

General information

Remover name	Rob van Mullem		
Project code	PRML001		
Project name	Paulownia - van Mullem		
Location	Goirle, Netherlands		
Area	1.05	ha	
Starting year	2025		
Duration	10	years	project duration
Biodiversity holding	0%		40 new fruit trees are planted adjacent to parcel 210
Holding pool	20%		freed up when measurements confirm projection pathways
Project emissions	20%		LCA estimate, or specified when >20%

Per hectare

Baseline TEC	255	tCO2/ha	Soil Organic Carbon and Above Ground Carbon, following CDM AR-ACM0003
Reference capacity	633	tCO2/ha	Using CEDA and Soil sample data
Storage potential	378	tCO2/ha	Projection -/- baseline

Per project

Projected storage	397	tCO2	storage potential per ha x area x storage duration 100 year equivalent
LCA emissions	79	tCO2	project related emissions
Net storage potential	318	tCO2	project storage -/- emissions over 20 years

Potential Carbon Removal Units

Units first 10 years	159	units	10/20 x net storage potential
Holding Pool	32	units	20% of the first 12 years
Biodiversity holding pool	0	units	
Potential units issued	127	units	

Field Code	Field name	Size (ha)	Owner	Link			
A	GLE01 K 210	0.337	W.A.M van Mulle	https://kadastralekaart.nl/5.0344600/51.5283900/20/6920021070000			
B	GLE01 K 211	0.7145	W.A.M van Mulle	https://kadastralekaart.nl/5.0341800/51.5290200/19/6920021170000			

Carbon Calculation for		PRML001							
Surface	1.0515	ha	Fields tab						
Capacity Reference SOC	350	tCO2/ha	References tab						
Capacity Reference AGB	283	tCO2e/ha	References tab						
	2025		2028		2031		2034		2037
Measurement average	14.80	SOC g/kg	#DIV/0!	SOC g/kg	#DIV/0!	SOC g/kg	#DIV/0!	SOC g/kg	#DIV/0!
Sample depth	30	cm	#DIV/0!	cm	#DIV/0!	cm	#DIV/0!	cm	#DIV/0!
Calculation depth	30	cm		30	cm		30	cm	
Soil density	1.426	g/cm3	#DIV/0!	g/cm3	#DIV/0!	g/cm3	#DIV/0!	g/cm3	#DIV/0!
SOC (soil carbon) / ha	232	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!
AGB (above ground) / ha	22.67	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!
Storage current	268	tCO2e	#DIV/0!	tCO2e	#DIV/0!	tCO2e	#DIV/0!	tCO2e	#DIV/0!
Storage capacity	665	tCO2e		2,079	tCO2e		2,079	tCO2e	

Sources							
value	source	URL	Notes				
CEDA aboveground biomass carbon	https://climatee	https://datacedaa	2018 data				
SOC	A critical review of the conventional SOC to SOM conversion factor (Geoderma, Volume 156, Issues 3–4, 15 May 2010, Pages 75-83)						
Density	Wageningen U	https://edepot.wu	We've added these soil density levels to the calculation factors tab				
Reference data for capacity							
SOC (soil)	350	tCO2/ha	estimation based on https://esdac.jrc.ec.europa.eu/content/pan-european-soc-stock-agricultural-soils				
AGB (above ground)	283	tCO2e/ha					
CALCULATION							
Tree species	<i>Paulownia elongata 'Futuro'</i>						
Trees per hectare	820	trees/ha					
Damage percentage	1%	trees/y	corrected for replant (2% - 1% = 1%)	https://link.springer.com/article/10.1007/s11676-019-01021-9			
Regrowth after harvest	29.4%	trees/y	assuming a regrowth in 5 years of 80%				
Time first harvest	8	y					
Time successive harvests	10	y					
Harvest per harvest year	100%	trees/ha					
Wood volume per tree	1.0	m3					
Density dry	275	kg/m3	https://www.researchgate.net/publication/360278806_The_Influence_of_Age_on_the_Wood_Properties_of_Paulownia_tomentosa_Thunb_Steud				
CO2 stock trees 10 years	282.75	tCO2/ha	AGB and BGB				
AGB and BGB CO2 stock	y	#trees	vol/tree m3	vol/ha	% in roots/tops	dry matter	CO2 stock
		trees/ha	m3	m3/ha	%	tons	tCO2/ha
	1	820	0.000	0	30%	0.00	0.00
	2	812	0.02	16	30%	5.80	10.64
	3	804	0.05	40	30%	14.37	26.34
	4	796	0.09	72	30%	25.60	46.93
	5	788	0.18	142	30%	50.69	92.93
	6	780	0.35	273	30%	97.57	178.89
	7	772	0.50	386	30%	138.00	253.00
	8	0	0.65	0	30%	0.00	0.00
	9	227	0.75	170	30%	60.82	111.50
harvest year	10	291	0.85	248	30%	88.48	162.22
				0			
	11	374	0.90	336	30%	120.28	220.51
	12	480	0.95	456	30%	162.99	298.82
	13	616	1.00	616	30%	220.26	403.82
	14	791	1.05	831	30%	296.91	544.34
	15	1,015	1.10	1117	30%	399.33	732.10
	16	0	1.15	0	30%	0.00	0.00
	17	298	1.20	358	30%	127.99	234.65
	18	383	1.25	479	30%	171.16	313.79
	19	492	1.30	639	30%	228.52	418.96
harvest year	20	631	1.35	852	30%	304.66	558.54

0.496	41.8	20.9	0.496
0.495	42	21	0.495
0.494	42.2	21.1	0.494
0.493	42.4	21.2	0.493
0.492	42.6	21.3	0.492
0.491	42.8	21.4	0.491
0.49	43	21.5	0.49
0.488	43.2	21.6	0.488
0.486	43.4	21.7	0.486
0.484	43.6	21.8	0.484
0.482	43.8	21.9	0.482
0.48	44	22	0.48
0.478	44.2	22.1	0.478
0.476	44.4	22.2	0.476
0.474	44.6	22.3	0.474
0.472	44.8	22.4	0.472
0.47	45	22.5	0.47
0.469	45.2	22.6	0.469
0.468	45.4	22.7	0.468
0.467	45.6	22.8	0.467
0.466	45.8	22.9	0.466
0.465	46	23	0.465
0.464	46.2	23.1	0.464
0.463	46.4	23.2	0.463
0.462	46.6	23.3	0.462
0.461	46.8	23.4	0.461
0.46	47	23.5	0.46
0.458	47.2	23.6	0.458
0.456	47.4	23.7	0.456
0.454	47.6	23.8	0.454
0.452	47.8	23.9	0.452
0.45	48	24	0.45
0.448	48.2	24.1	0.448
0.446	48.4	24.2	0.446
0.444	48.6	24.3	0.444
0.442	48.8	24.4	0.442
0.44	49	24.5	0.44

