

Southern Oregon Climate Action Now

**SOCAN**

Confronting Climate Change

<https://socan.eco>

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Chair Helm and members of the House Committee on Agriculture, Land Use, Natural Resources and Water:

I write as Co-facilitator of Southern Oregon Climate Action Now, an organization of over 2000 rural Southern Oregonians and friends who are concerned about the climate crisis and urge statewide action to address it. The mission of SOCAN is to promote awareness and understanding of the science of climate change and motivate appropriate individual and collection action. As rural Oregonians, we live on the frontlines of the climate crisis because we directly and immediately live with the increasing risk of drought, wildfires, and extreme weather that the climate crisis imposes.

In an era when we are trying to address the climate crisis it is tempting to seek energy resources solutions to avoid fossil fuels. As a retired university biology faculty member, I am well aware of the apparent merits of employing the product of photosynthesis as a fuel source. On face value, it appears that using biomass as a fuel should be a net zero carbon activity. This seems reasonable since rather than burning fossil fuels that release carbon captured from an atmosphere hundreds of millions of years ago and dumping it into our current atmosphere, using biomass seems simply to return to our current atmosphere, carbon trapped from it, thus resulting in a net zero flux. Unfortunately, this apparently simple equation overlooks much. One of the first items overlooked is the impact of harvesting on the potential for growing trees to sequester further carbon if left unharvested.

Of particular importance, however, is the general principle that whenever we assess the greenhouse gas emissions from various competing or alternative energy sources, we must conduct a full lifecycle analysis of the cradle to grave (extraction/production to combustion) emissions of the energy sources. As soon as this assessment is applied to biomass, and we thereby include the emission resulting from the forest management, harvesting, processing, transport and combustion of the biomass, we find that the net zero assumption is severely compromised. Indeed, an analysis by Sterman *et al.* (2018) revealed: "Because combustion and

processing efficiencies for wood are less than coal, the immediate impact of substituting wood for coal is an increase in atmospheric CO<sub>2</sub> relative to coal.”

This conclusion was echoed by a more recent analysis of Yassa and Greene (2021) who conclude: “The biomass industry claims that bioenergy on its own is carbon neutral, and that BECCS is carbon negative. However, the math associated with the leading approach to BECCS doesn’t add up.”

The message that the research reveals is that converting power plants to biomass is not an improvement over coal, and certainly does not compete with genuine renewable energy sources such as solar, wind and water. It is clear that Oregon blundered seriously when adopting the decision to declare biomass and biofuels net zero emissions energy resources. Each proposed project employing biomass must be assessed on its own merits before concluding that it is beneficial. By the same token, offering incentives via tax breaks to those engaged in biomass extraction and combustion will likely not only fail to help Oregon reduce its statewide greenhouse gas emissions, but will likely hasten the destruction of our forests and compromise efforts to promote natural climate solutions that promote sequestration of carbon in these forests.

\*BECCS Bioenergy with Carbon Capture and Storage.

Respectfully Submitted

A handwritten signature in black ink that reads "Alan Journet". The signature is written in a cursive, flowing style.

Alan Journet

Sterman j, Siegel L, Booney-Varga J 2018 Does replacing coal with wood lower CO<sub>2</sub> emissions? Dynamic lifecycle analysis of wood bioenergy. Environmental Research Letters 13 015007  
<https://iopscience.iop.org/article/10.1088/1748-9326/aaa512/meta>

Yassa S, & Greene N 2021 A Bad Biomass Bet: Why the Leading Approach to Biomass Energy with Carbon Capture and Storage Isn't Carbon Negative. Natural Resources Defense Council  
<https://www.nrdc.org/resources/bad-biomass-bet>