - SS 01
Estimated GHG emission reductions or net anthropogenic GHG removals for this monitoring period in the registered PD	66,424 (12 months)
Certified GHG emission reductions or net anthropogenic GHG removals for this monitoring period	71,056 (12 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 (Authorised officer signing for VVB) Decarb & Chain of Custody Product Management

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 (five 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. In addition, an implementation of CHP exhaust gasses heat recovery system in 2017 was involved.

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 re-validated by RINA and registered by the GS /1/.

The GHG benefit of the project activity was only accounted under Gold Standard. There are not any other carbon credits such as VERRA, GSS, or Social Carbon were being issued for the project activity /49,50/. Furthermore, as a host country in Bulgaria such any programme like a government-regulated system or programme for the constraint and monetisation of GHG emissions (such as emissions trading scheme, cap and trade or carbon tax mechanisms) has not been implemented.

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°45'13.25"N and Longitude - 23°22'11.15"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 01/04/2023 – 31/03/2024.

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 assess 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 01/04/2023 to 31/03/2024, regarding the relevant GS requirements and principles for project activities. The project was re-validated by RINA Services – from different team (Validation Report 2.0 of 29/06/2021 /15/) and it was registered on 03/08/2021.

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 06 of 23/06/2021. In our opinion the GHG emission reductions reported for the project in the monitoring report version 03 of 27/02/2025 are fairly stated.

SECTION B. Verification team, technical reviewer and approver**B.1. Verification team member of current MP – 01/04/2023 to 31/03/2024**

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 Technical expert, Local expert and GS approve auditor	IR	RACHEV	KONSTANTIN	RINA BULGARIA	x	x	x	x

Verification team members of previous MP – 01/04/2021 to 31/03/2023

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	Remote inspection	Interview(s)	Verification findings
1.	Team Leader, Verifier and Technical expert	IR	ERDOGAN	MEHMET	RINA TURKEY	x	x	x	x
2.	Technical reviewer and technical expert	IR	DE LIMA CARVALHO	THAÍS	RINA BRASIL	x			

Re-Validation team members

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	Remote inspection	Interview(s)	Verification findings
1.	Team Leader, Verifier and	IR	KIRATLI	TUGCE	RINA TURKEY	x	x	x	x

	Technical expert								
2.	Technical reviewer and technical expert	IR	EKINCI OZEN	FULYA	RINA TURKEY	x			
3.	Approval	IR	SEVERINO	LAURA	RINA HO	x			

B.2. Technical reviewer and approver of the current 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	RINA India
2.	Approver	IR	Severino	Laura	RINA HO

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 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.	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		

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.

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 30/06/2024 and amended versions 2 of 11/09/2024 and 03 of 27/02/2025 /2/, the registered PD version 06 of 23/06/2021 /1/, the emission reductions calculation spreadsheets /17,18/, all as well as documents listed in Appendix 3 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: 10/09/2024				
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. Re-validation documents. Deviation request. Changing the team of verifiers.	Kubratovo WWTP – Sofia Region, near the village of Kubratovo, Bulgaria	10/09/2024	Konstantin Rachev

D.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1	Rangelov	Jelyaz	Sofiyska Voda – WWTP Senior Manager	10/09/2024	WWTP details. Monitoring data. Software usages.	Konstantin Rachev
2	Mladenov	Milorad	Technical Department Supervisor		WWTP details. Monitoring data. Software usages. Measuring equipment. Calibration and maintenance of the used monitoring equipment; data collecting and archiving; technical details	
3	Milkov	Viktor	Green Carbon Bulgaria – project consultant		MR detailed sections discussion; Monitoring data; GHG Emission reduction estimation and calculations	
4	Petrova	Teodora	Environmental protection Manager		Environmental responsibilities and fulfilment of legal requirements; social responsibilities and communication with local citizens. Grievance Mechanism.	
5	Brankova	Bojanka	Specialist Process Management		Data collection and archiving.	
6	Cvetkov	Ilia	Energy Efficiency Specialist		Electrical and thermal Data Monitoring	
7	Bogdanova	Mariana	Methane Tanks operator		Data collection	
8	Ivanov	Aleksandar	Boiler operator		Data collection. Calibration of used thermal measuring equipment.	
9	Velchev	Petar	Mayor of Village Kubratovo		Project activity attitude and complains	
10	Konstantinov	Konstantin	Benkovski citizen		Project activity attitude and complains	
11	Stanchev	Nasko	Benkovski citizen		Project activity attitude and complains	

This audit was conducted on-site. The last physical on-site inspection was conducted on 26/04/2022, during the 4th verification phase of CP 1 of this project activity.

The project had been described in the company website: <https://www.sofiyskavoda.bg/en/about-us/gold-standard /47/>

For the project a Grievance Expression Process Book was prepared and available in the administrative building of WWTP Kubratovo. Telephone numbers were also given for feedback on the project: + 359 2 813 29 20;

+359 2 813 29 10. The project Contact person is Jelyaz Rangelov – WWTP Senior Manager. For the project activity was also presented an email address: goldstandard@sofiyskavoda.bg

During the on-site assessment 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 received. All applicable legal environmental permissions have been issued and no remarks by the local competent authority has been raised. No official comments and complains are received and documented through the presented, mail, phone, Grievance Book /3,4/, etc.

During the on-site visit were held three discussions / interviews with local citizens, a Mayor of Village Kubratovo /9/ and two citizens of Benkovski District /10-11/ of Table D.3. All of them with positive attitude. No complains have been received in the Municipality of Kubratovo.

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			
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		
Assessment of data and calculation of emission reductions or net removals			
Others: GS Monitoring Parameters			
Total	1	0	0

SECTION E. Verification findings

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

Means of verification	The monitoring report latest version /2/ and previous versions submitted by the PP have been the basis for starting the verification process. RINA confirms that the Monitoring report is based on the currently valid GS4GG MR template /45/
Findings	N/A
Conclusion	RINA verified that the monitoring report was completed in accordance with the GS4GG-MR-FORM - Monitoring report form, including its Attachment: Instructions for filling out the monitoring report form.

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

No FARs have been raised during the Re-validation phase and GS feedback round as well as during previous verification. The PP has received a Letter of Approval N 26-00-1543 dated of 19/01/2016, as well as additional Letters of Support and clarifications /44/. Finally, a Letter of Approval N 26-00-1478 dated of 30/03/2023 for cancelation of AAU is being issued /36/.

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

Means of verification	The PP had applied for re-registration under GS4GG requirements, and an Annex 1 form had been issued for the process for re-registration on 09/03/2020 /44/.
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	The project was re-validated by RINA Services – from different team (Validation Report 2.0 of 29/06/2021 /15/) and it was registered on 03/08/2021. The project is also being listed in the GS website.
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 during the on-site visit.

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 /5,6,7/: AMS-I.C ver. 21.0 of 14/06/2019 – Thermal Energy Production with or without electricity – SS 01 AMS-III.H ver. 19 of 14/06/2019 – Methane recovery in wastewater treatment – SS 13 AMS-I.F Ver. 03.0 of 28/11/2014 “Renewable electricity generation for captive use and mini-grid” – SS 01 And Tools: /9,10,11,12,13,14/

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 (01/04/2023 to 31/03/2024) and correspond to the registered PD /1/. The estimation data is presented in the excel sheets /17 and 18/. Data and parameters fixed ex ante, used for the ER calculations /1,2,17/: 1. $EF_{EL,y} - tCO_2/MWh$ – value applied 0.400 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 28 – IPCC Fifth Climate Change Synthesis Report of 2014 (page 87) /37/ 8. η_{flare} - % - value applied 0 9. $\eta_{BL,thermal}$ - % - value applied 100 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 0.00067 These figures have been crosschecked by the next requirements: /1,2,5, 6,7,9,10,12,13,14,17,18, 26,37/ η_{flare} – value applied 0, for conservative approach.
Findings	None
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 (01/04/2023 to 31/03/2024) /2, 17,18/ and correspond to the applicable methodologies from the registered PD /1,5,6,7/. The monitoring data is presented in the excel sheet /18/ and the final ER estimations are given in the sheet “Sofiyska_voda_VER_Calculation_2023-2024_ver.01” /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 /30/. Monitoring parameters for this monitoring period used: 1. Amount of dry matter in the sludge in the year y (SDG 13) – Measure the total quantity of sludge entering the digesters – $S_{final,PJ,y}$ The value for this monitoring period is: 39,060.52 t 2. The net quantity of heat supplied by the project activity during the year y (SDG 13) – 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: 91.56 TJ 3. Electricity generated by the CHP in the year y (SDG 13) – it will be measured ex-post and recorded monthly – $EG_{grid,y}$ The value for this monitoring period is: 21,876.66 MWh 4. Quantity of biogas generated by the anaerobic digesters (SDG 13) – 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: 9,987,291.000 Nm³
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	5. Quantity of methane generated by the anaerobic digesters in the year y (SDG 13) – Calculated based on the quantity of bio-gas generated and specific content of methane in the bio-gas $W_{CH_4} - CH_4$, burnt,y The value for this monitoring period is: 6,221,562.89 m³ 6. Quantity of methane generated by the anaerobic digesters in the year y (SDG 13) – Calculated based on the quantity of bio-gas generated and specific content of methane in the bio-gas W_{CH_4} and density of methane – CH_4, burnt,y The value for this monitoring period is: 4,168.45 t 7. Quantity of sludge entering the anaerobic digesters (SDG 13) – Measured by liquid flowmeter – $Q_{DG_{s_inlet}}$ The value for this monitoring period is: 696,684.00 m³ 8. Dry substance content in the sludge (SDG 13) – Laboratory samples and the results are recorded hourly, monthly and yearly - $\rho_{sludge} / t/m^3 /$ 9. Methane content in biogas in the year y (SDG 13) – 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 – $W_{CH_4,y} / \%$ 10. 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/ 11. Volumetric flow of the gaseous stream (SDG 13) – The quantity of biogas is measured continuously – $V_{t,db}$ The value for this monitoring period is: 91,569.11 m³CH₄ 12. Mass flow of methane in the residual biogas flared (SDG 13) – The quantity and quality of biogas is measured continuously and normalized – F_{CH_4}. Methane in the residual biogas flared The value for this monitoring period is: 61,351.30 kgCH₄/year
Findings	None
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 /40-45/.

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 – A616 of 11/09/2018 and N 259 of 29/04/2021 for calibration
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	frequency /33/ 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 and serial number 2764_19) - calibrated every six months by external company “Drager” /34/ 2. Automatic gas analyser, flow-meter system „Binder, Combimass eco basic“ (Model 022218-0620J1 S/N 642404) – Biogas flowmeter for Digester 5 (normalised), used for reference and control/crosschecking 3. Digital Electric meter (measured electricity exported / imported (combined) to the grid) - /35/. The new meter is ZQM 202C.8 with serial number 95591212, calibrated every 4 year. Last calibration date on 27/10/2020 /35/. 4. Digital Electric meter (measured electricity exported / imported (combined) to the grid) - /35/. The new meter is ZQM 202C.8 with serial number 95591181, calibrated every 4 year. Last calibration date on 23/10/2020 /43/. 5. Digital Electric meter (electricity generated by the CHP, only for internal use) – Schneider Electric PM 5560, with ser. N 600008706 6. Four inlet sludge flow to digesters (serial numbers: 000015791/X001, 000015791/X003, 000015791/X004, 000015791/X002) – there is not requirements for external calibration /33/. The information is continuously recorder in SCADA Technological /30/. 7. 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, used only for crosschecking /33/. The information is continuously recorder in SCADA Technological /30/. 8. Turbine gas meter (serial number 450345/2011) – the meter is using for cross – checking purpose 9. Four digital thermal energy meters “Kamstrup” – measured thermal energy generated by the CHPs exhaust gasses (serial numbers: 69303430, 69303431, 69303432) – EG_{thermal} – installed on 30/12/2013 with factory calibration and recalibrated in October 2020 (available calibration sticker on the device, check during the site visit). The period of calibration is 5 years /46/. One Thermal energy meters “Kamstrup” with SN 69303436 of Boiler – Period of calibration – 5 years. /46/ (available calibration sticker on the device, check during the site visit – valid up to 12/2024). 10. One digital thermal energy meters “Kamstrup” – the heat meter is installed at the delivery side of the utiliser to measure the generated useful heat, serial number 78347526. Period of calibration – 5 years. /46/ (available calibration sticker on the device, check during the site visit – valid up to 12/2024).
Findings	One CR was documented and correctly closed in this Report.
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.

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 (01/04/2023 to 31/03/2024) are presented in the MR /2/ and in the next excel sheets: “Sofiyska_Voda_monitoring_data_2023_2024” /18/ and “Sofiyska_voda_VER_Calculation_2023-2024_ver.01” /17/. All the data is also available in the used software: SCADA Energy and SCADA Technological /30/.
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	The calculations correspond to the applicable and approved methodologies: /1, 2, 5-7/. All the data have been cross – checked between the excel files and used SCADA software. The main formulas that are used are: $BE_{final,s,y} = \sum_j S_{j,BL,y} \times MCF_{s,final,BL,j} \times DOC_s \times UF_{BL} \times DOC_F \times F \times 16/12 \times GWP_{CH4}$ The baseline emissions from thermal and electricity displacement are calculated as follows: $BE_{grid,y} = EG_{grid,y} \times EF_{grid,y}$ And $BE_{thermal,CO2,y} = \left(\frac{EG_{thermal,y}}{\eta_{BL,thermal}} \right) \times EF_{FF,CO2}$ The total estimated baseline emissions are: 78,612 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 (01/04/2023 to 31/03/2024) are presented in the MR /2/ and in the next excel sheets: “Sofiyska_Voda_monitoring_data_2023_2024” /18/ and “Sofiyska_voda_VER_Calculation_2023-2024_ver.01” /17/. All the data is also available in the used software: SCADA Energy and SCADA Technological /30/. The calculations correspond to the applicable and approved methodologies: /1, 2, 5-7/. All the data have been cross – checked between the excel files and used SCADA software. The main formulas that are used are: $P_{ey} = P_{epower,y} + P_{efugitive,y} + P_{eflare}$ And $P_{epower,y} = PE_{FC,y} = FC_{j,y} \times COEF_{i,y}$ $COEF_{i,y} = NCV_{i,y} \times EFCO2_{i,y}$ For the monitored period there was no use of emergency fuel, hence $P_{epower} = 0$ P_{efugitive} are calculated as follows: The fugitive emissions through capture inefficiencies in the anaerobic sludge treatment systems in the year y will be determined as per paragraph 42 (b) of AMS-III.H: a default value of 0.05 m³ biogas leaked/m³ biogas produced will be used as an alternative. P_{eflare} are determined as follows: $FCH4,t = V_{t,db} \times VCH4,t,db \times \rho_{CH4,t}$ which is equivalent to
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	$FCH_{4,t} = V_{t,db} * wCH_{4,y} * DCH_4$ and $P_{flare} = FCH_{4,t} * GWPC_{H_4} * ((100 - \eta_{flare}) / 100)$ The total estimated project emissions are: 7,556 (tCO₂e)
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 /40-45/.

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 (01/04/2023 to 31/03/2024) are presented in the MR /2/ and in the next excel sheets: "Sofiyska_Voda_monitoring_data_2023_2024" /18/ and "Sofiyska_voda_VER_Calculation_2023-2024_ver.01" /17/. All the data is also available in the used software: SCADA Energy and SCADA Technological /30/. The calculations correspond to the applicable and approved methodologies: /1, 2, 5-7/. 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: 71,056 tCO_{2e} (12 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 01/04/2023 – 31/03/2024 (1 year) /2/, there is a 7% more ER achieved, compared to the estimated one in the registered PD /1/. The value presented in the registered PD /1/ is 66,424 tCO_{2e}. for this monitoring period (12 months) and the real achieved reduction is 71,056 tCO_{2e}. (12 months).
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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 7 % more, that is acceptable due to seasonal variation of influent wastewater.
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.8.7. 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	01/04/2023 – 31/12/2023 tCO₂e	01/01/2024 – 31/03/2024 tCO₂e	TOTAL 01/04/2023 - 31/03/2024 tCO₂e
	Baseline Emissions	61,655	16,957	78,612
	Project Emissions	6,194	1,362	7,556
	Leakage	0	0	0
	Net GHG emission reductions or removals	55,461	15,595	71,056
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 Amount of dry matter in the sludge in the year: The value for this monitoring period is: 39,060.52 t The net quantity of heat supplied by the project: The value for this monitoring period is: 91.56 TJ Electricity generated by the CHP: The value for this monitoring period is: 21,876.66 MWh Quantity of biogas generated by the anaerobic digesters: The value for this monitoring period is: 9,987,291.000 Nm³ Quantity of methane generated by the anaerobic digesters in the year: The value for this monitoring period is: 6,221,562.89 m³ Quantity of methane generated by the anaerobic digesters in the year: The value for this monitoring period is: 4,168.45 t Quantity of sludge entering the anaerobic digesters: The value for this monitoring period is: 696,684 m³ Dry substance content in the sludge in t/m³: The parameter is measured by an accredited Laboratory.
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	Methane content in biogas in the year in %: The parameter is measured continuously. Quantity of fossil fuel (naphta) used for emergency needs: The value for this monitoring period is 0 t Volumetric flow of the gaseous stream (methane) to the flares: The value for this monitoring period is 91,569.11 m³CH₄/h Mass flow of methane in the residual biogas flared: The value for this monitoring period is 61,351.30 kgCH₄/year Total ER for this verification: 71,056 tCO₂ SDG 11 – Sustainable cities and Communities Emissions of Nox in the stack flue gas. -Air Emission measurement Protocols /32, 38,39/ SDG 6 – Clean water and sanitation COD and BOD 5 of the inlet and effluent wastewater. Values for this monitoring period have been verified /31/ Quantity of waste water (sludge) treated: total of 696,684.00 m³
Findings	N/A
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 /40-45/

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 has 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 01/04/2023 – 31/03/2024 (12 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 03 of 27/02/2025 for the project activity "Methane Gas Capture and Electricity Production at Kubratovo Wastewater Treatment Plant, Sofia" in Bulgaria, for the period from 01/04/2023 – 31/03/2024 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 01/04/2023 – 31/03/2024 amount to **71,056 tCO₂e**.

GHG Emission Reductions or Removals	01/04/2023 – 31/12/2023 tCO₂e	01/01/2024 – 31/03/2024 tCO₂e	TOTAL 01/04/2023 - 31/03/2024 tCO₂e
Baseline Emissions	61,655	16,957	78,612
Project Emissions	6,194	1,362	7,556
Leakage	0	0	0
Net GHG emission reductions or removals	55,461	15,595	71,056

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



CERTIFICATO DI QUALIFICA
QUALIFICATION CERTIFICATE

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

Konstantin Dimitrov RACHEV

è qualificato come¹:
is qualified as:

TL – VAL – VER – TEC – ITR

nello schema²:
for the scheme:

GS4GG – VCS – SCS – UER – CCB - ISO14064-2

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

1.2 – 3.1 – 5.1 – 13.1

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
3.1	Energy demand	3

in accordo alle istruzioni dell'Unità responsabile (OU) per sostenibilità & cambiamenti climatici.
in accordance with the instructions of the responsible unit (OU) for the sustainability & climate change.

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	19/07/2016	-
1	20/03/2022	Update qualification as ITR
2	31/01/2024	Update to TA 3.1

Il Responsabile di schema
Scheme Manager

¹ **Legend:**

VAL: Validator
VER: Verifier
TEC: Technical Expert
TL: Team Leader
FIN-EXP: Financial Expert
REG-EXP: Regional Expert
ITR: Independent Reviewer
DET: Determiner

² **Legend:**

CDM: Clean Development Mechanism
VCS: Verified Carbon Standard
GS4GG: Gold Standard for Global Goals
SCS: SocialCarbon Standard
JI: Joint Implementation
ISO14064-2: International standard 14064 part 2
UER: Upstream Emission Reduction
CCB: The Climate, Community & Biodiversity Alliance

RINA Services S.p.A. è accreditato da UNFCCC, quale Entità Operativa Designata (DOE), per condurre la Validazione e la Verifica di Progetti CDM, da VCSA per condurre la Validazione e la Verifica di Progetti VCS, da GS Foundation, per condurre la Validazione e la Verifica di Progetti GS, da Ecologica Institute per condurre la Validazione e la Verifica di rapporti SCS.

RINA Services S.p.A. is accredited by the UNFCCC, as Designated Operational Entity (DOE), to carry out Validation and Verification of CDM Projects, by the VCSA, to carry out Validation and Verification of VCS Projects, by the GS Foundation, to carry out Validation and Verification of GS4GG Projects and by the Ecologica Institute, to carry out Validation and Verification of SCS Reports.

GHG_QUAL_CERT_EN(06-2021)

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:

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/ricosciuto 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 06 of 23/06/2021	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 30/06/2024 version 02 of 11/09/2024 version 03 of 27/02/2025	Project participant
3	Sofiyska Voda AD	Grievance Book	verification period	Others
4	Sofiyska Voda AD	Website massages and mailbox	verification period	Others
5	CDM Executive Board	Baseline and monitoring methodology AMS-III.H "Methane recovery in wastewater treatment"	version 19 of 14/06/2019	Others
6	CDM Executive Board	Baseline and monitoring methodology "AMS-I.C", "Thermal Energy Production with or without electricity"	version 2010 of 14/06/2019	Others
7	CDM Executive Board	AMS-I.F "Renewable electricity generation for captive use and mini-grid" – SS 01	ver. 3.0 of 28/11/2014	Others
8	CDM Executive Board	Validation and Verification Standard	version 1.0 of 06/03/2023	Others
9	CDM Executive Board	Methodological Tool "Tool to calculate project or leakage CO ₂ emissions from fossil combustion"	version 03 of 22/09/2017	Others
10	CDM Executive Board	Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation"	ver. 03.0 of 22/09/2017	Others
11	CDM Executive Board	Tool to determine the remaining lifetime of equipment	version 01 of 16/10/2009	Others
12	CDM Executive Board	Methodological Tool "Emissions from solid waste disposal sites"	version 08 of 04/05/2017	Others
13	CDM Executive Board	Methodological Tool "Project emissions from flaring"	version 03 of 28/03/2019	Others
14	CDM Executive Board	Methodological Tool "Project and leakage emissions from anaerobic digesters"	version 02 of 22/09/2017	Others
15	RINA	Final Validation Report	Ver. 2.0 of 29/06/2021	Others
16	Sofiyska Voda AD – LIK Laboratorien Izpitvatelen Kompleks	WWTP Laboratory Accreditation Certificate: valid up to 12/03/2022 Reaccredited – valid up to 16/08/2026	12/03/2022	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 "Sofiyska_voda_VER_Calculation_2023-2024_ver.01"	version 01 of 30/06/2024 version 02 of 27/05/2025	Project participant
18	Sofiyska Voda AD	Methane Gas Capture and Electricity Production at Kubratovo Wastewater Treatment Plant, Sofia, Bulgaria Project – monitoring data: "Sofiyska Voda monitoring_data 2023_2024"	version 01 of 30/06/2024	Project participant
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	Ministry of Environment and Water of Bulgaria	Permission for wastewater discharge into surface water N 1295 of 14/04/2014, amended as per Decision 3021 of 14/07/2020, Decision 3264 of 10/05/2021	14/04/2014 14/07/2020	Others
22	CDM Executive Board	Rules and References, Methodologies, etc	Website: https://cdm.unfccc.int/EB/index.html	Others English language
23	The Gold Standard	Principles and Requirements, Methodologies, etc.	Website: https://www.goldstandard.org/tags/gsgg	Others English language
24	Ministry of Environmental and Water	Environmental laws and requirements	Website: https://www.moev.government.bg/en/	Others English language
25	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
26	Sofiyska Voda AD	Internal Air Emission Monitoring Plan of 2019	2019	Project participant
27	TUV NORD	Certificate covering ISO 45001:2018, reissued on 03/07/2022	03/07/2022	Project participant
28	TUV NORD	Certificate covering ISO 14001:2015, reissued on 03/07/2022 Certificate covering ISO 9001:2015, reissued on 03/07/2022	03/07/2022	Project participant
29	The Gold Standard	E-mail from GS (Mrs. Annyta Luo dated 13/11/2019, concerning the transition to GS4GG Requirements	13/11/2019	Others
30	Sofiyska Voda AD	Plant monitoring records for the crediting period from the used database: Scada Technological and Scada Energy	01/04/2023 – 31/03/2024	Project participant
31	Sofiyska Voda AD	Monthly measuring data of wastewater in the inlet and outlet of the WWTP for the crediting period	01/04/2023 – 31/03/2024	Project participant
32	Accredited Laboratory "Labland"	Air Emission Protocols: Cogenerator 1: Protocol 102/17.11.2022 Cogenerator 2: Protocol 103/17.11.2022 Cogenerator 3: Protocol 104/17.11.2022	17/11/2022	Others
33	State Agency for Metrological and Technical Surveillance	Orders: A616 of 11/09/2018 for calibration frequency N 259 of 29/04/2021 for calibration frequency N 2010-291 of 18/05/2023 for calibration frequency	11/09/2018 29/04/2021 18/05/2023	Others
34	Drager	Measuring equipment AWITE Calibration protocol files dates: For SN 564: 08/11/2022; 05.05.2023; 25/10/2023 For SN 2764_19: 08/11/2022; 05.05.2023; 25.10.2023	2022 2023	Project participant
35	ESO – Bulgarian electricity System Operator	Electricity meter exchange protocol of 27/10/2020 Electricity meter exchange protocol of 23/10/2020	23/10/2020 27/10/2020	Project participant
36	MOEW	Letter of Approval N 26-00-1543 dated of 19/01/2016	19/01/2016	Project participant

	MOEW MOEW	Letter of Support (Letters from Stakeholders) Letter for providing additional information for AAUs cancelation of National Registry	17/12/2020 08/11/2021	
	Sofia Municipality	Letter of Support (Letters from Stakeholders)	0/12/2020	
	MOEW	Letter of Approval N 26-00-1478 dated of 30/03/2023 for cancelation of AAU	30/03/2023	
37	IPCC	IPCC Fifth Climate Change 2014 Synthesis Report	2014	Other
38	"Pehlivanov Engineering" Laboratory	Protocol of 06/12/2019 for own air emission measurement covering the biogas boilers (N2 and N3).	06/12/2019	Project participant
39	Accredited Laboratory "Labland"	Protocol 141 of 12/11/2021 for own air emission measurement covering the biogas boilers (N2 and N3). Protocol 174 of 30/11/2023 for own air emission measurement covering the biogas boiler N 3	12/11/2021 30/11/2023	Project participant
40	GS4GG	Validation and Verification Standard	Version 1.0 of 06/03/2023	Others
41	GS4GG	Site Visit and remote audit requirements and procedures	Version 2.0 of 30/05/2023	Others
42	GS4GG	Audit techniques	Version 1.0 of 16/11/2021	Others
43	GS4GG	VALIDATION & VERIFICATION BODY REQUIREMENTS	Ver. 2.0 of 14/01/2021	Others
44	GS4GG	GS4GG Transition Annex	09/03/2020	Others
45	GS4GG	GS4GG MR Template	Ver. 1.1 of 14/10/2020	Others
46	Laboratory AC Boyana AD	Digital thermal energy meter Calibration Certificates: Calibration Certificate N79608/2020 of 21/10/2020 (ser.N 69303430) and previous Protocol of 23/05/2017 (5 years period of calibration). Calibration Certificate N79607/2020 of 21/10/2020 (ser.N 69303431) and previous Protocol of 23/05/2017 (5 years period of calibration). Calibration Certificate N79606/2020 of 21/10/2020 (ser.N 69303432) and previous Protocol of 23/05/2017 (5 years period of calibration). Calibration Certificate N20-10-15- 01/26.10.2020 (ser.N 69303436) and previous Protocol of 23/05/2017 (5 years period of calibration).	23/05/2017 10/2020	Others
47	Sofiyska Voda AD	https://www.sofiyskavoda.bg/en/about-us/gold- standard Available in Bulgarian and English	Retrieve on 10/09/2024	PP
48	GS4GG	Deviation Request	26/04/2023.	Other
49	VCS Website	https://registry.terra.org/app/search/VCS/All%2 0Projects	17/03/2025	Other
50	GCC Website	https://projects.globalcarboncouncil.com/pages/ submitted_projects https://projects.globalcarboncouncil.com/p ages/approved_projects	17/03/2025	Other

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

FAR ID		Section no.		Date: DD/MM/YYYY
Description of FAR				
None				
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	1	Section no.	E.7	Date: 10/09/2024
Description of CR				
Function of quoted gas meters in table 2 of MR are not well described.				
Project participant response				Date : 11/09/2024
Table 2: List of measuring equipment has been revised to clearly describe the function of the gas meters.				
Documentation provided by project participant				
Revised MR, ver.02, dated 11/09/2024				
VVB assessment				Date: 12/09/2024
Revised MR, ver.02, dated 11/09/2024, complied with the actual situation.				

Table 3. CAR from this verification

CAR ID		Section no.		Date:
Description of CAR				
None				
Project participant response				Date:
Documentation provided by project participant				
VVB assessment				
Date:				

Table 2. FAR from this verification

FAR ID		Section no.		Date:
Description of FAR				
None				
Project participant response				Date: DD/MM/YYYY
Documentation provided by project participant				
VVB assessment				
Date: DD/MM/YYYY				

Document information

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