

General information

Remover name	Egon Schrama		
Project code	ESPL001		
Project name	Paulownia Schrama		
Location	Sterksel, the Netherlands		
Area	1.78	ha	
Starting year	2024		
Duration	10	years	project duration
Biodiversity holding	0%		between fruit tree species planted
Holding pool	20%		freed up when measurements confirm projection pathways
Project emissions	20%		LCA estimate, or specified when >20%

Per hectare

Baseline TEC	443	tCO2/ha	Soil Organic Carbon and Above Ground Carbon, following CDM AR-ACM0003
Reference capacity	603	tCO2/ha	Using CEDA and Soil sample data
Storage potential	160	tCO2/ha	Projection -/- baseline

Per project

Projected storage	285	tCO2	storage potential per ha x area x storage duration 100 year equivalent
LCA emissions	57	tCO2	project related emissions
Net storage potential	228	tCO2	project storage -/- emissions over 20 years

Potential Carbon Removal Units

Units first 10 years	114	units	10/20 x net storage potential
Holding Pool	23	units	20% of the first 12 years
Biodiversity holding pool	0	units	
Potential units issued	91	units	

Field Code	Field name	Size (ha)	Owner	
A	Paulownia perceel 6, 9 en 10	1.7848	Fruitteelt E.H.M. Schrama	
B				

Carbon Calculation for		ESPL001									
Surface	1.7848	ha	Fields tab								
Capacity Reference SOC	350	tCO2/ha	References tab								
Capacity Reference AGB	253	tCO2e/ha	References tab								
		2024		2027		2030		2033		2036	
Measurement average	31.35	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	30	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	1.255	g/cm3	#DIV/0!	g/cm3	#DIV/0!	g/cm3	#DIV/0!	g/cm3	#DIV/0!	g/cm3	
SOC (soil carbon) / ha	433	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!	tCO2e/ha	
AGB (above ground) / ha	10.60	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!	tCO2e/ha	
Storage current	791	tCO2e	#DIV/0!	tCO2e	#DIV/0!	tCO2e	#DIV/0!	tCO2e	#DIV/0!	tCO2e	
Storage capacity	1,076	tCO2e		3,475	tCO2e		3,475	tCO2e		3,475	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 Ur	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)	253	tCO2e/ha						
CALCULATION								
Tree species	Shantong Pauli Paulownia cultures							
Trees total number planted	1,640	paulownia trees						
Trees per hectare	919	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	10.000	y						
Time successive harvests	8.000	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	253.12	tCO2/ha	AGB and BGB					
AGB and BGB CO2 stock	y	#trees trees/ha	vol/tree m3 m3	vol/ha m3/ha	% in roots/tops %	dry matter tons	CO2 stock tCO2/ha	
	2,024	1	919	0.000	0	30%	0.00	0.00
	2,025	2	910	0.02	18	30%	6.50	11.92
	2,026	3	901	0.05	45	30%	16.10	29.51
	2,027	4	892	0.09	80	30%	28.69	52.59
	2,028	5	883	0.18	159	30%	56.80	104.13
	2,029	6	874	0.35	306	30%	109.34	200.45
	2,030	7	865	0.50	433	30%	154.64	283.50
	2,031	8	856	0.65	557	30%	199.02	364.86
	2,032	9	848	0.75	636	30%	227.34	416.79
	2,033	10	0	0.85	0	30%	0.00	0.00
	2,034	11	249	0.90	224	30%	80.15	146.94
	2,035	12	320	0.95	304	30%	108.61	199.13
	2,036	13	411	1.00	411	30%	146.78	269.09
	2,037	14	527	1.05	553	30%	197.85	362.73
	2,038	15	522	1.10	574	30%	205.20	376.21
	2,039	16	0	1.15	0	30%	0.00	0.00
	2,040	17	153	1.20	184	30%	65.77	120.58
	2,041	18	197	1.25	246	30%	87.95	161.25
	2,042	19	253	1.30	328	30%	117.43	215.29
	2,043	20	324	1.35	438	30%	156.56	287.02

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

