

Carbon sequestration - Balcombe

Assumes 1m³ of hardwood = 1 tonne

Calculations based on the amount of CO₂ sequestered over the commercial rotation for the

Tree species (annual and when mature) (figures = per hectare)											Area
Species	Average Yield Class (m3)	Total timber and roots (m3)	Factor	Green weight (tonnes)	Factor	Seasoned dry weight (tonnes)	Weight of Carbon (tonnes)	Factor	Weight of CO ₂ (tonnes)	% of tree Shrub mix	Planted area Ha
Oak	6	7.2	0.94	6.768	0.74	5.00832	2.50416	3.6663	9.181001808	0.25	0.11095
Silver birch	8	9.6	0.97	9.312	0.72	6.70464	3.35232	3.6663	12.29061082	20%	0.08876
Wych elm	8	9.6	0.97	9.312	0.72	6.70464	3.35232	3.6663	12.29061082	10%	0.04438
Hornbeam	8	9.6	0.97	9.312	0.72	6.70464	3.35232	3.6663	12.29061082	10%	0.04438
											Total

Shrubs (when mature)								
			No Planted	Estimated No Year 10	Carbon kg/plant	CO ₂ -e kg/plant	Total Carbon (tonnes)	Total CO ₂ -e (tonnes)
Hawthorn (5m)	5m	1037	622.2	58	213	36.0876	132.53	
Hazel (5m)	5m	1259	755.4	22	81	16.6188	61.187	
Wayfaring Tree (5m)	5m	952	571.2	22	81	12.5664	46.267	
Total							65.2728	239.98

SL
Yr25 trees
Year 25 shrubs
Year 25 total
Yr 60 trees
Yr 60 shrubs
Yr 60 total

0.4438		When mature	
Weight of		60	Years
Carbon	Weight	Carbon	Weight
sequestered	of CO2	sequestered	of CO2
(tonnes p.a)	(tonnes p.a)	(tonnes)	(tonnes)
0.277836552	1.018632151	16.67019312	61.117929
0.297551923	1.090914616	17.85311539	65.454877
0.148775962	0.545457308	8.926557696	32.7274385
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0.872940398	3.200461383	52.3764239	192.027683
Per annum			

SUMMARY	
Carbon	CO2-e
21.823510	80.011535
65.272800	239.983200
87.096310	319.994735
52.376424	192.027683
65.272800	239.983200
117.649224	432.010883