

Checklist for calculating Sequestered Carbon (SOC) in Soil from Removed Greenhouse Gas Carbon Dioxide (CO₂) Emissions

1	Project:	CCB6 - 00003-AGR:CarbonSAFE carbon farming project - South Region - CCB6-BS-5	
2	Project code:	CCB6-BS-5	
3	Project start date (dd/mm/yyyy):	17.12.2023	
4	Project Monitoring period beginning (dd/mm/yyyy):	23.03.2024	
5	Project Monitoring period end (dd/mm/yyyy):	15.05.2025	
6	Farm beginning soil sampling date for reporting period (dd/mm/yyyy):	31.10.2023	BASE Retrospective data
7	Farm soil sampling end date for reporting period (dd/mm/yyyy):	25.03.2025	K1 In period
8	Farm contract date (dd/mm/yyyy):	2.10.2023	
9	Farmer (Legal Entity):	AGROLANO 7 FOOD	
10	UK:	201895222	

1	Gross amount of removed GHG emissions carbon dioxide (CO ₂ [tote f])	13 404	
2	Uncertainty deduction (¹ 20,70 % of Gross amount of removed GHG emissions carbon dioxide (CO ₂ eq))	2 775	20,70%
3	N ₂ O emissions from mineral fertilizers (t CO ₂ eq)	0	
4	Total fuel consumption CO ₂ equivalent [tote f]	88	
5	Emissions from leakage (t CO ₂ eq)	0	
6	Adjustments to reduce removals from GHG (t CO ₂ eq)	0	
7	Net amount of GHG removed carbon dioxide (t CO ₂ eq)	10 541	
8	Buffer contribution amount (5% of credits):	527	5,00%

Total cells
14
Cells +
8
Cells -
6
C t/ha
11,26
credits/ha

Cell data					BASE YEAR data										1st CONTROL YEAR data										Calculations				Fuel emission footprint from production equipment 1st CONTROL YEAR				new		new	
No	Contract date (dd/mm/yyyy)	Contract No	ERP Farm ID*	KATTE on land	Longitude	Latitude	Plot name	ERP cell ID	Depth	Area (note 1)	Crop	Date of sampling	Date of acceptance in laboratory	LAB No	Measured organic carbon (OC)	Area (note 1)	Crop	Date of sampling	Date of acceptance in Laboratory	LAB No	Bulk density (note 1)	Soil quantity	Measured organic carbon (OC)	Difference in organic carbon (OC)	Content (OC)	Total content (OC) in the soil	Gross amount of removed greenhouse gas emissions Carbon dioxide CO2	Average fuel consumption (note 3)	Total fuel consumption per cell	Total fuel consumption CO2 equivalent	Removed emissions of greenhouse gas Carbon dioxide CO2	ERP ID	Difference between sampling dates expressed in months (< 10 m=14 m=1)			
									cm	ERP ha					mg/kg	ERP ha						g/cm3	ton	mg/kg	mg/kg	g/ha	ton	ton	ton/ha	ton	ton	ton				
1	2.10.2023	СВРG-3456-23/28-AGRI-0003	0000000004	40124	27.49925913	42.30302023	Насево 40124-8-7-1	002126570314	0-30	25,66	soft wheat	9.2.2024	23.02.2024	iso-57-1	13900	25,66	cornflower	25.3.2023	30.03.2025	iso-147-1	1,51	136.739,80	13547	0,002	193,46									002126570314	13	
2	2.10.2023	СВРG-3456-23/28-AGRI-0003	0000000004	40124	27.49925913	42.30302023	Насево 40124-8-7-1	002126570314	30-60	25,66	soft wheat	9.2.2024	23.02.2024	iso-57-2	7420	25,66	cornflower	25.3.2023	30.03.2025	iso-147-2	1,52	137.009,60	9052	0,002	190,96	598	2.151	0,0766	1,9566	6,7222	2.184			002126570314	13	
3	2.10.2023	СВРG-3456-23/28-AGRI-0003	0000000004	40124	27.49925913	42.30302023	Насево 40124-8-7-1	002126570314	60-90	25,66	soft wheat	9.2.2024	23.02.2024	iso-57-3	1548	25,66	cornflower	25.3.2023	30.03.2025	iso-147-3	1,74	133.946,30	7186	0,002	215,12									002126570314	13	
4	2.10.2023	СВРG-3456-23/28-AGRI-0003	0000000004	61042	27.66466518	42.39545191	Побережье 61042-273-1-2	002126570314	0-30	25,67	winter barley	6.11.2023	17.11.2023	iso-49-1	12110	25,67	soft wheat - winter	26.9.2024	30.09.2024	iso-89-4	1,71	131.881,00	15130	0,002	449,05									002126570314	10	
5	2.10.2023	СВРG-3456-23/28-AGRI-0003	0000000004	61042	27.66466518	42.39545191	Побережье 61042-273-1-2	002126570314	30-60	25,67	winter barley	6.11.2023	17.11.2023	iso-49-2	10070	25,67	soft wheat - winter	25.9.2024	30.09.2024	iso-89-5	1,65	127.956,50	994	0,002	-15,76	1.058	3.880	0,0766	1,9663	6,7248	3.873			002126570314	10	
6	2.10.2023	СВРG-3456-23/28-AGRI-0003	0000000004	61042	27.66466518	42.39545191	Побережье 61042-273-1-2	002126570314	60-90	25,67	winter barley	6.11.2023	17.11.2023	iso-49-3	6800	25,67	soft wheat - winter	25.9.2024	30.09.2024	iso-89-6	1,78	137.077,80	11388	0,002	624,80									002126570314	10	
7	2.10.2023	СВРG-3456-23/28-AGRI-0003	0000000004	61042	27.66466518	42.39545191	Побережье 61042-273-1-2	002126570314	0-30	25,64	winter barley	6.11.2023	17.11.2023	iso-49-4	10660	25,64	soft wheat - winter	25.9.2024	30.09.2024	iso-89-1	1,71	131.583,30	15154	0,004	584,53									004126570314	10	
8	2.10.2023	СВРG-3456-23/28-AGRI-0003	0000000004	61042	27.66466518	42.39545191	Побережье 61042-273-1-2	002126570314	30-60	25,64	winter barley	6.11.2023	17.11.2023	iso-49-5	9980	25,64	soft wheat - winter	25.9.2024	30.09.2024	iso-89-2	1,65	126.918,00	11021	0,001	132,12	739	2.710	0,0766	1,9640	6,7170	2.704			004126570314	10	
9	2.10.2023	СВРG-3456-23/28-AGRI-0003	0000000004	61042	27.66466518	42.39545191	Побережье 61042-273-1-2	002126570314	60-90	25,64	winter barley	6.11.2023	17.11.2023	iso-49-6	5490	25,64	soft wheat - winter	25.9.2024	30.09.2024	iso-89-3	1,78	136.917,40	1064	0,002	22,46									004126570314	10	
10	2.10.2023	СВРG-3456-23/28-AGRI-0003	0000000004	61042	27.66939262	42.40631585	Гран 680 паша 61042-234-2-5	005126570314	0-30	20,68	grain maize	6.11.2023	17.11.2023	iso-49-10	10330	20,68	soft wheat - winter	12.10.2024	13.10.2024	iso-98-4	1,71	106.086,40	11283	0,003	313,07									005126570314	11	
11	2.10.2023	СВРG-3456-23/28-AGRI-0003	0000000004	61042	27.66939262	42.40631585	Гран 680 паша 61042-234-2-5	005126570314	30-60	20,68	grain maize	6.11.2023	17.11.2023	iso-49-11	9850	20,68	soft wheat - winter	12.10.2024	13.10.2024	iso-98-5	1,65	102.366,00	6536	-0,003	-339,24	-174	637	0,0766	1,5841	5,4176	-642			005126570314	11	
12	2.10.2023	СВРG-3456-23/28-AGRI-0003	0000000004	61042	27.66939262	42.40631585	Гран 680 паша 61042-234-2-5	005126570314	60-90	20,68	grain maize	6.11.2023	17.11.2023	iso-49-12	6960	20,68	soft wheat - winter	12.10.2024	13.10.2024	iso-98-6	1,78	110.431,20	1624	-0,002	-147,54									005126570314	11	
13	2.10.2023	СВРG-3456-23/28-AGRI-0003	0000000004	61042	27.65289068	42.40112806	Гран 680 паша 61042-234-2-5	006126570314	0-30	21,39	grain maize	6.11.2023	17.11.2023	iso-49-7	11390	21,39	soft wheat - winter	12.10.2024	13.10.2024	iso-98-1	1,71	109.780,70	17121	0,004	400,41									006126570314	11	
14	2.10.2023	СВРG-3456-23/28-AGRI-0003	0000000004	61042	27.65289068	42.40112806	Гран 680 паша 61042-234-2-5	006126570314	30-60	21,39	grain maize	6.11.2023	17.11.2023	iso-49-8	10000	21,39	soft wheat - winter	12.10.2024	13.10.2024	iso-98-2	1,65	105.880,50	8390	-0,002	-266,76	-184	475	0,0766	1,6385	5,6036	-681			006126570314	11	
15	2.10.2023	СВРG-3456-23/28-AGRI-0003	0000000004	61042	27.65289068	42.40112806	Гран 680 паша 61042-234-2-5	006126570314	60-90	21,39	grain maize	6.11.2023	17.11.2023	iso-49-9	8010	21,39	soft wheat - winter	12.10.2024	13.10.2024	iso-98-3	1,78	114.222,60	1540	-0,003	-327,82									006126570314	11	
16	2.10.2023	СВРG-3456-23/28-AGRI-0003	0000000004	61042	27.64661263	42.40214232	Гран 680 паша 61042-234-2-5	007126570314	0-30	22,00	grain maize	6.11.2023	17.11.2023	iso-49-13	9810	22,00	soft wheat - winter	12.10.2024	13.10.2024	iso-98-7	1,71	112.800,00	14666	0,005	548,05									007126570314	11	
17	2.10.2023	СВРG-3456-23/28-AGRI-0003	0000000004	61042	27.64661263	42.40214232	Гран 680 паша 61042-234-2-5	007126570314	30-60	22,00	grain maize	6.11.2023	17.11.2023	iso-49-14	10410	22,00	soft wheat - winter	12.10.2024	13.10.2024	iso-98-8	1,65	108.900,00	7643	-0,003	-301,54	40	148	0,0766	1,6852	5,7634	142			007126570314	11	
18	2.10.2023	СВРG-3456-23/28-AGRI-0003	0000000004	61042	27.64661263	42.40214232	Гран 680 паша 61042-234-2-5	007126570314	60-90	22,00	grain maize	6.11.2023	17.11.2023	iso-49-15	6740	22,00	soft wheat - winter	12.10.2024	13.10.2024	iso-98-9	1,78	117.480,00	4985	-0,002	-206,18									007126570314	11	
19	2.10.2023	СВРG-3456-23/28-AGRI-0003	0000000004	51219	27.55024189	42.31583544	Общественный 51219-261-1-2	008126570314	0-30	16,34	grain maize	1.11.2023	17.11.2023	iso-41-16	19800	16,34	soft wheat - winter	26.9.2024	30.09.2024	iso-89-28	1,46	71.568,30	22566	0,003	204,40									008126570314	10	
20	2.10.2023	СВРG-3456-23/28-AGRI-0003	0000000004	51219	27.55024189	42.31583544	Общественный 51219-261-1-2	008126570314	30-60	16,34	grain maize	1.11.2023	17.11.2023	iso-41-17	12870	16,34	soft wheat - winter	26.9.2024	30.09.2024	iso-89-29	1,39	68.129,80	17703	0,000	-11,38	-148	541	0,0766	1,7516	4,2806	-546			008126570314	10	
21	2.10.2023	СВРG-3456-23/28-AGRI-0003	0000000004	51219	27.55024189	42.31583544	Общественный 51219-261-1-2	008126570314	60-90	16,34	grain maize	1.11.2023	17.11.2023	iso-41-18	13390	16,34	soft wheat - winter	26.9.2024	30.09.2024	iso-89-30	1,46	71.568,30	8630	-0,003	-340,67									008126570314	10	
22	2.10.2023	СВРG-3456-23/28-AGRI-0003	0000000004	51219	27.54517779	42.31510141	Общественный 51219-261-1-2	009126570314	0-30	23,85	grain maize	1.11.2023	17.11.2023	iso-41-19	22010	23,85	soft wheat - winter	26.9.2024	30.09.2024	iso-89-25	1,46	104.683,00	23996	0,002	207,46									009126570314	10	
23	2.10.2023	СВРG-3456-23/28-AGRI-0003	0000000004	51219	27.54517779	42.31510141	Общественный 51219-261-1-2	009126570314	30-60	23,85	grain maize	1.11.2023	17.11.2023	iso-41-20	18020	23,85	soft wheat - winter	26.9.2024	30.09.2024	iso-89-26	1,39	99.454,50	18832	0,001	80,76	-24	88	0,0814	1,9414	6,6396	-95			009126570314	10	
24	2.10.2023	СВРG-3456-23/28-AGRI-0003	0000000004	51219	27.54517779	42.31510141	Общественный 51219-261-1-2	009126570314	60-90	23,85	grain maize	1.11.2023	17.11.2023	iso-41-21	12150	23,85	soft wheat - winter	26.9.2024	30.09.2024	iso-89-27	1,46	104.683,00	1060	-0,003	-312,34									009126570314	10	
25	2.10.2023	СВРG-3456-23/28-AGRI-0003	0000000004	40124	27.47678182	42.25383157	Пш-2.3 40124-40-1-4	010126570314	0-30	25,35	soft wheat	31.10.2023	17.11.2023	iso-41-4	12230	25,35	barley	26.9.2024	30.09.2024	iso-89-13	1,51	114.835,50	13752	0,002	174,78									010126570314	10	
26	2.10.2023	СВРG-3456-23/28-AGRI-0003	0000000004	40124	27.47678182	42.25383157	Пш-2.3 40124-40-1-4	010126570314	30-60	25,35	soft wheat	31.10.2023	17.11.2023	iso-41-5	1360	25,35	barley	26.9.2024	30.09.2024	iso-89-14	1,52	115.960,00	6315	0,000	-5,20	46	169	0,0814	2,0635	7,0571	162			010126570314	10	
27	2.10.2023	СВРG-3456-23/28-AGRI-0003	0000000004	40124	27.47678182	42.25383157	Пш-2.3 40124-40-1-4	010126570314	60-90	25,35	soft wheat	31.10.2023	17.11.2023	iso-41-6	4740	25,35	barley	26.9.2024	30.09.2024	iso-89-15	1,74	132.327,00	3066	-0,001	-123,59									010126570314	10	
28	2.10.2023	СВРG-3456-23/28-AGRI-0003	0000000004	40124	27.47356315	42.25861129	Пш-2.3 40124-40-1-4	011126570314	0-30	23,24	soft wheat	31.10.2023	17.11.2023	iso-41-1	11630	23,24	barley	26.9.2024	30.09.2024	iso-89-10	1,51	105.277,20	9943	-0,002	-177,60									011126570314	10	
29	2.10.2023	СВРG-3456-23/28-AGRI-0003	0000000004	40124	27.47356315	42.25861129	Пш-2.3 40124-40-1-4	011126570314	30-60	23,24	soft wheat	31.10.2023	17.11.2023	iso-41-2	8400	23,24	barley	26.9.2024	30.09.2024	iso-89-11	1,52	105.974,40	7431	-0,001	-102,69	-149										

Note:

⁽¹⁾ In case of area reduction, calculations are made on the basis of current hectares.

⁽²⁾ The volumetric density is examined once, during the first control year, and is used for calculation until the end of the monitoring period.

⁽³⁾ Clarification:

1x CONTROL YEAR () BASE YEAR apply to all cell

⁽⁴⁾ 1 t sequestered organic carbon (OC) in the soil (+) 3.667 t removed carbon dioxide (CO2) from the atmosphere in the soil (+) 3.667 carbon credits. (See Methodology).

⁽⁵⁾ Average fuel consumption (km/h) is calculated according to the "METHODS-2017" of the MTHP.

⁽⁶⁾ 1 of diesel is equal to 36 MJ (Ordinance No. 11-18 of August 8, 2016). 1MJ is equivalent to 95.1 g CO2 (Methodology for determining the intensity of greenhouse gas emissions from the entire life cycle of fuels and energy of non-biological origin in transport). Therefore 36 * 95.1 / 1000 = 3.42 (See Methodology).

⁽⁷⁾ 1 t removed carbon dioxide (CO2) from the atmosphere (+) 0.27248 t sequestered organic carbon (OC) in the soil (+) 1 carbon credit. (See Methodology).

* equal to ISAC02 ID 52491

⁽⁸⁾ Sources of uncertainty = 30.7 %

1. Sampling 15 % Sampling uncertainty is estimated using the RANOVA 3 approach based on Analysis of Variance (ANOVA). The total variability is partitioned into between-sample and within-sample variance components. The between-sample variance represents the sampling effect, which is then used to quantify the sampling

2. Organic carbon analysis 8.4 % and 3. Bulk density analysis 10.3 %

Uncertainty for organic carbon and bulk density is estimated by combining precision, recovery, and bias components. The mean (average) and standard deviation are first calculated to describe repeatability. Relative standard uncertainty, u(x) (%), is derived from the standard deviation.

Recovery (yield, %), is used to assess method performance, and bias (%) is calculated as the deviation from the reference value. The standard uncertainty of bias (S bias) is determined from replicate measurements.

The combined bias uncertainty is then calculated as:

$U_{bias} = \sqrt{u_{bias}^2 + u_{rec}^2 + u_{cm}^2 + u_{ref}^2}$

where U_{cm} represents the uncertainty of the reference or certified material.

Finally, the combined standard uncertainty (U) is expanded using a coverage factor k = 2 to obtain the expanded uncertainty, corresponding to approximately 95% confidence.

4. Software (Google Earth) 5 % Google Earth does not provide a formally specified measurement uncertainty. Published studies indicate positional accuracy on the order of tens of meters (e.g., ~50 m RMSE globally). Therefore, uncertainty associated with spatial measurements is estimated based on literature values and the scale of the measured features.

	Name	Code	Date
Prepared:	D. KIROVA	DK0722CS	10.6.2025
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