General information

Remover name	Jonas de Rycke		
Project code	JRPL001		
Project name	Paulownia - Jonas de Rycke		
Location	Essen, Belgium		
Area	0.89	ha	
Starting year	2024		
Duration	10	years	project duration
Biodiversity holding	0%		additional trees have been planted
Holding pool	20%		freed up when measurements confirm projection pathways
Project emissions	20%		LCA estimate, or specified when >20%

Per hectare

Baseline TEC	375	tCO2/ha	Soil Organic Carbon and Above Ground Carbon, following CDM AR-ACM0003
Reference capacity	526	tCO2/ha	Using CEDA and Soil sample data
Storage potential	151	tCO2/ha	Projection -/- baseline

Per project

Projected storage	134	tCO2	storage potential per ha x area x storage duration 100 year equivalent
LCA emissions	27	tCO2	project related emissions
Net storage potential	108	tCO2	project storage -/- emissions over 20 years

Potential Carbon Removal Units

Units first 10 years	54	units	10/20 x net storage potential	
Holding Pool	11	units	20% of the first 12 years	
Potential units issued	43	units		48.31460674

Field Code	Field name	Size (ha)	Owner		
A	Paulownia JRPL(	0.89	Jonas de Rycke	Shan Tong Paulownia	
B					

#	Field code	Field	Year	Date	Sample depth (cm)	SOC/AGB/REF	Carbon (g/kg)	AGB (tCO2/ha)	Sample/report nr.
001	A	Paulownia JRPL001	2024	11/26/2024	30	SOC	26		
002	A	Paulownia JRPL001	2020	1/1/2020		AGB		2.05	ESA data 2010-2020
003		#N/A	1899			SOC			
004		#N/A	1899			SOC			
005		#N/A	1899			SOC			
006		#N/A	1899						
007		#N/A	1899						
009		#N/A	1899						
010		#N/A	1899						
011		#N/A	1899						
012		#N/A	1899						
013		#N/A	1899						
014		#N/A	1899						
015		#N/A	1899						

Year	Above Ground Biomass (Mg/ha)	Carbon (Mg/ha)	CO2 Equivalent (Mg/ha)
2010 ✅	0.547	0.273	1.002
2017 ✅	1.322	0.661	2.424
2018 ✅	0.751	0.376	1.377
2019 ✅	1.970	0.985	3.612
2020 ✅	1.001	0.501	1.836
Average	1.118	0.559	2.050

Carbon Calculation for		**JRPL001**								
Surface	0.89	ha	Fields tab							
Capacity Reference SOC	350.00	tCO2/ha	References tab							
Capacity Reference AGB	176.40	tCO2e/ha	References tab							
	2024		**2027**		**2030**		**2033**		**2036**	
Measurement average	26.00	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	30	cm
Soil density	1.305	g/cm3	#DIV/0!	g/cm3	#DIV/0!	g/cm3	#DIV/0!	g/cm3	#DIV/0!	g/cm3
SOC (soil carbon) / ha	373	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!	tCO2e/ha
AGB (above ground) / ha	2.05	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!	tCO2e/ha	#DIV/0!	tCO2e/ha
Storage current	334	tCO2e	#DIV/0!	tCO2e	#DIV/0!	tCO2e	#DIV/0!	tCO2e	#DIV/0!	tCO2e
Storage capacity	468	tCO2e	1,665	tCO2e	1,665	tCO2e	1,665	tCO2e	1,665	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 UI	https://edepot.wu	We've added these soil density levels to the calculation factors tab															
Reference data for capacity																		
SOC (soil)	350.00	tCO2/ha	estimation based on https://esdac.jrc.ec.europa.eu/content/pan-european-soc-stock-agricultural-soils															
AGB (above ground)	176.40	tCO2e/ha										Jeziorany 1	6250	NordMax 21 van	WeGrow	9.23	677.1397616	10	625
												Jeziorany 2	1300	NordMax 21 van	WeGrow	2.08	625	2.08	625
												Lasin 1	3750			5	750	6	625
												Lasin 2	1495			1.94	770.6185567	2.39	625.5230126
													oogst na 6 jaar en dan 100 procent en dan om de 6 jaar						
CALCULATION																		
Trees total number planted		paulownia trees																
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	8.000	y																
Time successive harvests		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	176.40	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											
harvest year	8	0	0.65	0	30%	0.00	0.00											
	9	227	0.75	170	30%	60.82	111.50											
	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	783	1.10	861	30%	307.94	564.56											
harvest year	16	0	1.15	0	30%	0.00	0.00											
	17	230	1.20	276	30%	98.70	180.95											
	18	295	1.25	369	30%	131.99	241.98											
	19	379	1.30	493	30%	176.22	323.08											
	20	487	1.35	657	30%	234.94	430.72											

from C to CO2	3.666666667		
soil density	% organic	% organic	soil density
1.59	0.5	0.25	1.59
1.583	0.6	0.3	1.583
1.576	0.7	0.35	1.576
1.569	0.8	0.4	1.569
1.562	0.9	0.45	1.562
1.555	1	0.5	1.555
1.548	1.1	0.55	1.548
1.541	1.2	0.6	1.541
1.534	1.3	0.65	1.534
1.527	1.4	0.7	1.527
1.52	1.5	0.75	1.52
1.513	1.6	0.8	1.513
1.506	1.7	0.85	1.506
1.499	1.8	0.9	1.499
1.492	1.9	0.95	1.492
1.485	2	1	1.485
1.478	2.1	1.05	1.478
1.471	2.2	1.1	1.471
1.464	2.3	1.15	1.464
1.457	2.4	1.2	1.457
1.45	2.5	1.25	1.45
1.444	2.6	1.3	1.444
1.438	2.7	1.35	1.438
1.432	2.8	1.4	1.432
1.426	2.9	1.45	1.426
1.42	3	1.5	1.42
1.414	3.1	1.55	1.414
1.408	3.2	1.6	1.408
1.402	3.3	1.65	1.402
1.396	3.4	1.7	1.396
1.39	3.5	1.75	1.39
1.385	3.6	1.8	1.385
1.38	3.7	1.85	1.38
1.375	3.8	1.9	1.375
1.37	3.9	1.95	1.37
1.365	4	2	1.365
1.36	4.1	2.05	1.36
1.355	4.2	2.1	1.355
1.35	4.3	2.15	1.35
1.345	4.4	2.2	1.345
1.34	4.5	2.25	1.34
1.335	4.6	2.3	1.335
1.33	4.7	2.35	1.33
1.325	4.8	2.4	1.325
1.32	4.9	2.45	1.32
1.315	5	2.5	1.315
1.31	5.1	2.55	1.31
1.305	5.2	2.6	1.305
1.3	5.3	2.65	1.3
1.295	5.4	2.7	1.295
1.29	5.5	2.75	1.29
1.285	5.6	2.8	1.285
1.28	5.7	2.85	1.28
1.275	5.8	2.9	1.275
1.27	5.9	2.95	1.27
1.265	6	3	1.265
1.26	6.1	3.05	1.26
1.255	6.2	3.1	1.255
1.25	6.3	3.15	1.25
1.245	6.4	3.2	1.245
1.24	6.5	3.25	1.24
1.234	6.6	3.3	1.234
1.228	6.7	3.35	1.228
1.222	6.8	3.4	1.222
1.216	6.9	3.45	1.216
1.21	7	3.5	1.21
1.204	7.1	3.55	1.204
1.198	7.2	3.6	1.198
1.192	7.3	3.65	1.192
1.186	7.4	3.7	1.186
1.18	7.5	3.75	1.18
1.175	7.6	3.8	1.175
1.17	7.7	3.85	1.17
1.165	7.8	3.9	1.165
1.16	7.9	3.95	1.16
1.155	8	4	1.155
1.15	8.1	4.05	1.15
1.145	8.2	4.1	1.145
1.14	8.3	4.15	1.14
1.135	8.4	4.2	1.135
1.13	8.5	4.25	1.13
1.126	8.6	4.3	1.126
1.122	8.7	4.35	1.122
1.118	8.8	4.4	1.118
1.114	8.9	4.45	1.114
1.11	9	4.5	1.11
1.106	9.1	4.55	1.106
1.102	9.2	4.6	1.102
1.098	9.3	4.65	1.098
1.094	9.4	4.7	1.094
1.09	9.5	4.75	1.09
1.086	9.6	4.8	1.086
1.082	9.7	4.85	1.082
1.078	9.8	4.9	1.078
1.074	9.9	4.95	1.074
1.07	10	5	1.07
1.066	10.1	5.05	1.066
1.062	10.2	5.1	1.062
1.058	10.3	5.15	1.058
1.054	10.4	5.2	1.054
1.05	10.5	5.25	1.05
1.046	10.6	5.3	1.046
1.042	10.7	5.35	1.042
1.038	10.8	5.4	1.038
1.034	10.9	5.45	1.034
1.03	11	5.5	1.03
1.026	11.1	5.55	1.026
1.022	11.2	5.6	1.022
1.018	11.3	5.65	1.018
1.014	11.4	5.7	1.014
1.01	11.5	5.75	1.01
1.005	11.6	5.8	1.005
1	11.7	5.85	1
0.995	11.8	5.9	0.995
0.99	11.9	5.95	0.99
0.985	12	6	0.985
0.98	12.1	6.05	0.98
0.975	12.2	6.1	0.975
0.97	12.3	6.15	0.97
0.965	12.4	6.2	0.965
0.96	12.5	6.25	0.96
0.957	12.6	6.3	0.957
0.954	12.7	6.35	0.954
0.951	12.8	6.4	0.951
0.948	12.9	6.45	0.948
0.945	13	6.5	0.945
0.942	13.1	6.55	0.942
0.939	13.2	6.6	0.939
0.936	13.3	6.65	0.936
0.933	13.4	6.7	0.933
0.93	13.5	6.75	0.93
0.927	13.6	6.8	0.927
0.924	13.7	6.85	0.924
0.921	13.8	6.9	0.921
0.918	13.9	6.95	0.918
0.915	14	7	0.915
0.912	14.1	7.05	0.912
0.909	14.2	7.1	0.909
0.906	14.3	7.15	0.906
0.903	14.4	7.2	0.903
0.9	14.5	7.25	0.9
0.897	14.6	7.3	0.897
0.894	14.7	7.35	0.894
0.891	14.8	7.4	0.891
0.888	14.9	7.45	0.888
0.885	15	7.5	0.885
0.882	15.1	7.55	0.882
0.879	15.2	7.6	0.879
0.876	15.3	7.65	0.876
0.873	15.4	7.7	0.873
0.87	15.5	7.75	0.87
0.867	15.6	7.8	0.867
0.864	15.7	7.85	0.864
0.861	15.8	7.9	0.861
0.858	15.9	7.95	0.858
0.855	16	8	0.855
0.852	16.1	8.05	0.852
0.849	16.2	8.1	0.849
0.846	16.3	8.15	0.846
0.843	16.4	8.2	0.843
0.84	16.5	8.25	0.84
0.837	16.6	8.3	0.837
0.834	16.7	8.35	0.834
0.831	16.8	8.4	0.831
0.828	16.9	8.45	0.828
0.825	17	8.5	0.825

0.822	17.1	8.55	0.822
0.819	17.2	8.6	0.819
0.816	17.3	8.65	0.816
0.813	17.4	8.7	0.813
0.81	17.5	8.75	0.81
0.808	17.6	8.8	0.808
0.806	17.7	8.85	0.806
0.804	17.8	8.9	0.804
0.802	17.9	8.95	0.802
0.8	18	9	0.8
0.798	18.1	9.05	0.798
0.796	18.2	9.1	0.796
0.794	18.3	9.15	0.794
0.792	18.4	9.2	0.792
0.79	18.5	9.25	0.79
0.788	18.6	9.3	0.788
0.786	18.7	9.35	0.786
0.784	18.8	9.4	0.784
0.782	18.9	9.45	0.782
0.78	19	9.5	0.78
0.778	19.1	9.55	0.778
0.776	19.2	9.6	0.776
0.774	19.3	9.65	0.774
0.772	19.4	9.7	0.772
0.77	19.5	9.75	0.77
0.768	19.6	9.8	0.768
0.766	19.7	9.85	0.766
0.764	19.8	9.9	0.764
0.762	19.9	9.95	0.762
0.76	20	10	0.76
0.758	20.1	10.05	0.758
0.756	20.2	10.1	0.756
0.754	20.3	10.15	0.754
0.752	20.4	10.2	0.752
0.75	20.5	10.25	0.75
0.748	20.6	10.3	0.748
0.746	20.7	10.35	0.746
0.744	20.8	10.4	0.744
0.742	20.9	10.45	0.742
0.74	21	10.5	0.74
0.738	21.1	10.55	0.738
0.736	21.2	10.6	0.736
0.734	21.3	10.65	0.734
0.732	21.4	10.7	0.732
0.73	21.5	10.75	0.73
0.728	21.6	10.8	0.728
0.726	21.7	10.85	0.726
0.724	21.8	10.9	0.724
0.722	21.9	10.95	0.722
0.72	22	11	0.72
0.718	22.1	11.05	0.718
0.716	22.2	11.1	0.716
0.714	22.3	11.15	0.714
0.712	22.4	11.2	0.712
0.71	22.5	11.25	0.71
0.709	22.6	11.3	0.709
0.708	22.7	11.35	0.708
0.707	22.8	11.4	0.707
0.706	22.9	11.45	0.706
0.705	23	11.5	0.705
0.704	23.1	11.55	0.704
0.703	23.2	11.6	0.703
0.702	23.3	11.65	0.702
0.701	23.4	11.7	0.701
0.7	23.5	11.75	0.7
0.699	23.6	11.8	0.699
0.698	23.7	11.85	0.698
0.697	23.8	11.9	0.697
0.696	23.9	11.95	0.696
0.695	24	12	0.695
0.694	24.1	12.05	0.694
0.693	24.2	12.1	0.693
0.692	24.3	12.15	0.692
0.691	24.4	12.2	0.691
0.69	24.5	12.25	0.69
0.688	24.6	12.3	0.688
0.686	24.7	12.35	0.686
0.684	24.8	12.4	0.684
0.682	24.9	12.45	0.682
0.68	25	12.5	0.68
0.678	25.1	12.55	0.678
0.676	25.2	12.6	0.676
0.674	25.3	12.65	0.674
0.672	25.4	12.7	0.672
0.67	25.5	12.75	0.67
0.668	25.65	12.825	0.668
0.666	25.8	12.9	0.666
0.664	25.95	12.975	0.664
0.662	26.1	13.05	0.662
0.66	26.25	13.125	0.66
0.658	26.4	13.2	0.658
0.656	26.55	13.275	0.656
0.654	26.7	13.35	0.654
0.652	26.85	13.425	0.652
0.65	27	13.5	0.65
0.647	27.2	13.6	0.647
0.644	27.4	13.7	0.644
0.641	27.6	13.8	0.641
0.638	27.8	13.9	0.638
0.635	28	14	0.635
0.632	28.2	14.1	0.632
0.629	28.4	14.2	0.629
0.626	28.6	14.3	0.626
0.623	28.8	14.4	0.623
0.62	29	14.5	0.62
0.618	29.2	14.6	0.618
0.616	29.4	14.7	0.616
0.614	29.6	14.8	0.614
0.612	29.8	14.9	0.612
0.61	30	15	0.61
0.608	30.2	15.1	0.608
0.606	30.4	15.2	0.606
0.604	30.6	15.3	0.604
0.602	30.8	15.4	0.602
0.6	31	15.5	0.6
0.598	31.2	15.6	0.598
0.596	31.4	15.7	0.596
0.594	31.6	15.8	0.594
0.592	31.8	15.9	0.592
0.59	32	16	0.59
0.588	32.2	16.1	0.588
0.586	32.4	16.2	0.586
0.584	32.6	16.3	0.584
0.582	32.8	16.4	0.582
0.58	33	16.5	0.58
0.578	33.2	16.6	0.578
0.576	33.4	16.7	0.576
0.574	33.6	16.8	0.574
0.572	33.8	16.9	0.572
0.57	34	17	0.57
0.568	34.2	17.1	0.568
0.566	34.4	17.2	0.566
0.564	34.6	17.3	0.564
0.562	34.8	17.4	0.562
0.56	35	17.5	0.56
0.558	35.2	17.6	0.558
0.556	35.4	17.7	0.556
0.554	35.6	17.8	0.554
0.552	35.8	17.9	0.552
0.55	36	18	0.55
0.548	36.2	18.1	0.548
0.546	36.4	18.2	0.546
0.544	36.6	18.3	0.544
0.542	36.8	18.4	0.542
0.54	37	18.5	0.54
0.538	37.2	18.6	0.538
0.536	37.4	18.7	0.536
0.534	37.6	18.8	0.534
0.532	37.8	18.9	0.532
0.53	38	19	0.53
0.528	38.2	19.1	0.528
0.526	38.4	19.2	0.526
0.524	38.6	19.3	0.524
0.522	38.8	19.4	0.522
0.52	39	19.5	0.52
0.518	39.2	19.6	0.518
0.516	39.4	19.7	0.516
0.514	39.6	19.8	0.514
0.512	39.8	19.9	0.512
0.51	40	20	0.51
0.508	40.2	20.1	0.508
0.506	40.4	20.2	0.506
0.504	40.6	20.3	0.504
0.502	40.8	20.4	0.502
0.5	41	20.5	0.5
0.499	41.2	20.6	0.499
0.498	41.4	20.7	0.498
0.497	41.6	20.8	0.497

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