

General information

Project name	Underground Forest - Woerder	
Project code	UGF-L-012	
Remover	Underground Forest	
Location	Woerdense Verlaat, The Nethe	
Area	1.00	ha
Start year	2025	
Duration	>1000	years
Holding pool	20%	

Per project

Baseline TEC	0	tCO2
Reference capacity	106	tCO2
LCA emissions	7	tCO2
Storage potential	99	tCO2

Removal certificates

Holding pool	20	
Potential units issued	79	CRCs

ise Verlaat

erlands

Estimated permanence of removal and storage
Freed up when project is implemented

Above Ground carbon is not removed for the project
Capacity of CO2 storage
Project related emissions
Projection -/- baseline



Field Code	Field name	Size (ha)	Owner	Notes
001	Zegveld		1 Coöperatie Kenr	Carbon storage rights handed ov

#	Field code	Field	Year	Date	Sample depth	SOC/AGB
001	001	Zegveld	2022	1-1-2022	-	AGB
003		#REF!	#REF!			
005		#REF!	#REF!			
006		#REF!	#REF!			
007		#REF!	#REF!			
008						
009						
010						
011						
012						

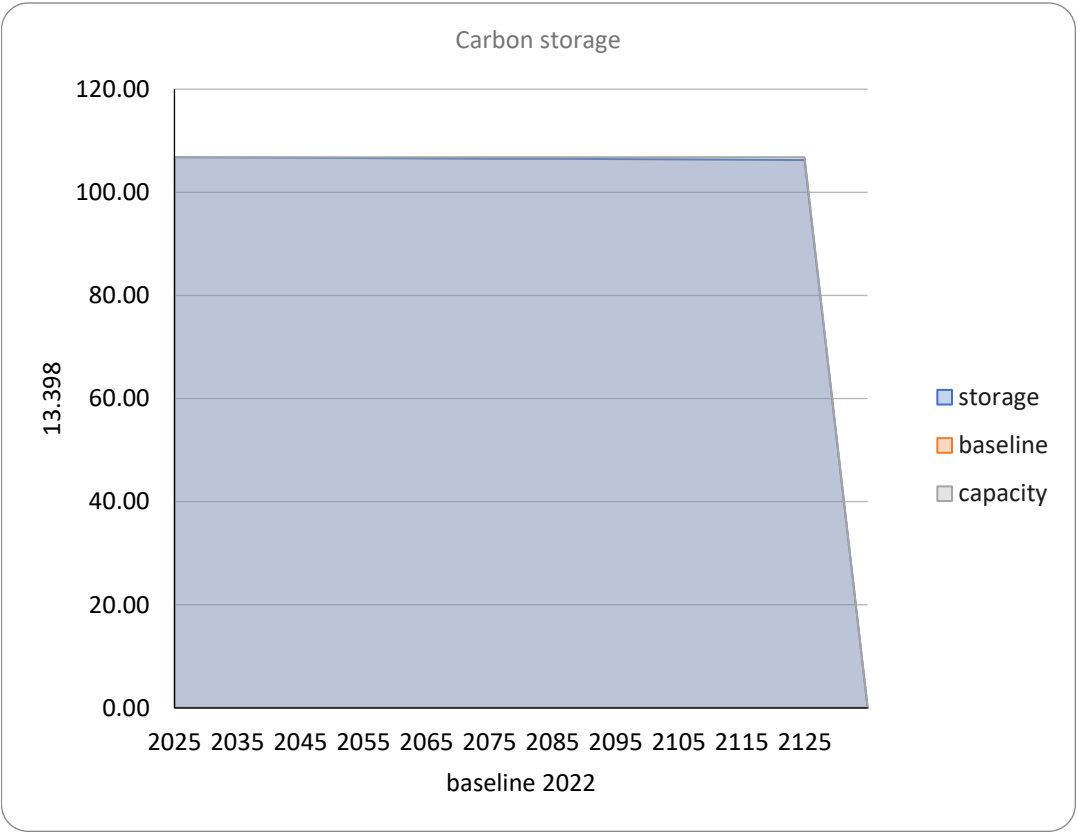
Carbon (g/kg)	AGB (tCO2/ha)	Sample/report nr.	Notes
---------------	---------------	-------------------	-------

-	0.00	No AGB is removed	
---	------	-------------------	--

Carbon Calculation for UGF-L-012

Surface	1 ha	Fields tab
Baseline AGB	0.00 tCO2e/ha	Measurements tab
Capacity Reference	106.80 tCO2e	References tab

	storage	baseline	capacity
2025	106.80	0.00	107
2035	106.75	0.00	107
2045	106.70	0.00	107
2055	106.64	0.00	107
2065	106.59	0.00	107
2075	106.54	0.00	107
2085	106.48	0.00	107
2095	106.43	0.00	107
2105	106.38	0.00	107
2115	106.32	0.00	107
2125	106.27	0.00	107



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 factor		
Density	Wageningen L	https://edepot.w	We've added these soil density leve
From C to CO2	3.666666667		

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

Variables	Unit	Source
Density of spruce	460 kg/m ³	https://www.wur.nl/upload_mm/e/b/t
Spruce C content	50.35% C content	https://www.sciencedirect.com/science
Wood moisture content	12.70% water content	https://www.sciencedirect.com/science
CO2e per m3	753.54 kgCO2/m ³	formula from:
Total volume of spruce	141.74 m3	
Total Underground CO2	106.80 tCO2	
Total amount of wood	65 t	

	Number	Pile length	Pile point (cm)
binnenkolommen	112	7.5	16.0
binnenkolommen	288	6.0	17.2
binnenkolommen	400	5.0	18
binnenkolommen	9	6.0	17
binnenkolommen	3	6.0	9
binnenkolommen	3	6.0	13.2
binnenkolommen	3	6.0	21.2
buitengevelkolommen	-	0.0	21.2
buitengevelkolommen	-	0.0	21.2
buitengevelkolommen	-	0.0	21.2
buitengevelkolommen	-	0.0	21.200
buitengevelkolommen	-	0.0	21.200

Mean point diameter (cm)	16.000	17.200	18.000
Increase per m (cm)	0.800	0.800	0.800
Pile length	7.5	6.0	5.0
Mean measurement point	3.750	3.000	2.500
Mean diameter	0.190	0.196	0.200
Volume pile	0.213	0.181	0.157
Piles per m3	4.703	5.524	6.366

Is to the calculation factors tab

Volume per pile (m3)	Volume sum (m3)		
	0.213	23.8	
	0.181	52.1	
	0.157	62.8	
	0.181	1.6	
	0.063	0.2	
	0.115	0.3	
	0.262	0.8	
	0.000	0.0	
	0.000	0.0	
	0.000	0.0	
	0.000	0.0	
0.000	0.0		
17	9	13.2	21.2
0.800	0.8	0.8	0.8
6.0	6.0	6.0	6.0
3.000	3	3	3
0	0.116	0.156	0.236
0.181	0.063	0.115	0.262
5.524	15.770	8.720	3.810

2D15%25)

21.2	21.2	21.200	21.200	11	11
0.8	0.8	0.8	0.8	0.8	0.8
0.0	0.0	0.0	0.0	0.0	#REF!
0	0	0	0	0	#REF!
0.212	0.212	0.212	0.212	0.11	#REF!
0.000	0.000	0.000	0.000	0.000	#REF!
#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#REF!

11	11	11	11	11	11
0.8	0.8	0.8	0.8	0.8	0.8
#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
#REF!	#REF!	#REF!	#REF!	#REF!	#REF!

Total emissions	7.03 tCO2
emissions forestry	1.57 tCO2
emissions transport	1.55 tCO2
emissions piling	3.91 tCO2
AGB emissions	0 tCO2

Emissions forestry

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

Emission pile driving

	3907 kgCO2
Hours per day	8 hr/day
Piles per day	110 piles/day
Piles project	818 piles
Days of work	7.4 7.0 days
w2w emissions (diesel)	3.2 kgCo2/l
2t2 bensine	2.7 kgCo2/l

Distance 46.8 km Zijdepark 10, Ouderk adlJ
Oude Mije 18, Zegveld

Per project

Lowboy	
Lowyboy per km	0.5 l/km
Diesel usage	46.8 l 149.76 kgCO2

Transport Personnel

Bus per km	0.07 /km
Amount of days	7 days
Bensin usage	6.24 l 119.68 kgCO2

Generator AC

Diesel per hour	4 diesel/hour
Per day	32 l/day 761.4836364 kgCO2

Chainsaw

Petrol usage	1 l/u
Hours per day	1 hr/day
Usage per day	1 hr/day 20.38 kgCO2

Emissions Pile driving

Piles per hour	13.75 piles/hr
Pile driver	15 diesel/hr
Diesel per pile	1.09 diesel/pile 2,856 kg/CO2
Amount of machines	1 machines

Above ground biomass for

surface site	10,000	m2 removed grassland
surface site	1	hectare
Average Above Ground Biom	1.222	tCO2/ha
compensation for ABG	1.22	tCO2

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

Transport emission 1547 kgCO2

Manhay distance	278 km	Oude Mije 18, Zegveld
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	3.7	
Trip rounded	4.0	
Total usage	483 l diesel	

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