

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

1	Project:	BCCN-6-00002-AGRI CarbonSAFE carbon farming project - South Bulgaria - CSRG-BG-5	
2	Project code:	CSRG-BG-5	
3	Project start date (dd/mm/yyyy):	17.1.2023	
4	Project Monitoring period beginning (dd/mm/yyyy):	23.3.2024	
5	Project Monitoring period end (dd/mm/yyyy):	15.5.2025	
6	Farm beginning soil sampling date for reporting period (dd/mm/yyyy):	11.10.2023 BASE	Retrospective date
7	Farm soil sampling end date for reporting period (dd/mm/yyyy):	9.9.2024 #1	In period
8	Farm contract date (dd/mm/yyyy):	26.9.2023	
9	Farmer (Legal Entity):	INSKETA 2000 OOD	
10	UIC:	128059984	

1	Gross amount of removed GHG emissions carbon dioxide CO ₂ (note 4)	28 473	
2	Uncertainty deduction (¹ 20.76 % of Gross amount of removed GHG emissions carbon dioxide 1 CO ₂ eq)	5 894	20.76%
3	N ₂ O emissions from mineral fertilisers (1 CO ₂ eq)	0	
4	Total fuel consumption CO ₂ equivalent (note 4)	90	
5	Emissions from leakage (1 CO ₂ eq)	0	
6	Adjustments to reduce removals from GHG (1 CO ₂ eq)	0	
7	Net amount of GHG removed carbon dioxide (1 CO ₂ eq)	22 489	
8	Buffer contribution amount (5% of credits):	1 124	5.00%

Total cells

19

Cells +

16

Cells -

3

C t/ha

22.85

credits/ha

22.85

credits/ha

22.85

credits/ha

22.85

Call data										BASE YEAR data										1st CONTROL YEAR data										Calculations 1st CONTROL YEAR (= BASE YEAR (note 3))										Fuel emission footprint from production equipment 1st CONTROL YEAR		BA		new	new
No	Contract date (dd/mm/yyyy)	Contract No	ERP farm ID*	EXATTE on land	Longitude	Latitude	Plot name	ERP call 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 2)	Soil quantity	Measured organic carbon (OC)	Difference in organic carbon (OC)	Content (OC) in soil	Total content (OC) in the soil	Gross amount of removed greenhouse gas emissions Carbon dioxide CO ₂ (note 4)	Average fuel consumption (note 5)	Total fuel consumption per cell	Total fuel consumption CO2 equivalent	Removed emissions of greenhouse gas carbon dioxide CO ₂ after fuel emission	ERP ID	Difference between sampling dates expressed in months (x=10 or x=6 m=3)												
									cm	ERP ha					mg/kg	ERP ha						g/cm3	ton	mg/kg	mg/kg	g/ton	ton	ton	ton/ha	ton/ha	ton	ton			BASE*Y1										
										339.75						339.75										7 764.84	28 473.67	26.15	89.43	26 384															
1	20.9.2023	CSRG-3458-20237-AGRI-0013	0000000009	32576	26.53551122	42.19962194	Борчун-32576	002125285829	0-30	25.70	soft wheat - winter	13.10.2023	36.10.2023	iso-34-43	16740	25.70	repeated	21.8.2024	22.8.2024	iso-77-19	1.13	87 123.00	18093	0.001	117.88		-3	-11	0.766	1.9486	6.7327	-18	002125285829	30											
2	20.9.2023	CSRG-3458-20237-AGRI-0013	0000000009	32576	26.53551122	42.19962194	Борчун-32576	002125285829	30-60	25.70	soft wheat - winter	13.10.2023	36.10.2023	iso-34-44	14100	25.70	repeated	21.8.2024	22.8.2024	iso-77-20	1.16	89 436.00	14764	0.001	59.39									002125285829	30										
3	20.9.2023	CSRG-3458-20237-AGRI-0013	0000000009	32576	26.53551122	42.19962194	Борчун-32576	002125285829	60-90	25.70	soft wheat - winter	13.10.2023	36.10.2023	iso-34-45	11870	25.70	repeated	21.8.2024	22.8.2024	iso-77-21	1.12	86 952.00	9781	-0.002	-180.39									002125285829	30										
4	20.9.2023	CSRG-3458-20237-AGRI-0013	0000000009	32576	26.53996630	42.19893848	Борчун-32576	002125285829	0-30	21.69	soft wheat - winter	13.10.2023	36.10.2023	iso-34-40	14970	21.69	repeated	21.8.2024	22.8.2024	iso-77-16	1.13	79 528.30	17751	0.002	376.54									002125285829	30										
5	20.9.2023	CSRG-3458-20237-AGRI-0013	0000000009	32576	26.53996630	42.19893848	Борчун-32576	002125285829	30-60	21.69	soft wheat - winter	13.10.2023	36.10.2023	iso-34-41	11680	21.69	repeated	21.8.2024	22.8.2024	iso-77-17	1.16	79 443.30	16549	0.006	367.53	621	2 278	0.0814	1.7656	6.0382	2 272	002125285829	30												
6	20.9.2023	CSRG-3458-20237-AGRI-0013	0000000009	32576	26.53996630	42.19893848	Борчун-32576	002125285829	60-90	21.69	soft wheat - winter	13.10.2023	36.10.2023	iso-34-42	10620	21.69	repeated	21.8.2024	22.8.2024	iso-77-18	1.12	72 878.40	15477	0.004	77.09									002125285829	30										
7	20.9.2023	CSRG-3458-20237-AGRI-0013	0000000009	46797	26.61892499	42.127924	Долна Корчуна-46797	004125285829	0-30	20.16	sunflower	11.10.2023	36.10.2023	iso-34-7	13180	20.16	soft wheat - winter	9.9.2024	10.09.2024	iso-80-4	1.46	88 300.80	18503	0.005	442.65									004125285829	30										
8	20.9.2023	CSRG-3458-20237-AGRI-0013	0000000009	46797	26.61892499	42.127924	Долна Корчуна-46797	004125285829	30-60	20.16	sunflower	11.10.2023	36.10.2023	iso-34-8	12020	20.16	soft wheat - winter	9.9.2024	10.09.2024	iso-80-5	1.58	95 558.40	15457	0.003	328.43	781	2 864	0.0814	1.6410	5.6123	2 818	004125285829	30												
9	20.9.2023	CSRG-3458-20237-AGRI-0013	0000000009	46797	26.61892499	42.127924	Долна Корчуна-46797	004125285829	60-90	20.16	sunflower	11.10.2023	36.10.2023	iso-34-9	11520	20.16	soft wheat - winter	9.9.2024	10.09.2024	iso-80-6	1.60	96 768.00	13022	0.000	9.87									004125285829	30										
10	20.9.2023	CSRG-3458-20237-AGRI-0013	0000000009	46797	26.61300499	42.12734028	Долна Корчуна-46797	005125285829	0-30	19.03	sunflower	11.10.2023	36.10.2023	iso-34-4	13400	19.03	soft wheat - winter	9.9.2024	10.09.2024	iso-80-1	1.46	83 351.40	16078	0.003	279.23									005125285829	30										
11	20.9.2023	CSRG-3458-20237-AGRI-0013	0000000009	46797	26.61300499	42.12734028	Долна Корчуна-46797	005125285829	30-60	19.03	sunflower	11.10.2023	36.10.2023	iso-34-5	12780	19.03	soft wheat - winter	9.9.2024	10.09.2024	iso-80-2	1.58	90 202.20	14629	0.003	306.60	741	2 718	0.0600	1.3131	4.4907	2 714	005125285829	30												
12	20.9.2023	CSRG-3458-20237-AGRI-0013	0000000009	46797	26.61300499	42.12734028	Долна Корчуна-46797	005125285829	60-90	19.03	sunflower	11.10.2023	36.10.2023	iso-34-6	9600	19.03	soft wheat - winter	9.9.2024	10.09.2024	iso-80-3	1.60	91 344.00	11108	0.002	565.50									005125285829	30										
13	20.9.2023	CSRG-3458-20237-AGRI-0013	0000000009	27382	26.54483638	42.1430482	Балчино-27382	006125285829	0-30	11.81	soft wheat - winter	12.10.2023	36.10.2023	iso-34-19	13330	11.81	sunflower	21.8.2024	22.8.2024	iso-77-31	1.48	52 436.40	15000	0.001	77.08									006125285829	30										
14	20.9.2023	CSRG-3458-20237-AGRI-0013	0000000009	27382	26.54483638	42.1430482	Балчино-27382	006125285829	30-60	11.81	soft wheat - winter	12.10.2023	36.10.2023	iso-34-20	10740	11.81	sunflower	21.8.2024	22.8.2024	iso-77-32	1.55	54 956.50	11719	0.001	53.76	140	513	0.766	0.9046	3.0939	510	006125285829	30												
15	20.9.2023	CSRG-3458-20237-AGRI-0013	0000000009	27382	26.54483638	42.1430482	Балчино-27382	006125285829	60-90	11.81	soft wheat - winter	12.10.2023	36.10.2023	iso-34-21	7790	11.81	sunflower	21.8.2024	22.8.2024	iso-77-33	1.99	56 333.70	7952	0.000	9.13									006125285829	30										
16	20.9.2023	CSRG-3458-20237-AGRI-0013	0000000009	27382	26.54688907	42.14048318	Балчино-27382	007125285829	0-30	16.44	soft wheat - winter	12.10.2023	36.10.2023	iso-34-16	13760	16.44	sunflower	21.8.2024	22.8.2024	iso-77-28	1.48	72 993.60	15720	0.002	113.83									007125285829	30										
17	20.9.2023	CSRG-3458-20237-AGRI-0013	0000000009	27382	26.54688907	42.14048318	Балчино-27382	007125285829	30-60	16.44	soft wheat - winter	12.10.2023	36.10.2023	iso-34-17	13770	16.44	sunflower	21.8.2024	22.8.2024	iso-77-29	1.55	76 446.00	15292	0.001	41.66	-226	-829	0.766	1.1993	4.3068	-833	007125285829	30												
18	20.9.2023	CSRG-3458-20237-AGRI-0013	0000000009	27382	26.54688907	42.14048318	Балчино-27382	007125285829	60-90	16.44	soft wheat - winter	12.10.2023	36.10.2023	iso-34-18	14050	16.44	sunflower	21.8.2024	22.8.2024	iso-77-30	1.59	78 418.80	7674	-0.004	-296.11									007125285829	30										
19	20.9.2023	CSRG-3458-20237-AGRI-0013	0000000009	81121	26.59593323	42.11149929	Гаденковское п-т-81121	008125285829	0-30	11.14	barley	13.10.2023	36.10.2023	iso-34-46	15340	11.14	sunflower	19.8.2024	22.8.2024	iso-77-10	1.64	54 808.80	22262	0.007	379.39									008125285829	30										
20	20.9.2023	CSRG-3458-20237-AGRI-0013	0000000009	81121	26.59593323	42.11149929	Гаденковское п-т-81121	008125285829	30-60	11.14	barley	13.10.2023	36.10.2023	iso-34-47	11730	11.14	sunflower	19.8.2024	22.8.2024	iso-77-11	1.65	55 143.00	18175	0.006	355.40	838	3 072	0.766	0.8533	2.9184	3 069	008125285829	30												
21	20.9.2023	CSRG-3458-20237-AGRI-0013	0000000009	81121	26.59593323	42.11149929	Гаденковское п-т-81121	008125285829	60-90	11.14	barley	13.10.2023	36.10.2023	iso-34-48	10340	11.14	sunflower	19.8.2024	22.8.2024	iso-77-12	1.79	59 821.80	12063	0.002	103.07									008125285829	30										
22	20.9.2023	CSRG-3458-20237-AGRI-0013	0000000009	27382	26.55370988	42.14349709	Варгел-срмня-27382	009125285829	0-30	16.91	soft wheat - winter	12.10.2023	36.10.2023	iso-34-10	14580	16.91	sunflower	21.8.2024	22.8.2024	iso-77-34	1.48	75 080.40	15110	0.001	41.44									009125285829	30										
23	20.9.2023	CSRG-3458-20237-AGRI-0013	0000000009	27382	26.55370988	42.14349709	Варгел-срмня-27382	009125285829	30-60	16.91	soft wheat - winter	12.10.2023	36.10.2023	iso-34-11	17620	16.91	sunflower	21.8.2024	22.8.2024	iso-77-35	1.55	78 633.50	12566	-0.005	-386.36	-320	-1 173	0.0814	1.3765	4.7075	-1 177	009125285829	30												
24	20.9.2023	CSRG-3458-20237-AGRI-0013	0000000009	27382	26.55370988	42.14349709	Варгел-срмня-27382	009125285829	60-90	16.91	soft wheat - winter	12.10.2023	36.10.2023	iso-34-12	15160	16.91	sunflower	21.8.2024	22.8.2024	iso-77-36	1.59	80 660.70	10693	0.000	34.13									009125285829	30										
25	20.9.2023	CSRG-3458-20237-AGRI-0013	0000000009	27382	26.5506222	42.15027977	Варгел-срмня-27382	010125285829	0-30	17.89	soft wheat - winter	12.10.2023	36.10.2023	iso-34-13	14710	17.89	sunflower	21.8.2024	22.8.2024	iso-77-37	1.48	79 451.40	10680	0.004	281.96									010125285829	30										
26	20.9.2023	CSRG-3458-20237-AGRI-0013	0000000009	27382	26.5506222	42.15027977	Варгел-срмня-27382	010125285829	30-60	17.89	soft wheat - winter	12.10.2023	36.10.2023	iso-34-14	14140	17.89	sunflower	21.8.2024	22.8.2024	iso-77-38	1.93	85 188.50	15963	0.002	251.65	420	1 504	0.0814	1.4562	4.9804	1 499	010125285829	30												
27	20.9.2023	CSRG-3458-20237-AGRI-0013	0000000009	27382	26.5506222	42.15027977	Варгел-срмня-27382	010125285829	60-90	17.89	soft wheat - winter	12.10.2023	36.10.2023	iso-34-15	14340	17.89	sunflower	21.8.2024	22.8.2024	iso-77-39	1.99	85 395.30	11159	0.000	-21.47									010125285829	30										
28	20.9.2023	CSRG-3458-20237-AGRI-0013	0000000009	46797	26.60496155	42.14286702	Стрелана-46797	011125285829	0-30	17.84	coriander	11.10.2023	36.10.2023	iso-34-1	14140	17.84	soft wheat - winter	20.8.2024	22.8.2024	iso-77-13	1.48	78 139.30	15811	0.002	122.76									011125285829	30										
29	20.9.2023	CSRG-3458-20237-AGRI-0013	0000000009	46797	26.60496155	42.14286702	Стрелана-46797	011125285829	30-60	17.84	coriander	11.10.2023	36.10.2023	iso-34-2	14140	17.84	soft wheat - winter	20.8.2024	22.8.2024	iso-77-14	1.58	84 561.60	15798	0.004	365.98	449	1 647	0.0814	1.4522	4.9664	1 642	011125285829	30												
30	20.9.2023																																												

42	20.9.2023	C8MG-34SE-22/27-AGM-0013	0000000009	27382	26.54221734	42.13691302	Тарувае-27382	015125285829	60-90	13.53	soft wheat - winter	12.10.2023	36.10.2023	isa-34-24	11800	13.53	sunflower	21.8.2024	22.8.2024	isa-77-24	1.59	64 538.10	11018	0.000	29.56							015125285829	10
43	20.9.2023	C8MG-34SE-22/27-AGM-0013	0000000009	27382	26.59983563	42.16138248	Тарувае-27382	016125285829	0-30	15.64	coriander	12.10.2023	36.10.2023	isa-34-37	11540	15.64	soft wheat - winter	21.8.2024	22.8.2024	isa-77-40	1.48	69 441.60	14424	0.001	200.27							016125285829	10
44	20.9.2023	C8MG-34SE-22/27-AGM-0013	0000000009	27382	26.59983563	42.16138248	Тарувае-27382	016125285829	30-60	15.64	coriander	12.10.2023	36.10.2023	isa-34-38	11870	15.64	soft wheat - winter	21.8.2024	22.8.2024	isa-77-41	1.55	72 726.00	11006	0.000	2.62	34	123	0.0766	1.1980	4.0972	119	016125285829	10
45	20.9.2023	C8MG-34SE-22/27-AGM-0013	0000000009	27382	26.59983563	42.16138248	Тарувае-27382	016125285829	60-90	15.64	coriander	12.10.2023	36.10.2023	isa-34-39	11230	15.64	soft wheat - winter	21.8.2024	22.8.2024	isa-77-42	1.59	74 602.80	8940	-0.002	-169.35							016125285829	10
46	20.9.2023	C8MG-34SE-22/27-AGM-0013	0000000009	27382	26.56197132	42.13936236	Сунтрав-27382	017125285829	0-30	18.98	sunflower	12.10.2023	36.10.2023	isa-34-34	16580	18.98	soft wheat - winter	9.9.2024	10.09.2024	isa-80-13	1.48	84 271.20	18477	0.002	159.86							017125285829	10
47	20.9.2023	C8MG-34SE-22/27-AGM-0013	0000000009	27382	26.56197132	42.13936236	Сунтрав-27382	017125285829	30-60	18.98	sunflower	12.10.2023	36.10.2023	isa-34-35	14760	18.98	soft wheat - winter	9.9.2024	10.09.2024	isa-80-14	1.55	88 257.00	17290	0.001	223.29	125	1 925	0.0766	1.4539	4.9722	1 920	017125285829	10
48	20.9.2023	C8MG-34SE-22/27-AGM-0013	0000000009	27382	26.56197132	42.13936236	Сунтрав-27382	017125285829	60-90	18.98	sunflower	12.10.2023	36.10.2023	isa-34-36	14170	18.98	soft wheat - winter	9.9.2024	10.09.2024	isa-80-15	1.59	90 534.60	15735	0.002	141.69							017125285829	10
49	20.9.2023	C8MG-34SE-22/27-AGM-0013	0000000009	27382	26.57112836	42.14138415	Сунтрав-27382	018125285829	0-30	24.34	sunflower	12.10.2023	36.10.2023	isa-34-28	15680	24.34	soft wheat - winter	9.9.2024	10.09.2024	isa-80-7	1.48	108 069.60	18124	0.001	276.01							018125285829	10
50	20.9.2023	C8MG-34SE-22/27-AGM-0013	0000000009	27382	26.57112836	42.14138415	Сунтрав-27382	018125285829	30-60	24.34	sunflower	12.10.2023	36.10.2023	isa-34-29	12240	24.34	soft wheat - winter	9.9.2024	10.09.2024	isa-80-8	1.55	113 181.00	16160	0.004	481.25	990	3 630	0.0690	1.6795	5.7438	1 625	018125285829	10
51	20.9.2023	C8MG-34SE-22/27-AGM-0013	0000000009	27382	26.57112836	42.14138415	Сунтрав-27382	018125285829	60-90	24.34	sunflower	12.10.2023	36.10.2023	isa-34-30	11790	24.34	soft wheat - winter	9.9.2024	10.09.2024	isa-80-9	1.59	116 101.80	15705	0.002	232.78							018125285829	10
52	20.9.2023	C8MG-34SE-22/27-AGM-0013	0000000009	27382	26.56601999	42.14158721	Сунтрав-27382	019125285829	0-30	25.23	sunflower	12.10.2023	36.10.2023	isa-34-31	14140	25.23	soft wheat - winter	9.9.2024	10.09.2024	isa-80-10	1.48	117 021.30	17959	0.004	426.80							019125285829	10
53	20.9.2023	C8MG-34SE-22/27-AGM-0013	0000000009	27382	26.56601999	42.14158721	Сунтрав-27382	019125285829	30-60	25.23	sunflower	12.10.2023	36.10.2023	isa-34-32	13400	25.23	soft wheat - winter	9.9.2024	10.09.2024	isa-80-11	1.55	117 139.50	16991	0.000	388.55	897	3 288	0.0766	1.9326	6.6096	3 281	019125285829	10
54	20.9.2023	C8MG-34SE-22/27-AGM-0013	0000000009	27382	26.56601999	42.14158721	Сунтрав-27382	019125285829	60-90	25.23	sunflower	12.10.2023	36.10.2023	isa-34-33	11810	25.23	soft wheat - winter	9.9.2024	10.09.2024	isa-80-12	1.59	120 347.80	11510	0.004	164.27							019125285829	10
55	20.9.2023	C8MG-34SE-22/27-AGM-0013	0000000009	81121	26.62149161	42.11820198	Морев-208-81121	020125285829	0-30	16.07	soft wheat - winter	13.10.2023	36.10.2023	isa-34-49	14100	16.07	softflower	19.8.2024	22.8.2024	isa-77-7	1.64	79 964.40	17503	0.000	253.24							020125285829	10
56	20.9.2023	C8MG-34SE-22/27-AGM-0013	0000000009	81121	26.62149161	42.11820198	Морев-208-81121	020125285829	30-60	16.07	soft wheat - winter	13.10.2023	36.10.2023	isa-34-50	11130	16.07	softflower	19.8.2024	22.8.2024	isa-77-8	1.65	79 546.50	14508	0.001	252.00	563	2 430	0.0766	1.2310	4.2099	2 426	020125285829	10
57	20.9.2023	C8MG-34SE-22/27-AGM-0013	0000000009	81121	26.62149161	42.11820198	Морев-208-81121	020125285829	60-90	16.07	soft wheat - winter	13.10.2023	36.10.2023	isa-34-51	10520	16.07	softflower	19.8.2024	22.8.2024	isa-77-9	1.79	82 295.90	12344	0.002	157.40							020125285829	10

Note:
¹⁰ in case of area reduction, calculations are made on the basis of current hectares.
¹¹ The volumetric density is examined once, during the first control year, and is used for calculation until the end of the monitoring period.
¹² Certification:
1st CONTROL YEAR () BASE YEAR apply to all cell
¹³ 1. removed carbon dioxide [CO2] from the atmosphere is the soil (+) 3.667 t, removed carbon dioxide [CO2] from the atmosphere in the soil (+) 3.667 carbon credits. (See Methodology).
¹⁴ Average fuel consumption from fuel is calculated according to the "METHODOLOGY of the MGNV".
¹⁵ 1 of diesel is equal to 36 MJ (Ordinance No. H-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).
¹⁶ 1. removed carbon dioxide [CO2] from the atmosphere (+) 0.27248 t, sequestered organic carbon (OC) in the soil (+) 1 carbon credit. (See Methodology).
* equal to 0.64CO2 (0.4438)
¹⁷ Sources of uncertainty = 20.7 %
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
2. Organic carbon analysis (4.4% and 3. bulk density analysis 80.3 %
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 (reff, %) is used to assess method performance, and bias (b) 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 = √(S_bias² + U_cm² + u(x)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.

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