

General information		Unit	Description
Project name	Offshore CDR research		
Remover name	Arbon Earth		
Project code	ARB-O-001		
Location	North Atlantic		some might be elsewhere, e.g in the waters out of Kenya
Duration		5 yrs	duration of project
Holding pool		20 %	holding pool for risk mitigation purposes
Project emissions		3 %	LCA estimate (Portugal-Antwerp scenario)
Carbon storage			
Per Oceanpod		0,01880 tCO ₂	carbon stored per Oceanpod
Per container		191 tCO ₂	carbon stored per container
Per tonne CO₂			
Number of Oceanpods		53 Oceanpods/tCO ₂	number of Oceanpods to sequester 1 tCO ₂
Removal goal			
Removals		50.000 tCO ₂	removal goal set by Arbon Earth for the first 5 years
Runs per ship per year		11	Antwerp - America shipping route availability
Total containers runs needed		262	number of shipping container runs needed for the removal goal
Containers needed		5	the number of shipping containers being operated per shipping run
Removal credits			
Emissions		1.650 tCO ₂	emissions based on LCA calculations
Credits first 5 years		48.350 credits	12/20 x net storage potential
Holding Pool		9.670 credits	20% of the first 5 years
Credits		37.030 credits	80% of the first 5 years

	Variable	Value	Unit
Macroalgae	carbon content	29%	C
	dry weight	13,20	kg / Oceanpod
	biomass carbon	14,21	kgCO2 / Oceanpod
Bamboo	carbon content	49%	C
	weight	1,37	kg / Oceanpod
	biomass carbon	2,48	kgCO2 / Oceanpod
Rope	carbon content	44%	C
	weight	1,31	kg / Oceanpod
	biomass carbon	2,11	kgCO2 / Oceanpod
Total CO2 sequestered per Oceanpod		18,80	kgCO2 / Oceanpod

What	Species/other divisions	Mean	Unit	Confidence Interval	Reference	Link
Carbon content	rope	44	% C		LCA calculations (New Economy)	
Carbon content	<i>Saccharina latissima</i>	27,5	% C	0,7	Gevaert et al., 2001	https://doi.org/10.1017/S0025315401004532
Carbon content	<i>Saccharina latissima</i>	30,75	% C	2,15	Sharma et al., 2018	https://doi.org/10.1016/j.algal.2018.03.012
Carbon content	<i>Saccharina latissima</i>	26,6	% C	3,2	Schiener et al., 2015	https://doi.org/10.1007/s10811-014-0327-1
Carbon content	<i>Saccharina latissima</i>	36,7	% C	0,3	Boderskov et al., 2016	https://doi.org/10.1007/s10811-015-0673-7
Carbon content	<i>Saccharina latissima</i>	25,2	% C	1,3	Fieler et al., 2021	https://doi.org/10.3389/fmars.2021.632725
Carbon content	<i>Bamboo</i>	49,2	% C	3,54	Ma et al., 2018	https://doi.org/10.5194/bg-15-693-2018
Rope weight per oceanpod		1,3	kg		Arbon Earth data	
Macroalgae dry weight per oceanpod		13,2	kg		Arbon Earth data	
bamboo weight per oceanpod		1,4	kg		Arbon Earth data	
C to CO2		3,67				
Macroalgae dry weight per m rope	<i>Saccharina latissima</i>	0,33	kg/m		Hortimare measurements	
Length of rope		20	m		Arbon Earth data	
Length of bamboo branches		20	m		Arbon Earth data	

#	Field	Species	Year	Dry bulk density (g/cm ³)	Organic Matter content (%)	Biomass (kg DW)	C content (% C/kgDW)	Notes
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