



Why do we need more Working woodlands ?

Graham Taylor MBE FICFor





Working Woodlands – Why needed ?

1. Ecological Maximisation
2. Ecological Protection
3. Carbon Sequestration
4. Carbon substitution
5. GVA – Economic benefits
6. Local efficient sustainable energy
7. Recreational benefits
8. Landscape creation / maintenance





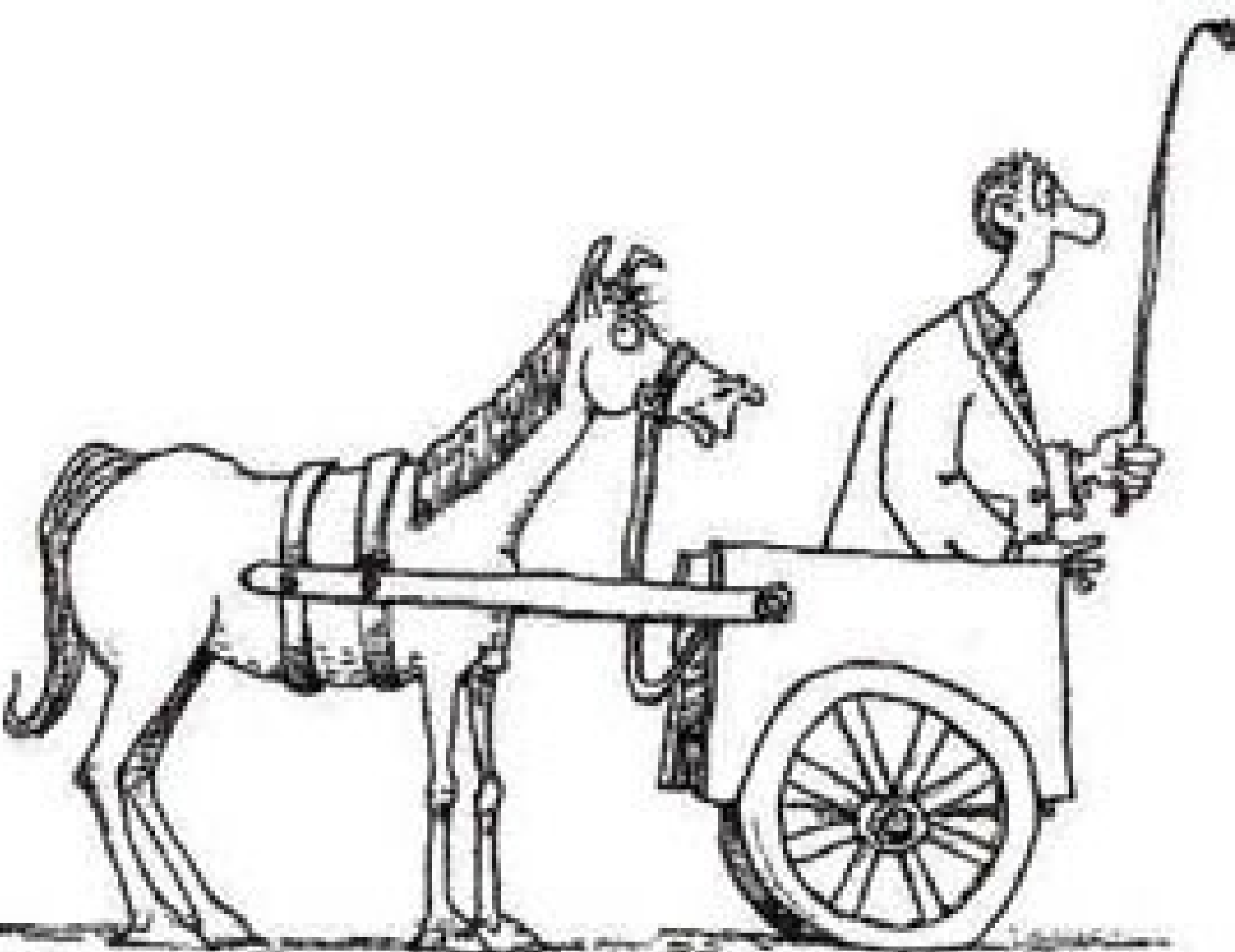




Forestry Recommissioned:

Bringing
England's
woodlands
back to life





30 years of Biodiversity Policy

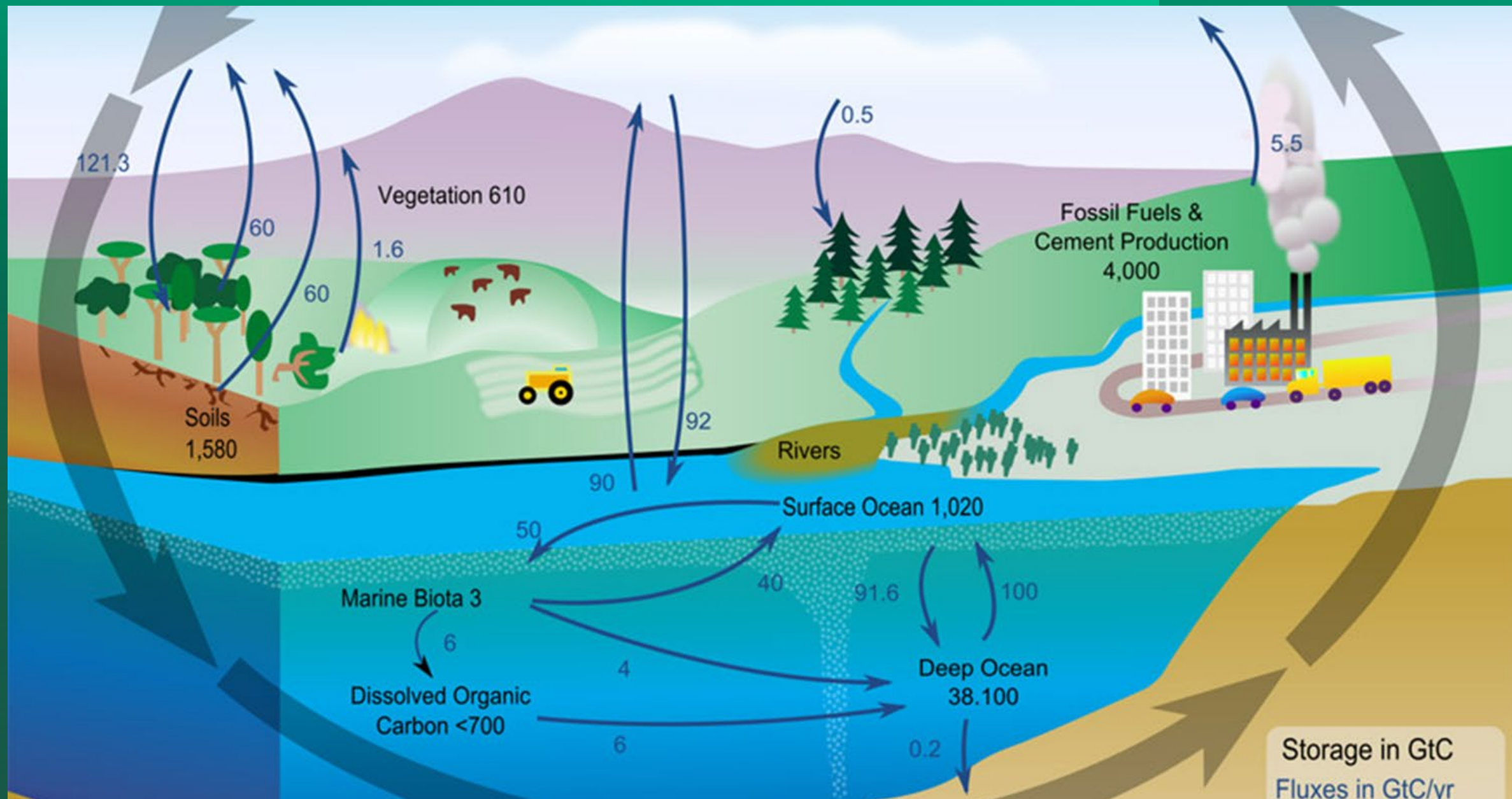
Natural systems

Native
Protectionism

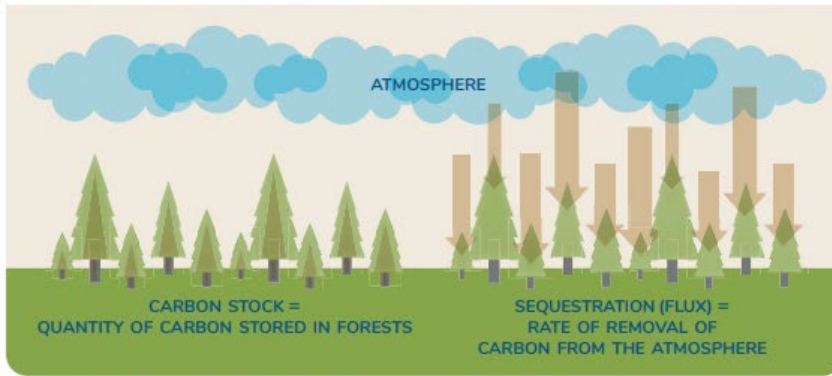
Rewilding

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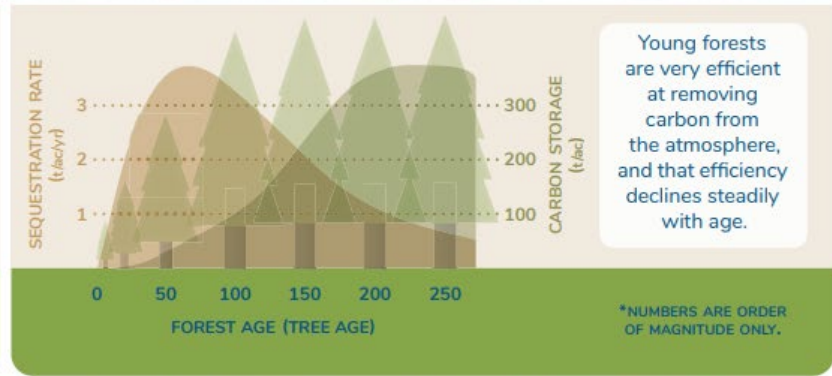
Climate
Change ?
Failure



STORING vs. SEQUESTERING CARBON



SEQUESTRATION RATE AND CARBON STORAGE OVER AGE*



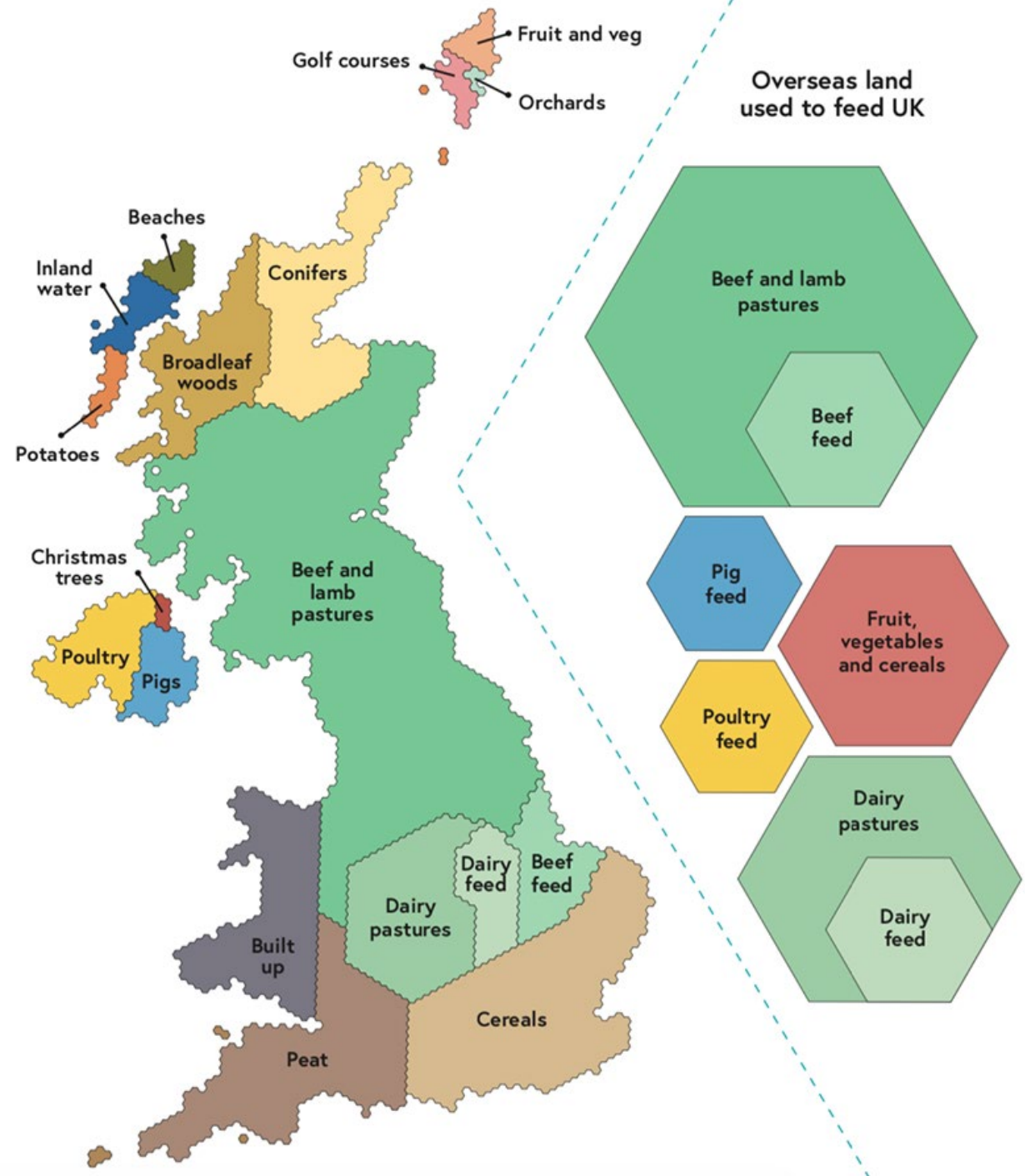
CARBON CYCLE—FOREST AREA WITH MIXED TREE AGES



CARBON CYCLE—FOREST AREA DOMINATED BY OLD TREES

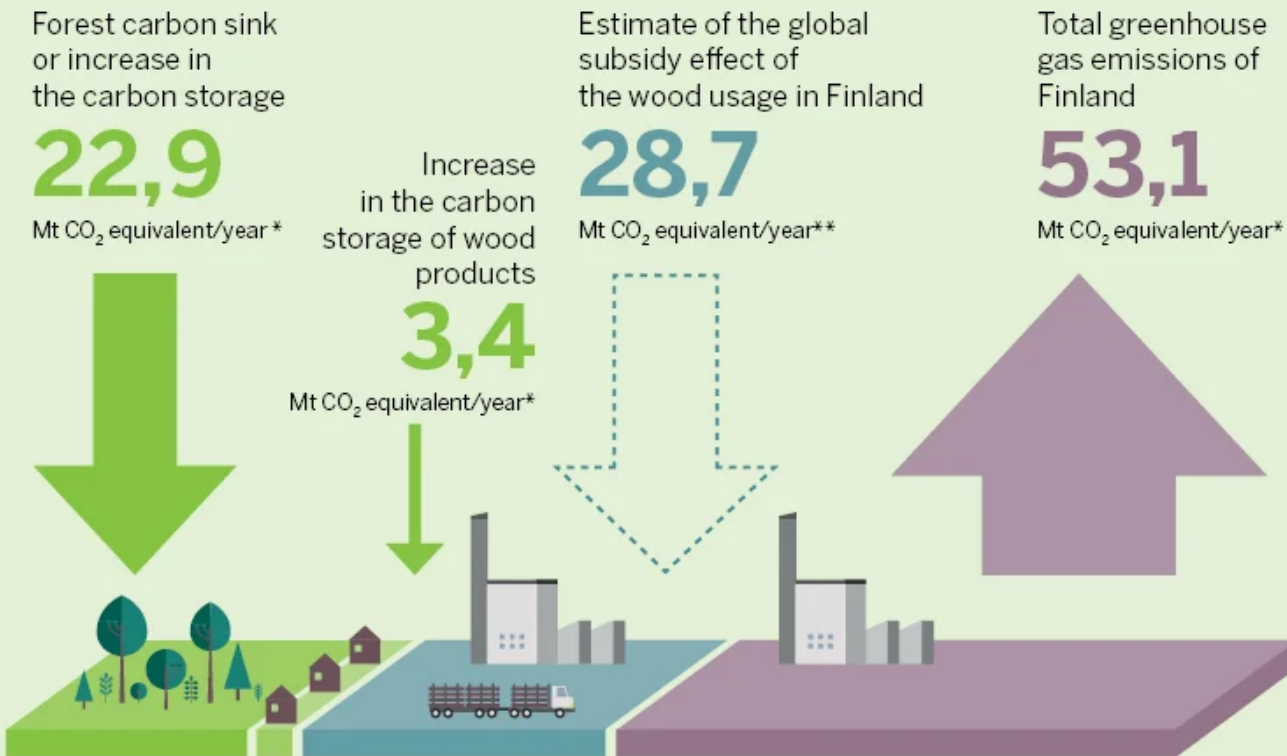
Old forests **store** more carbon but sequester it much more slowly than younger managed forests. As old trees die or are lost to insects, storms, or fire, they release their carbon back to the atmosphere.





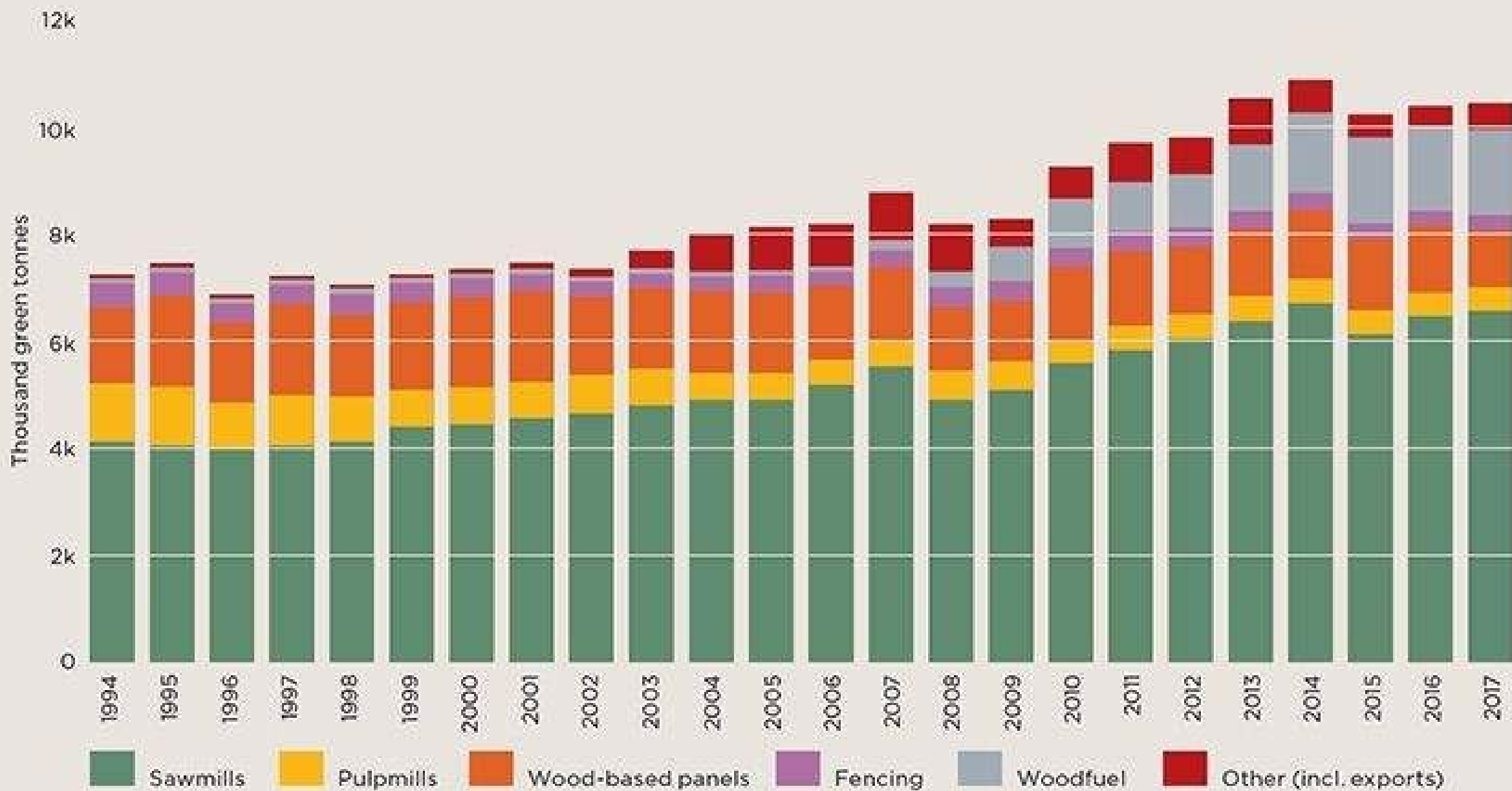
The impacts of forest on the climate

Fossil greenhouse gas emissions avoided due to wood products produced in Finland are estimated to be roughly of the same size as forest carbon sinks. This corresponds to about half of Finland's greenhouse gas emissions. If half of all existing side streams could be utilized first for new products and only then for energy, the figure could even double, which would be enough to compensate greenhouse gas emissions in Finland as a whole.



Preliminary data for 2019 (Statistics Finland, Natural Resource Institute Finland)

** The situation in 2016 (Hurmekoski et al. 2020). Total emissions without LULUCF sector. The forest industry emissions are included in total emissions, but they have been deducted from the substitution effect estimates. Source: Ministry of Agriculture and Forestry of Finland)



Mixed Lowland Forestry Estate

Conifer / Broadleaved Timber	Product	Annual Average Production m3 / t	% Mix	Process %	Wood Product	Product type
Conifer	Sawlogs	3330	35.9	60	C16 / C22	Carcassing & Pallet
				6	Bark	Compost / Mulch
				24	Chipwood	Chipboard
				10	Sawdust	Chipboard
	Bars	201	2.2	50	Pallet	Pallet wood
				6	Bark	Compost / Mulch
				34	Chipwood	Chipboard
				10	Sawdust	Chipboard
	Fencing	549	5.9	92	Round Fencing	Posts & Stakes
				8	Bark	Compost / Mulch
Biomass	1334	14.4	100	Woodchip	Fuelwood	
Chipwood	1518	16.4	92	Chipwood	Chipboard	
			8	Bark	Compost / Mulch	
Hardwood	Sawlogs	613	6.6	40	Beam	Oak Beam
				20	Planking	Oak Floor
				40	Slabwood	Energy
	Firewood	1720	18.6	100	Firewood	Firewood
		9265	100.0			

Mixed Lowland Forestry Estate

Carbon Substitutionary benefits




Comparative Product	Life cycle (Years)	Recyclable	Tonnes of Processed Timber Product	Product use comparison ratio tonne for tonne	Weight of Comparison product used	Production t CO2 (eq)	Total CO2 emitted for product
Concrete block	100	N	809	18.0	14565	1	14565
Peat Compost	1	N	180	1.0	180	0.1	18
Tile flooring	10	N	360	1.3	270	0.303	82
Tile flooring	10	N	300	1.3	225	0.303	68
Plastic Pallet	7	Y	81	1.2	70	1.9	132
Peat Compost	1	N	11	1.0	11	0.1	1
Tile flooring	10	N	20	1.3	15	0.303	5
Tile flooring	10	N	6	1.3	4	0.303	1
Steel	200	Y	455	2.5	182	1.85	336
Peat Compost	1	N	40	1.0	40	0.1	4
Heating Oil	0.1	N	788	2.9	274	1.69	463
Tile Flooring	10	N	413	1.3	310	0.303	94
Peat Compost	1	N	109	1.0	109	0.1	11
Steel Joist	200	Y	221	2.5	88	1.49	132
Ceramic Tile	50	N	55	1.5	36	0.303	11
Fuel oil	0.1	N	221	3.0	74	1.69	124
Fuel oil	0.1	N	1548	3.0	516	1.69	872
			5616		16968		
					Total t CO2 eq Displaced =		16919





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International Comparison

	Land Area Million ha	Pop'n Million	Broadleaf Forest Area Million Ha	Ratio	Hardwood Sawlog Production Million m3	Ratio	Hardwood Sawlog / Broadleaf ha M3 / annum	Efficiency Ratio
France	54.7	66.6	13.55	9.1	4.1	54.6	0.3	6
Germany	34.8	80.6	4.7	3.1	3.5	46.6	0.74	14.8
UK	24.1	64.2	1.5	1.0	0.075	1	0.05	1



THE REAL **VALUE** OF WOODLANDS £84,000 per ha / 30 years



Communities enhanced **£7.5k**
Employees developed and engaged
Increased health and wellbeing



Cleaner air **£1.8k**



Landscapes protected **£4.6k**
Environmental net gain



Carbon value **£17k**



Water **£21.8k**
Cleaner water
Reduced flooding



Biodiversity net gain **£30k**



Soils considering carbon and erosion
£6.8k



