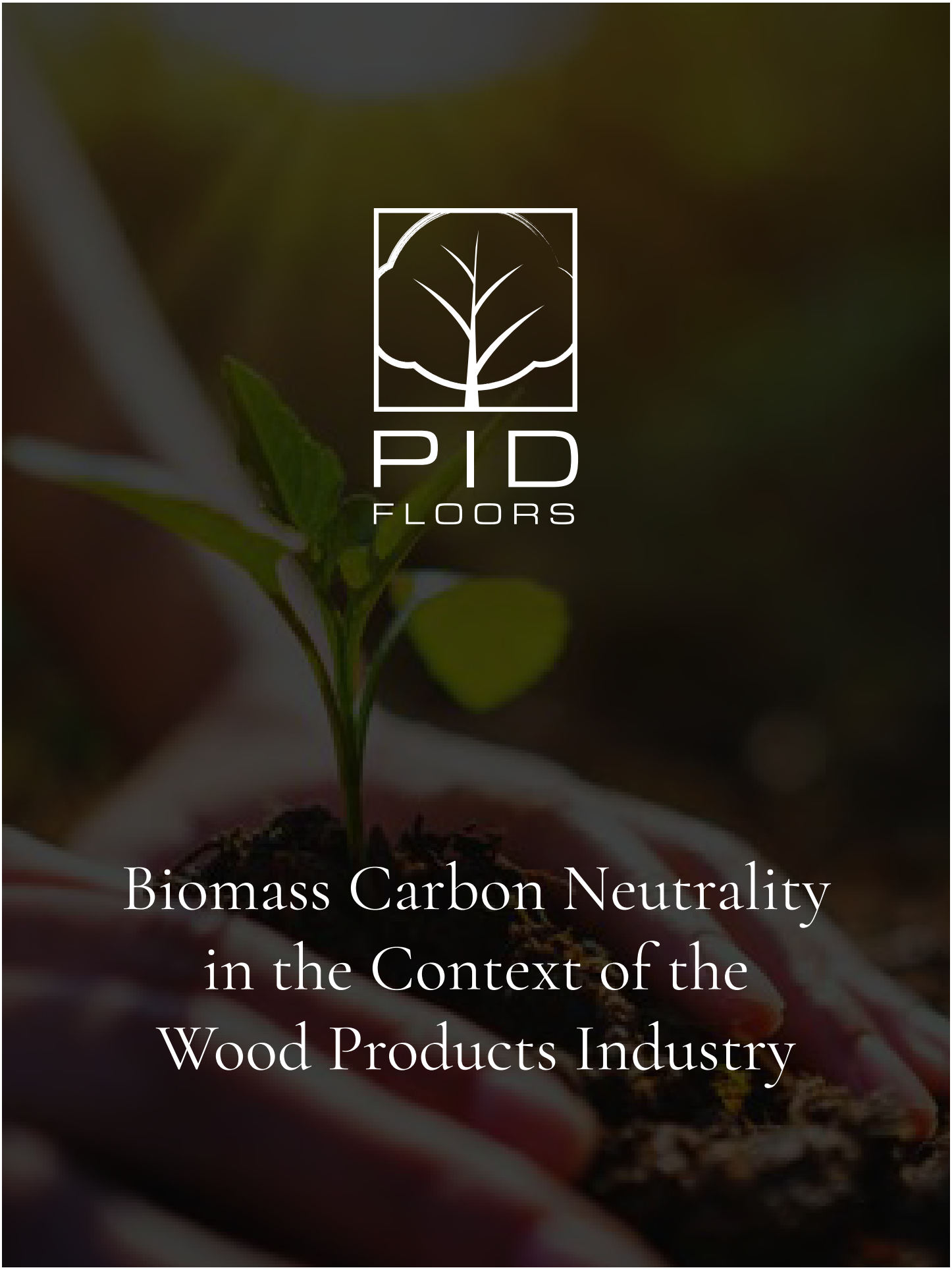

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Biomass Carbon Neutrality in the Context of the Wood Products Industry

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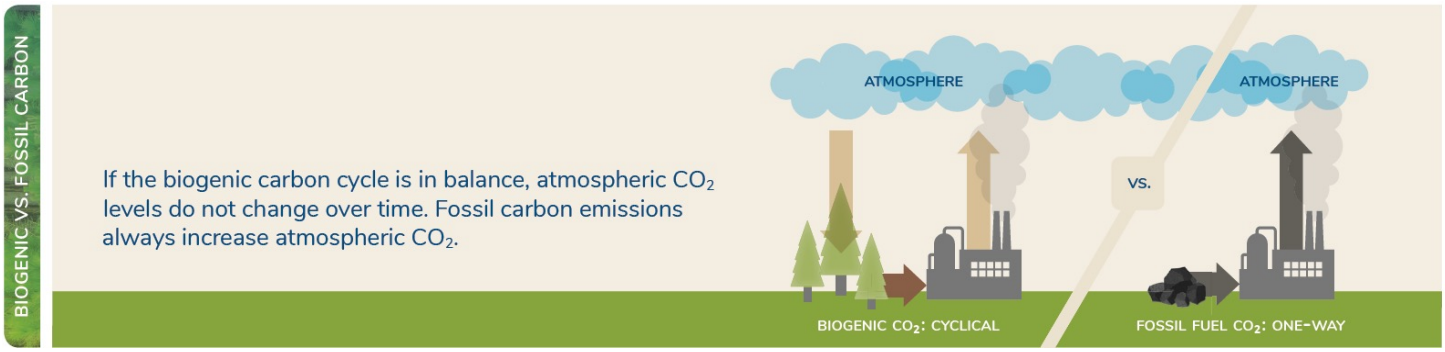
BIOMASS CARBON NEUTRALITY IN THE CONTEXT OF THE WOOD PRODUCTS INDUSTRY

Biomass is the name for a range of organic materials that can be used to produce energy. A salient example are forestry products like wood. Biomass and biofuels made from biomass are alternative energy sources to fossil fuels, such as coal. Burning either fossil fuels or biomass releases carbon dioxide (CO2) into the air. However, the plants that are the source of biomass for energy capture almost the same amount of CO2 through photosynthesis while growing as is released when biomass is burned. Therefore, biomass can be made a carbon neutral energy source.

When we think about the wood products industry specifically, we examine forests. When biomass carbon emissions are completely offset by forest growth, biomass carbon neutrality is achieved. Neutrality can also occur when the carbon in the biomass would have returned to the atmosphere even if it had not been used for products or fuel.



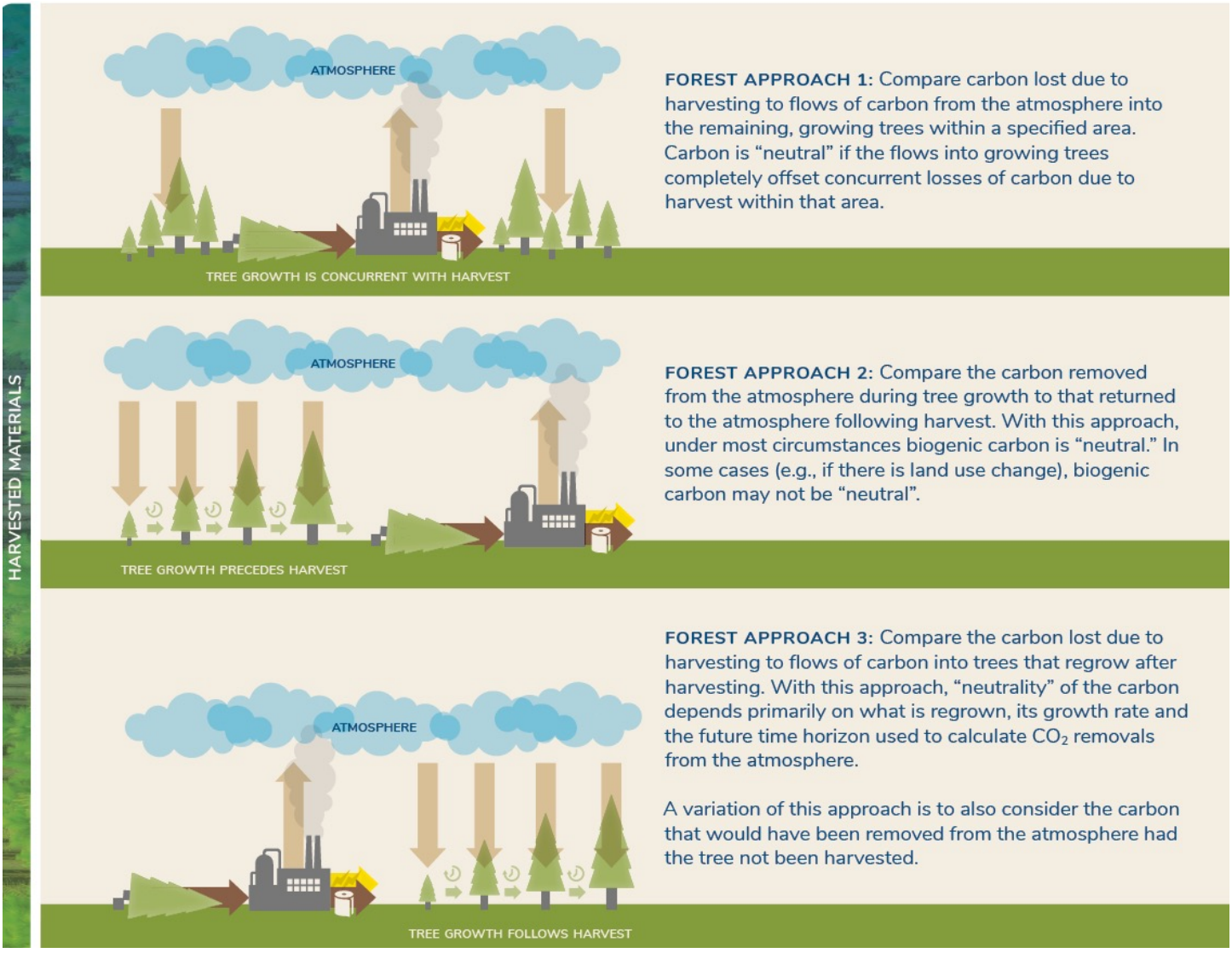
Notice that on the right side of the diagram, carbon dioxide is released into the air, but the coal cannot absorb it. Whereas on the left side, the trees can absorb the carbon dioxide they released and thus maintain the level of CO2 in the air.

To be environmentally beneficial and sustainable, we must not use biomass faster than we can grow it. If we do not maintain the life cycle, more CO2 will enter the atmosphere and deforestation will occur. Well-managed biomass can be regarded as a renewable energy. When we maintain the life cycle of trees, we create a sustainable system.

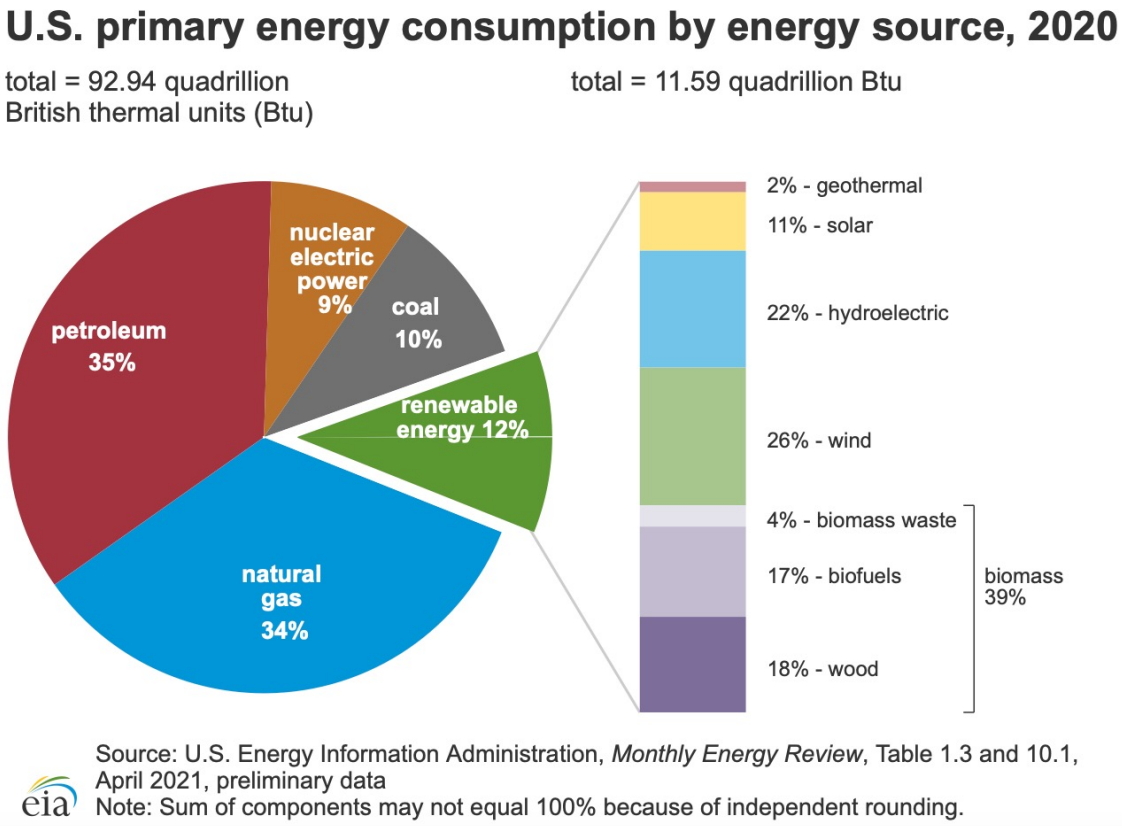
Advocates of biomass energy agree that when forests are harvested sustainably, and the timber industry thinnings are used as fuel, the smokestack emissions are cancelled out by the carbon absorbed by forest regrowth. However, some scientists say that this carbon accounting doesn't add up. "Wood bioenergy can only reduce atmospheric CO2 gradually over time, and only if harvesting the wood to supply the biofuel induces additional growth of the forests that would not have occurred otherwise," says John Sterman, an expert on complex systems at Massachusetts Institute of Technology.

CUT TREES TO SAVE ENVIRONMENT

It is important we assess biomass carbon neutrality in our forests to ensure they are harvested sustainably. Below are three different forest approaches to determining biomass carbon neutrality:



The table below breaks down the energy used and produced in the United States, and you can see that renewable energy only makes up 12%.



RESOURCES

https://awc.org/publicpolicy/biomass
https://www.eia.gov/energyexplained/biomass/biomass-and-the-environment.php
https://www.eia.gov/energyexplained/us-energy-facts/
https://www.ncasi.org/resource/biomass-carbon-neutrality-in-the-forest-products-industry/
https://physicsworld.com/a/biomass-energy-green-or-dirty/