

**From:** enquiries@woodlandtrust.org.uk,  
**To:** richardfball@aol.com,  
**Subject:** RE: Carbon Offset  
**Date:** Wed, 15 Dec 2021 15:52

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Hello Richard

Thank you for your email. Trees capture CO2 from the atmosphere and incorporate it into lignin (wood). CO2 is therefore sequestered proportionately to the growth of the tree.

There are too many variables that affect carbon storage rates, which means the figures that are often quoted are unreliable (some numbers may come from scientific studies, but the authors of the studies usually point this out in their papers and it gets lost in translation somewhere along the way). Even standardising carbon figures by tree species (which eliminates one of the variables) is wildly inaccurate because so many things can affect an individual tree's capacity to grow, and in turn store carbon (e.g. geography, soil conditions, climate, genetics, etc.). The Trust uses an averaged figure for woodland carbon, which allows for greater accuracy and eliminates some of the variables that affect individual tree statistics.

Carbon sequestration itself (how much is stored, not the rate of storage) is easy enough to calculate for any tree, given that it's a mathematical question. You can calculate the amount of CO2 used for any tree if you know (or can estimate) its timber volume, as we know the chemical formulas of lignin and carbon dioxide (you'd calculate how much carbon is in the tree, then how many tonnes of CO2 this equates to). The answer would be unique to that tree and it can't really be assumed for all trees of that species given the many variables involved. It's also just a snapshot of the tree's carbon content at that specific time in its life. Wikipedia states that lignin is 30% non-fossil organic carbon. As 30% of a tree is carbon you could calculate the weight of carbon using that.

Some councils have a 2 for 1 policy for replacing felled trees. Our suggestion would be to plant a minimum of 3 trees for 1 ratio for replacing felled trees, and an older tree the ratio should be higher- but as yews can live for up to thousands of years, this particular tree isn't very old. We don't actually consider replanting for an established tree to be an equitable substitute, and instead we suggest retaining trees where possible. I'm afraid that we don't offer grant funding to replace felled trees. We can help community groups and schools by offering free tree packs to plant on communal areas such as recreation grounds, community sports fields, allotments, school premises etc. You can find out more information about our tree packs here:

<https://www.woodlandtrust.org.uk/plant-trees/schools-and-communities/>

I hope this is helpful. If you have any further queries, please do feel free to contact us again.

Kind regards

David

**David Hallewell**

**The Woodland Trust**

Woodland Trust, Kempton Way, Grantham, Lincolnshire, NG31 6LL  
[www.woodlandtrust.org.uk](http://www.woodlandtrust.org.uk)

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**From:** richardfball@aol.com <richardfball@aol.com>  
**Sent:** 09 December 2021 00:05  
**To:** enquiries@woodlandtrust.org.uk  
**Subject:** Carbon Offset

Hi all,

I am an individual member of the Woodland Trust, but I am writing in my role of a churchwarden at our local church (All Saints', Church Lench, Worcestershire)

Can you help me with a query, please?

We wish to fell a yew tree in the churchyard. it is about 75 years old and some 10 metres tall or more. However we are aware of the carbon locked in the wood and - more important - the additional carbon which would be absorbed by the tree if it were to remain and continue to grow over - say - the next three years. Can you say what might be needed to offset the loss of carbon absorption, either by planting saplings or (more practically) by a specific grant to yourselves to plant.

I have no expertise in this field and cannot make any quantitative assessment.

Any information would be a great help.

Best regards - **Richard Ball**

All Saints' Church

Church Lench

Worcs

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