

General information

Project name	Underground Forest Berkenwoude		
Project code	UGF006		
Remover	Underground Forest		
Location	Berkenwoude, Netherlands		
Area	0.13	ha	
Start year	2025		
Duration	>1000	years	Estimated permanence of removal and storag
Holding pool	20%		Freed up when project is implemented

Per project

Baseline TEC	0	tCO2	Above Ground carbon if removed for project
Reference capacity	139	tCO2	Capacity of CO2 storage
LCA emissions	6.67	tCO2	Project related emissions
Storage potential	133	tCO2	Projection -/- baseline

Removal certificates

Holding pool	27		
Potential units issued	106	CRCs	

Field Code	Field name	Size (ha)	Owner	Notes
002	Sleeuwijk	0.1339	Jacob Slingerland	

#	Field code	Field	Year	Date	Sample depth	SOC/AGB
001	002	Sleeuwijk	2020	1-1-2020	-	AGB
003		#REF!	#REF!			
005		#REF!	#REF!			
006		#REF!	#REF!			
007		#REF!	#REF!			
008						
009						
010						
011						
012						

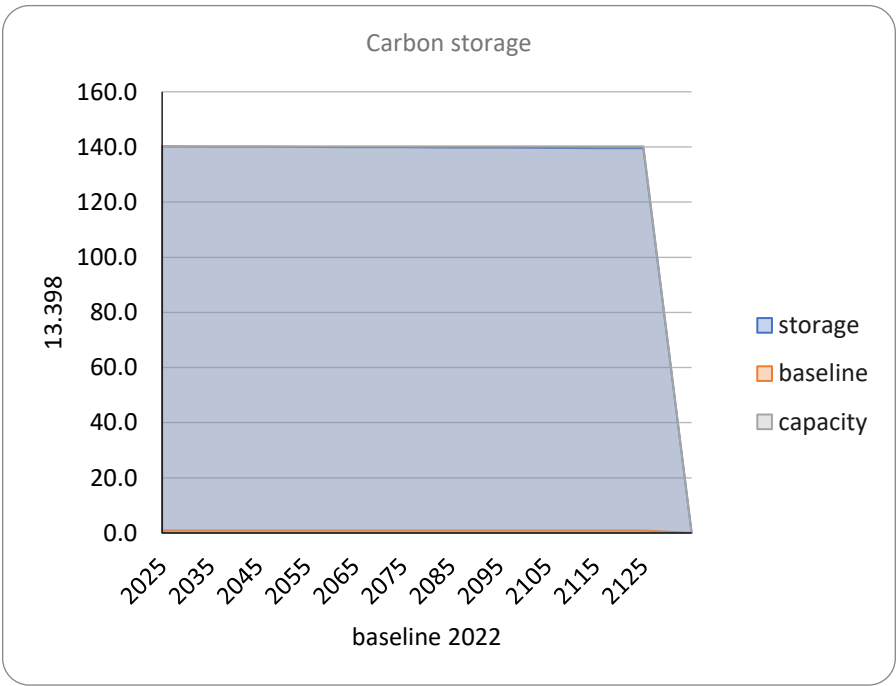
Carbon (g/kg)	AGB (tCO2/ha)	Sample/report nr.	Notes
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-	0.92	ESA	baseline
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Carbon Calculation for UGF006

Surface	0.1339 ha	Fields tab
Baseline AGB	0.92 tCO2e/ha	Measurements tab
Capacity Reference	140.2 tCO2e	References tab

	storage	baseline	capacity
2025	140.2	0.92	140
2035	140.1	0.92	140
2045	140.1	0.92	140
2055	140.0	0.92	140
2065	139.9	0.92	140
2075	139.8	0.92	140
2085	139.8	0.92	140
2095	139.7	0.92	140
2105	139.6	0.92	140
2115	139.6	0.92	140
2125	139.5	0.92	140



Sources

value	source	URL	Notes
CEDA aboveground biomass carbon	https://climate	https://dataceda	2010-2020 data
SOC	A critical review of the conventional SOC to SOM conversion fac		
Density	Wageningen L	https://edepot.w	We've added these soil density le
From C to CO2	3.666666667		

Yearly degradation 0.00005 <https://www.shr> Klaassen, 2015

Variables	Unit	Source	Corrections
Density of spruce	460 kg/m³	https://www.wur	https://nmbu.bra
Spruce C content	50.35% C content	https://www.sciencedirect.com/scie	
Wood moisture content	12.70% water content	https://www.sciencedirect.com/scie	
CO2e per m3	754 kgCO2/m³	formula from:	https://opslagco2
Total volume of spruce	186.05 m3		
Total Underground CO2	140.2 tCO2		
Total amount of wood	86 t		

	Number	Pile length (cm)	Pile point	Volume per pile (m3)
palenplan	112	16.0	14	0.498
	104	16.5	14	0.524
	72	15.0	14	0.448
	72	18.0	14	0.606
More lengths				

Mean point diameter (cm)	13.500	13.500	13.500	14
Increase per m (cm)	0.800	0.800	0.800	0.800
Pile length	16.0	16.5	15.0	18.0
Mean measurement point	8.000	8.250	7.500	9.000
Mean diameter	0.199	0.201	0.195	0
Volume pile	0.498	0.524	0.448	0.606
Piles per m3	2.009	1.910	2.232	1.651

Total emissions	6.67 tCO2
emissions forestry	2.07 tCO2
emissions transport	1.93 tCO2
emissions piling	2.67 tCO2

Emissions forestry

Wood production emission: 11.1 kgCO2/m3 <https://www.storaenso.com/-/med>

Emission pile driving

		2670 kgCO2
Hours per day	8 hr/day	
Piles per day	110 piles/day	
Piles project	360 piles	
Days of work	3	3 days
w2w emissions (diesel)	3.2 kgCo2/l	
2t2 bensine	2.7 kgCo2/l	

Distance 8 km Zijdepark 10, 2935LB Ouderkerk

Per project

Lowboy		
Lowboy per km	0.5 l/km	
Diesel usage	8 l	25.6 kgCO2

per dag

Bus per km	0.07 /km	
Amount of days	3 days	
Bensin usage	3.2 l	26.30 kgCO2

Diesel per hour	4 diesel/hour	
Per day	32 l/dag	102.4 kgCO2
Chainsay	1 l/u	
Hours per day	1 hr/day	
Usage per day	1 hr/day	2.74 kgCO2

Per pile

Piles per hour	13.75 piles/hr	
Pile driver	15 diesel/hr	
Diesel per pile	1.09 diesel/pile	
Amount of machines	2 machines	
Usage per pile	2.18 l/pile	2513.45 kgCO2

[ia/documents/download-center/certificates/wood-products-approvals-and-certificates/epd/stora-enso-epd-kvh-](#)

Transport emission1934 kgCO2

Manhay distance	278	km	Rue du Vicinal 2, Manhay
Empty outward trip	1.5	km	
Total	417	km	
Usage truck	3.45	km/l	
Usage diesel	121	l/rit	
Amount per trip	38	m ³	
Trips	4.9		
Trip rounded	5.0		
Total usage	604	l diesel	

fixed values
calculated fields
variable Rene
info transporter
info UF
fixed rene
fixed transport