

General information

Remover name	Maatschap Landbouwbedrijf Westerland		
Project code	PWL-L-001		
Project name	Paulownia Westerland		
Location	Wolphaartsdijk, The Netherlands		
Area	1.55	ha	
Starting year	2025		
Duration	10	years	project duration
Biodiversity holding	0%		fruit trees planted (100 extra)
Holding pool	20%		freed up when measurements confirm projection pathways
Project emissions	20%		LCA estimate, or specified when >20%

Per hectare

Baseline TEC	292	tCO2/ha	Soil Organic Carbon and Above Ground Carbon, following CDM AR-ACM0003
Reference capacity	707	tCO2/ha	Using CEDA and Soil sample data
Storage potential	415	tCO2/ha	Projection -/- baseline

Per project

Projected storage	643	tCO2	storage potential per ha x area x storage duration 100 year equivalent
LCA emissions	129	tCO2	project related emissions
Net storage potential	514	tCO2	project storage -/- emissions over 20 years

Potential Carbon Removal Units

Units first 10 years	257	units	10/20 x net storage potential
Holding Pool	51	units	20% of the first 12 years
Biodiversity holding pool	0	units	
Potential units issued	206	units	

Field Code	Field name	Size (ha)	Owner	
A	Goes O 1380	1.55	De heer Huibert Pieter Janse	

Carbon Calculation for		PWL-L-001									
Surface	1.55	ha	Fields tab								
Capacity Reference SOC	350	tCO2/ha	References tab								
Capacity Reference AGB	357	tCO2e/ha	References tab								
		2025		2028		2031		2034		2037	
Measurement average	18.80	SOC g/kg	#DIV/0!	SOC g/kg	#DIV/0!	SOC g/kg	#DIV/0!	SOC g/kg	#DIV/0!	SOC g/kg	
Sample depth	25	cm	#DIV/0!	cm	#DIV/0!	cm	#DIV/0!	cm	#DIV/0!	cm	
Calculation depth	30	cm		30	cm		30	cm		30	cm
Soil density	1.38	g/cm3	#DIV/0!	g/cm3	#DIV/0!	g/cm3	#DIV/0!	g/cm3	#DIV/0!	g/cm3	
SOC (soil carbon) / ha	285	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!	tCO2e/ha	
AGB (above ground) / ha	6.59	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!	tCO2e/ha	
Storage current	453	tCO2e	#DIV/0!	tCO2e	#DIV/0!	tCO2e	#DIV/0!	tCO2e	#DIV/0!	tCO2e	
Storage capacity	1,096	tCO2e		3,179	tCO2e		3,179	tCO2e		3,179	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	tCO ₂ /ha	estimation based on https://esdac.jrc.ec.europa.eu/content/pan-european-soc-stock-agricultural-soils				
AGB (above ground)	357	tCO ₂ e/ha					
CALCULATION							
Tree species	<i>Paulownia Shantong</i>						
Total amount of trees	1,279						
Trees per hectare	825	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%				
Intermediate harvest	5	years					
Intermediate harvest	50%						
Time first full harvest	9	y					
Time successive harvests	9	y					
Harvest per harvest year	100%	trees/ha					
Wood volume per tree	1.0	m ³					
Density dry	275	kg/m ³	https://www.researchgate.net/publication/360278806_The_Influence_of_Age_on_the_Wood_Properties_of_Paulownia_tomentosa_Thunb_Steud				
CO ₂ stock trees 10 years	356.89	tCO ₂ /ha	AGB and BGB				
AGB and BGB CO ₂ stock	y	#trees	vol/tree m³	vol/ha	% in roots/tops	dry matter	CO₂ stock
		trees/ha	m³	m³/ha	%	tons	tCO₂/ha
	1	825	0.000	0	30%	0.00	0.00
	2	817	0.02	16	30%	5.84	10.71
	3	809	0.05	40	30%	14.45	26.50
	4	800	0.09	72	30%	25.76	47.22
intermediate harvest	5	396	0.18	71	30%	25.50	46.75
	6	509	0.35	178	30%	63.65	116.69
	7	825	0.50	413	30%	147.47	270.36
	8	825	0.65	536	30%	191.71	351.47
full harvest	9	0	0.75	0	30%	0.00	0.00
	10	242	0.85	206	30%	73.65	135.03
	11	311	0.90	280	30%	100.12	183.55
	12	399	0.95	380	30%	135.68	248.74
	13	513	1.00	513	30%	183.35	336.14
	14	658	1.05	691	30%	247.15	453.11
	15	825	1.10	908	30%	324.43	594.79
	16	825	1.15	949	30%	339.18	621.83
	17	825	1.20	990	30%	353.93	648.86
full harvest	18	0	1.25	0	30%	0.00	0.00
	19	242	1.30	315	30%	112.65	206.52
	20	311	1.35	420	30%	150.18	275.33

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

