

To Senate Natural Resources and Energy Committee,

February 7, 2023

Dear Chair Bray and Senators Watson, McCormack, MacDonald, and White,

I write to you regarding The Affordable Heating Act, S.5, and now H.96 as well. The bill has been touted as being one of the major actions by Vermont to curb climate disrupting emissions. However, there is a serious problem with letting S.5 go through as it is written now, without removing biomass and biofuels as acceptable renewables. At best, it will increase the time and money spent before actually achieving some meaningful reduction of greenhouse gasses. At worst, the greenhouse gas counts will not include biogenic emissions, thereby exacerbating climate change, impairing human health, and adding to the equally important and existential biodiversity crisis. The work has been done already, and it is a fact that using biomass is worse even than any of the fossil fuels, for both heating and electricity. If emissions are assessed fairly and comprehensively, biomass and biofuels will be disqualified due to emissions, inequity and environmental destruction. Keeping biomass in the bill will waste time and energy, and deflect away from the real solutions of truly renewable options such as weatherization, geothermal and cold climate heat pumps running on energy from wisely placed solar and wind, and letting forests and other carbon storing and sequestering ecosystems grow naturally. The studies have already been done and replicated. Vermont doesn't need to replicate them again. Spend our limited time and money on solid, most effective solutions.

The intentions of the people of Vermont are to address the problems of climate change through the Global Warming Solutions Act (GWSA,) and subsequently the Vermont Climate Council (VCC.) There are some grave problems occurring in the processes to date, with the main result being that some conclusions are being suppressed. These are conclusions resulting from many dedicated hours of education, questions and answers from stakeholders, industry experts, researchers and scientists, and hours of deliberation among VCC members, Subcommittee members and Task Group members. The GWSA was passed and resulted in the VCC and five Subcommittees forming and meeting from November 2020 and February 2021, respectively, until the initial Climate Action Plan (CAP) was adopted by the VCC in December 2021. The recommendations regarding biomass electricity generation from the Agriculture and Ecosystems Subcommittee were not included in the CAP (I urge you to read them) and instead a Biomass Task Group was formed, in order to investigate those tabled recommendations around the use of biomass for electricity. That task group came up with essentially the same recommendations, almost year later. Most of the material used in discussion about the use of biomass for electricity is valid and applicable to the use of biomass for heat. As a matter of fact, much of the health data was derived from emissions of wood heat, especially pertinent because the emissions from the stacks at the biomass electric plant, McNeil, is not being tested at the top of the stack, nor downwind in the neighborhoods being affected – the majority of emissions is being missed. You recently heard similar testimony from Jon Ericson of the VT Department of Health, showing the deleterious effects of *any* type of wood heating being higher and more harmful to health than any other fuel. Jonathan Buonocore of Harvard T.H. Chan School of Public Health, one of the experts presenting to the Biomass Task Group, showed the same results, that biomass burning results in significant public health and environmental justice consequences. Additionally, both the Agriculture and Ecosystems Subcommittee and the Biomass Task Group discussed the need for the use of biomass and biofuels to be addressed in the capacity of heat generation, and not only in the electric generation arena. Last year, the Clean Heat Standard, H.715, was written and put forth without the input of the Agriculture and Ecosystems Subcommittee, incorporating items in the bill related to issues the subcommittee discussed, and that they pointed out were controversial and needed more research, mainly biofuels. They directly recommended against

biomass. The Biomass Task Group indicated that the use of biofuels needs to be addressed. Some already thought that it would be included in the discussions, initially. Now, the same thing is occurring with the Affordable Heating Act, *again, incredibly*, without the input of the Agriculture and Ecosystems Subcommittee, with both agriculture and natural ecosystems being most tremendously impacted by the use of biomass and biofuel. Let me reiterate: The 2022 Legislative Session went forth *without the recommendations* regarding biomass from the Vermont Climate Council Agriculture and Ecosystems Subcommittee and now the Legislative Session of 2023 is moving forward with legislation *without recommendations* from the VCC's Biomass Task Group. This is truly unbelievable, having so much time put into valuable work and it being unused. Their conclusions (both groups,) are even more impressive because of the fact that it included agreement in many instances by members whose work is affected by the industries that will need to change when the recommendations are followed. In September, 2022, the Vermont Clean Energy Development Board sent a letter to the Biomass Task Group, requesting that they continue the work, extending the scope of their assessment beyond the use of biomass for fueling electricity generation to the thermal sector, using woody biomass to fuel building heating systems. The Biomass Task Group recommendations also state that biofuels should be evaluated. Two separate entities came up with the same result independently, that biomass is not a reasonable solution in the climate change situation. Wood burning for heat isn't leaving Vermont soon, as it is so ingrained in many ways, but to increase its use by endorsing it in legislation is a serious mistake.

This bill is the poster child of the climate fight, supposedly. I have heard in numerous places that it must be passed. Most Democratic legislators that I've spoken with say that we just need to get something through. Among the comments: "We can fix it later. It will be okay because of the RES. It will be okay because of Rulemaking." First of all, that will only work if actual emissions are all counted, regardless of where they come from. The point here is to count all emissions when totaling greenhouse gasses, including biogenic emissions – in other words, CO2 from burning wood, even though it is "renewable." The problem that we have is not with fossil fuels. The problem is with greenhouse gas emissions. This is a point that must be brought up repeatedly when talking about biomass: the point that carbon dioxide emissions from biomass is not being counted. Even if that carbon dioxide is not counted, on paper, or legally, or whatever, it is still there, and still exacerbating climate change and still adding to the carbon debt. Renewable Energy Vermont has made it their "Legislative Priority is to fix the fundamental flaw in Vermont's 2015 Renewable Energy Standard (RES) by bringing sufficient new renewables on line to get to a 100% renewable energy future and to help Vermont meet its greenhouse gas reduction goals. " Their list of reforms includes phasing out RECs for biomass generation, and in no place do they label biomass as renewable. Biomass is not zero-emissions, not carbon neutral, and actually not renewable in any reasonable time frame.

The RFP for **Vermont Life Cycle Analysis of Greenhouse Gas Emissions** was put out by Jane Lazorchak, formerly the Project Manager of the Global Warming Solutions Act, and now Director of the Office of Climate Action, ANR on June 1, 2022. It specifies that *reporting Carbon Dioxide emissions from burning wood is not required, but is only an option*. ERG, the company chosen to complete the Life Cycle analysis requested of Jane Lazorchak to: "Provide an overview of the initial approach you would use for analysis of life cycle emissions for use of biomass for energy." Her response was: "For combustion of the biomass (e.g., stationary combustion of wood), there will be GHG emissions from methane and nitrous 2 oxide that will be included. We will include the option to track biogenic carbon dioxide from combustion." In the RFP, greenhouse gas emissions of wood are to be treated like solar. This is from the RFP (my bold italics):

The contractor will implement the final methodology to produce a life cycle analysis of Vermont’s GHG emissions, which the state anticipates publishing as a supplement to Vermont’s GHG Emissions Inventory and Forecast when the next update is released in 2023.

EXAMPLE TABLE

SECTOR	SOURCE	INVENTORY EMISSIONS (YEAR)	LIFE CYCLE EMISSIONS
Electricity Supply and Demand	Coal	(from state inventory)	(from LC analysis)
	Natural Gas	(from state inventory)	(from LC analysis)
	Oil	(from state inventory)	(from LC analysis)
	Wood (CH <sub>4</sub> , N <sub>2</sub> O)	(from state inventory)	(from LC analysis)
	<i>Wood (CO<sub>2</sub>)</i>	<i>N/A</i>	(from LC analysis)
	Residual System Mix	(from state inventory)	(from LC analysis)
	Wind	N/A	(from LC analysis)
	Solar	N/A	(from LC analysis)
	Hydro (in-state)	N/A	(from LC analysis)
	Hydro (domestic)	N/A	(from LC analysis)
	Hydro (imported)	N/A	(from LC analysis)
	Nuclear	N/A	(from LC analysis)

Another issue in the RFP is found on page 6: "For biomass, biofuels, and waste-to-energy pathways, the proposed methodology should include attendant changes in net emissions due to sequestration and land use change."

Biomass burning is being considered "carbon neutral" and should not be. For S. 5, and for all legislation, at the *very least*, changes should include the requirement of including of all data, including biogenic emissions, in the emissions accounting of every fuel type.

Another idea: think of this from a purely logical standpoint: Why burn something that is currently pulling CO<sub>2</sub> out of the atmosphere, a job that won't be replicated at the same scale until another tree grows to the same size? If you had a choice between eliminating something that isn't doing any job and eliminating something that is doing a job, why would you choose to eliminate the one doing valuable work?

I have heard it said that "all the environmental groups" are in favor of this bill. I can tell you categorically that is not true. I can also tell you that numerous scientists, myself included, are not in favor of this bill while it includes biofuels and biomass. We will not be in favor of something that leaves pertinent data out of calculations. Biofuels exacerbate climate change, increase greenhouse gasses and contribute to the equally existential threat of loss of biodiversity. RNG (Renewable Natural Gas,) aka Methane, is increasing CAFOs, methane leaking, and intense pollution causing disastrous health impacts to people in surrounding communities. Biofuel use has accelerated habitat destruction in forests around the world. The use of biomass in the EU is causing intense deforestation in the southern states for export. Tropical forests are being cleared at about 200 square kilometers per day mostly for Palm oil and soybean oil, about 50% and 30% respectively used for biofuels. Food production and wildlife habitat is being displaced by biofuel production with food prices increased by as much as 30% (corn.) Fertilizer and pesticide use has increased, water quality degraded, and emissions increased so that ethanol, for example, is at least 24% higher than gasoline (PNAS Feb. 14, 2022.) This AHA has not changed enough from the original CHS to make it an actual solution to our problems. Recommendations from last year were ignored and now again they are not being used in this legislative session. Additionally, with the inclusion of biomass in the bill, it will be in conflict with the Biodiversity bill, H. 126. This bill, S. 5, is incredibly important and has great implications with regard to clean energy, clean heat, climate, clean water and biodiversity implications. It is not possible to be effective in reducing CO<sub>2</sub> and addressing the biodiversity crisis without addressing the deleterious effects of using biomass and biofuels, and removing them from this bill.

Sincerely,

Cheryl Joy Lipton, Ecologist