

THE INSIDIOUS LOGIC OF CARBON ACCOUNTING

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If Dartmouth College eventually decides to proceed with its biomass plant, perhaps the most obvious question to ask is whether its greenhouse gas emissions would go up or down. In a report last March, the college provided a preliminary answer. Emissions, it claimed, would go down — by a lot. And mostly in the first year of the new system's operation.

In rough terms, Dartmouth put the college's current greenhouse gas emissions at about 58,000 metric tons per year. By the start of 2025, the year the proposed biomass system would come online, emissions are projected to have decreased to about 48,000 metric tons. But then, suddenly, by the start of 2026, emissions would plunge by about half, to about 25,000 metric tons. How is that possible?

For starters, the use of biomass for energy production, whether it be for heat or electricity, produces more greenhouse gas emissions than oil, not less — about 20 percent more. But since Dartmouth is also

expecting to see higher levels of efficiency with the new system, let's call that a wash.

So even with improvements in efficiency taken into account, emissions at Dartmouth would essentially break even at best. But wait, there's more.

There's also the decrease in carbon sequestration that occurs when trees are harvested. This effectively translates into more emissions, not less, since removing carbon "sinks" is just another way of keeping greenhouse gas concentrations in the atmosphere at higher levels than they would have otherwise been.

As incredible as it may seem, the answer to how greenhouse gas emissions at Dartmouth might ostensibly go down and not up is because of the way carbon accounting standards treat biomass. In effect, all carbon dioxide emissions resulting from the use of woody biomass as a fuel are counted as zero — like they never happened. And so even though Dartmouth's carbon emissions may actually go up, it can officially ignore and not report them, including in their projections.

The accounting logic behind all of this goes back to 1997, when as a result of the Kyoto Protocol countries around the

world starting taking national inventories of their greenhouse gas emissions retroactively to 1990. The methodology used — which is still in use today — was developed by the Intergovernmental Panel on Climate Change (IPCC) under the auspices of the United Nations.

In what became known as the *IPCC Guidelines*, specific procedures were put in place for how countries should count their greenhouse gas emissions on a sector-by-sector basis, one of which included forestry. In that case, all emissions associated with the harvesting of timber were to be attributed to the forestry sector and no one else.

What that meant, of course, was that if the same timber is later burned for energy or heat, the emissions associated with its combustion should be ignored. Why? Because to count it again would be to commit the unforgivable sin of double counting.

Not only have the *IPCC Guidelines* been applied to the national greenhouse gas accounting practices of countries around the world — including by the EPA here in the U.S. — the logic of its accounting principles has also trickled down to the standards and methods used for tracking

and reporting greenhouse gas emissions by organizations, like Dartmouth.

Of most importance in this regard is the Greenhouse Gas Protocol, an organizational accounting and reporting standard first put out in 2001. While clearly taking its cue from the *IPCC Guidelines*, the Greenhouse Gas Protocol prescribes accounting for the combustion of biomass as follows:

“Emissions of CO₂ from the combustion of biomass are reported for informational purposes, but not included in national totals. This is because any net additions of CO₂ to the atmosphere resulting from biomass combustion should be captured by analyzing land-use, land-use change activities and their associated effects on terrestrial biomass carbon stocks. In other words, the ‘emissions’ are counted when the trees are cut, not when they are burned.”

What this means is that in order to fully comply with national and international standards for greenhouse gas emissions accounting, Dartmouth, like all organizations, is duty-bound to treat all carbon dioxide emissions from the combustion of woody biomass as if they never happened, even though its actual emissions when compared to present levels will at least be equal if not higher.

So thanks to the U.N. and the *IPCC Guidelines* for how to formally account for greenhouse gas emissions from the use of biomass as a fuel, energy producers and users around the world are now rushing to embrace it as a newly favored, “renewable” form of energy, the deleterious effects of which are vividly portrayed in the laudable documentary film, *Burned: Are Trees the New Coal?*

Climate scientists everywhere, now increasingly concerned with what was obviously an ill-considered accounting standard made so many years ago, are scrambling to petition the IPCC to fix this problem. Treat biomass like other fuels, they are saying. Count emissions when they are burned, not when they are harvested.

In the meantime, would-be burners of biomass on a large scale, like Dartmouth, should be discouraged from treating emissions from the burning of biomass as if they never happen. Why? Because burning trees really does make smoke. And cutting them down really does leave more carbon dioxide in the atmosphere.

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