



WHAT EXACTLY ARE YOU DEALING IN?

John Park says the timber industry is trading in carbon capture, storage and usage, as well as wood



Wood is a remarkable material but for many within the timber trade it's just something to buy and sell and for which an understanding of how it works and quite *how* remarkable it is just gets in the way. So, let's start with one of the many positive attributes of wood, that it's not plastic! And now spare a thought for what is made from crude oil derivatives but which, when there was no option otherwise, was made of or from wood.

And yet, because of the scourge that is illegal logging (and, at times, even when it is legally harvested and sustainable) the wood industry has had to defend itself against environmental campaigns so pervasive that the message picked up by schoolchildren was that it's wrong to cut down any tree and woe betide anyone who happened to mention they were in the timber trade if there happened to be anyone of a certain environmental persuasion within earshot.

In light of the realisation that plastic is not quite so fantastic should we not all now be working to create a wider awareness of wood, the astonishing diversity of products obtained from trees and that forests with no commercial value as wood (non-wood forest products and long-term forest reserves notwithstanding) will not remain as forest for very long?

The key to it all is, of course, that trees grow and can be harvested and replaced in perpetuity. You plant a seedling, it is allowed to grow for 300 years and, voila, you have a 300-year-old tree; plant enough of them and in time there will be a 300-year-old forest – if we can wait that long! Naturally not all tree species are as long-lived as that and also maximisation of forest values is at the heart of commercial forestry.

And now here's the wood science: wood, depending on tree species, comprises, in varying amounts, cellulose (40-55%), hemicellulose (12-15%), lignin (15-30%) and extractives (2-15%). From that it is determined that wood is, by weight, 50% carbon. That is taken from EN 16449:2014 *Wood and wood-based products – Calculation of the biogenic carbon content of wood and conversion to carbon dioxide* (and I don't feel too bad lifting it straight from there because I wrote it in the first place); this European Standard provides a calculation method (we got some clever people involved with the drafting as well!) to quantify the amount of atmospheric carbon dioxide, absorbed by trees as they grow, based on the biogenic carbon content.

By any other name, that is carbon capture and storage (CCS). Powered by free energy from sunlight and by the natural magic that is photosynthesis, to grow (ie become more wood and bark),

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for each cubic metre of wood produced by the cambium, taking commercial softwood with average density 450kg/m³, a tree needs 225kg of sequestered carbon for which it absorbs approximately 900kg of atmospheric carbon dioxide. (Do the calculation – the atomic weight of carbon is 12; oxygen 16). Alas, that is not seen by the powers that be as a practicable means of CCS, because it has no commercial value. It is now also referred to as CCUS, U being usage ... ! Are you with me, yet?

In last month's *TTJ*, Dr Morwenna Spear, mentioning in passing COP24 and the Committee on Climate Change, highlighting invisible wood, that which tends to be overlooked as it is out of sight but as you may have heard somewhere, every little helps! So now, as a timber trader, when anyone asks what you do for a living tell them you deal in carbon capture, usage and storage. ■

*Below Forests
absorb and store
carbon as they
grow*



The Wood Technology Society

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