

Episode 56J | September 28, 2023. Burlington, Vermont, McNeil wood burning plant emits more PM2.5 & CO₂ than coal burning.

Vermont, Burlington, McNeil wood burning plant. Vermont citizens are divided on the question of whether the Burlington Vermont McNeil wood burning plant should provide heat to the local Hospital. The Burlington Vermont top hospital administrator agrees to the lucrative deal of having polluting wood burning provide heat to a hospital that inevitably, as shown by numerous recent medical studies, would ironically, when treating patients, deal with the health effects and early deaths of this choice of heating, wood burning. The local Burlington, Vermont university campus is not involved because the campus already uses steam from natural gas to heat the campus. Could the hospital use wind, solar or geothermal energy for heating? Those possible local wind solar or geothermal alternatives are not discussed in this article. The game is fixed in favor of counting only Fossil Fuel emissions not wood burning emissions, from the very beginning. We all know that there are Climate Goals set internationally that do not count emissions of Carbon or Greenhouse Gases from wood burning. In this game in Vermont, there are also Climate Goals set by the U S Government that do not count emissions of Carbon or Greenhouse Gases from wood burning. This is "funny" counting or "funny" of "Creative" Accounting, if you will, because left out of the count are wood burning emissions. This omission is significant because wood burning emits more PM2.5 (Carbon Particulates) and CO₂ (a Greenhouse Gas) than coal (a Fossil Fuel, whose emissions are counted both Internationally and nationally by the United States toward fulfilling Climate Goals). Climate Accountants or since we are making up nonsensical names, Carbon Accountants who only count Fossil Fuel emissions not wood burning emissions, have been employed to come up with elaborate rationalizations for polluting the air in order to heat a hospital, of all things. The scientifically debunked argument of Carbon Neutrality is embellished in Burlington, Vermont by people, Climate Accountants, hired to elaborate on the unscientific theory of Carbon Neutrality of burning wood. Don't look behind the screen, folks, because the Carbon Particulates and Greenhouse Gases we are not counting are real, and pretty ugly. The magic Accounting of ignoring the pollution only works if you look away from reality. How lucrative is the deal to heat a hospital with polluting wood burning energy? Who gets the money? Is there any monetary incentive to heat with clean energy like wind, solar, or geothermal? That is the bottom line here. Aside from the bottom line for the hospital, the people of Burlington, Vermont will pay with ill health and early deaths that could have been averted by choosing a clean heating source for hospital heating. Tediously, we could go over the arguments for Carbon Neutrality of wood burning emissions. Wood burning emissions are real, but they don't count because politicians said and say to this day that wood burning emissions don't count. Scientists object to what the politicians have said and put into Climate Goals, and hundreds of scientists have recently signed a letter to the U S Congress saying that PM2.5 and CO₂ emissions (among all other wood burning emissions) are real and should be counted at the stack of wood burning plants and that wood burning emission data should be added to the count of pollution emissions when determining if pollution statistics have gone up (more pollution) or down (less pollution). If pollution emissions have gone up we are closer to catastrophic climate change and if pollution emissions have gone down we have bought some time and we are moving slower toward catastrophic climate change. It is better to move slower toward catastrophic climate change, so it is better not to burn wood or any solid fuel. It is better to use clean alternatives such as wind, solar and geothermal. In this transitional period before wind, solar and geothermal gain 100% of the energy market, it is better to use non-solid fuels such as natural gas, even if natural gas is a fossil fuel, over a solid fuel such as wood, if a temporary choice has to be made. Wood burning emits 450 times the particulates as natural gas burning. Wood burning emits 90% PM2.5 particulate matter of 2.5 micrometer size, the perfect size to infiltrate the human lung, producing a cascade of human health problems and early deaths. We could get bogged down in discussing how many health problems are caused by wood burning, but suffice to say they include heart attacks, cancer, chronic obstructive pulmonary disease (COPD), asthma and breast cancer, to name a few. Tediously, we will go over the fallacious arguments for Carbon Neutrality of wood burning, quoting directly from this article below. It all comes back to trees. Living trees counteract some pollution, because as we all know trees emit oxygen while alive, and miraculously take in polluting CO₂ in the process. Loggers kill the trees and the oxygen infusion that humans benefit from, ends. Biomass wood burning industries burn the trees and that solid fuel wood burning, like the solid fossil fuel coal burning, emits CO₂ and PM2.5, but wood emits these pollutants in even greater quantities than coal. But the political theory, the convenient unscientific lie of Carbon Neutrality, broadcasts that pollution can be magically erased, by creative Accounting! It is magically as if burning wood never happened if you don't count wood burning emissions! And it is even more magic if the trees cut down are not old growth forests, according to the lie of Carbon Neutrality. It is true that the bigger the tree the more oxygen is annihilated when it is cut down and the longer it will take for a tree planted in its place to attain the stature of an old growth tree! So if trees are grown like biofuel crops and cut down when they are small, it is not like we are killing anything that can be referred to as "old growth" or "ancient", and that means

something, right? The argument for burning new trees is that we are not violating a political tradition of revering ancient trees and ancient fossils, right? But the CO₂ and PM_{2.5} emissions of the same amount of wood, whether old growth wood or new growth wood are the same for the same amount of wood, unfortunately. The reality of pollution intrudes on this political Carbon Neutrality fantasy of revering ancient trees while killing the young ones and creating pollution by burning young trees. There may be some analogy in the minds of politicians that in Carbon Neutrality aboveground ancient forests are like underground ancient fossil carbon, something that is traditional and to be revered, like emotionally and irrationally revering the traditions of burning wood around the world, so much history of wood burning for residential heating and recently industrial wood burning heating, which scientists have recently helpfully pointed out we should now recognize are polluting methods of heating and harmful to our health and the planet, and cause or caused so much unnecessary illness, and death from wood burning for heat today and in the past, beginning in the caves of the cavemen. Why not revere all living trees instead of only revering and only not burning certain ancient trees? Why not embrace new methods of heating that are clean and will save our planet from catastrophic climate change? Wind, solar and geothermal are admittedly new and not traditional, but they are clean energy and within our grasp. So young trees are not revered, are disposable and not to be counted as pollution, in this “funny” or “creative” accounting scheme that leaves out counting wood burning emissions. Too bad, that “creative” accounting can’t magically solve the real problem of pollution. To quote this article about Burlington, Vermont: “Backers (of the scheme to heat a hospital with energy from a polluting wood burning plant) note that carbon from biomass energy theoretically can be recaptured if new trees (planted to replace cut down trees) are allowed to mature. The argument for biomass energy being carbon neutral is that the fuel comes from part of the natural, aboveground carbon cycle, as opposed to the fossil carbon that humans have been extracting from the ground since the 1800s. Meanwhile, leading climate accounting organizations consider biomass energy sources such as McNeil to be carbon neutral under certain conditions. Burlington Electric [contends that McNeil meets the standard](#) because the wood chips it burns [are sourced from healthy forests](#) that suck up more carbon than logging removes.” But this article about Burlington, Vermont also states “Either way, burning trees produces a huge amount of carbon dioxide, the main greenhouse gas contributing to the climate crisis. According to the U.S. Environmental Protection Agency, McNeil spews about 400,000 tons of (CO₂) every year, more than any other energy facility in the state.” RAWSEP View: In this article several Vermonters are interviewed. At least one Vermonter sees the recent Canadian wildfire smoke invading Burlington, Vermont as a reminder that wood burning emissions, from any source, be they emissions from wildfire, industrial wood burning or indoor residential wood burning, interfere with normal human life and work, are harmful to human health and the ability to breathe freely, and are a reminder that wood burning hastens climate change. Many Vermonters are wavering between following through on the lucrative deal to heat the hospital with polluting wood burning, which ironically will send even more patients to the emergency room if not the intensive care units of this hospital. The rationales of the waverers are tedious and ever incrementally changing. What do the protesters say? From the article below: “The project's recent progress has fired up climate activists. They worry that a major investment would extend the operation of a nearly 40-year-old plant they say contributes to the climate crisis. “We fundamentally do not believe that we should be giving a lifeline to the McNeil facility,” said the director of the Vermont chapter of Conservation Law Foundation. “It's a dirty facility that is nearing the end of its useful life.” The director and others argue that McNeil and Ryegate, the other wood-fired electric power plant in the state, should be phased out in favor of clean energy such as wind, solar and hydroelectric. Those sources already fulfill 68 percent of Burlington's energy needs, while McNeil kicks in 32 percent. The [shift in thinking](#) has heightened the scrutiny of both McNeil's operations and its potential expansion. Climate scientists [held a symposium in June](#) to urge Burlington to rethink its reliance on burning trees for electricity. Clean energy advocates proposed state legislation that would have prevented Burlington from calling McNeil's power renewable. And climate activists have held loud rallies demanding that the city shut down the plant. Last weekend, protesters crashed Burlington Electric's Net Zero Energy Festival, which had been billed as “a day of outdoor fun for the whole family to share Burlington's Net Zero Energy vision.” Protesters paraded through the celebration with a huge black snake puppet representing the steam pipeline. The debate has intensified as the Burlington City Council inches closer to a pivotal decision on a complex, \$42 million proposed project that would pipe steam from McNeil to the University of Vermont Medical Center. Questions about McNeil's true climate impacts, the potential of climate-friendlier power options and the project's soaring estimated costs all threaten to undermine the case for district energy, leading to a do-or-die moment for the city's highest-profile climate solution.” RAWSEP View: What do climate scientists say? They glancingly mention concern about human health but emphasize that burning wood hastens climate change. “Climate scientists and groups such as [350.org](#), [Third Act](#), [Stop VT Biomass](#) and [Standing Trees](#) argue that forests need to be protected to store as much atmospheric carbon as possible. “UVM Medical Center is one of the state's great prizes,” environmentalist Bill McKibben said in a statement. “I hope it supports

energy sources — sun and wind — that neither foul our lungs nor lead to the climate disasters that their nurses and doctors must treat. A lifeline for McNeil isn't really a lifeline for Vermonters." RAWSEP View: The latest headlines about the Burlington, Vermont McNeil wood burning plant and the hospital heating deal follow. [Vermont Climate Council meeting focuses on the use of biomass energy - WAMC](#) "Wood burning is worse than burning coal," asserted Lipton. "If you continue to allow biomass burning it truly shows what a joke the Vermont (McNeil plant is). [Kim Hornung-Marcy: Expanding McNeil plant is bad news in the long run - VTDigger](#) McNeil burns 76 tons of wood an hour, according to its website. We have to stop burning things if we want to make progress on the climate crisis.

Vermont, Burlington, McNeil wood burning plant. [Pipe Dream? It's Decision Time on Burlington's Long-Simmering Proposal to Heat Buildings](#) Seven Days.. Excerpts edited by RAWSEP for brevity and clarity and relationship to [Residents Against Wood Smoke Emission Particulates](#). (RAWSEP View: Notice the concern of politicians is the money coming in for this project not the human health effects of polluting wood burning, since wood burning emissions are real, but not counted). [The city's power portfolio](#) has enabled officials to proclaim since 2014 that it uses 100 percent renewable energy. ["It's a dirty facility that is nearing the end of its useful life." Elena Mihaly](#) At the heart of the issue is a wonky but fierce debate about how harmful biomass electricity is to the climate. Cost estimates ranged from \$39 million to \$53 million, and the project promised to reduce Burlington's greenhouse gas emissions by 20 percent over 30 years (if wood burning emissions are not counted). In 2022, Burlington Electric, Ever-Green and Vermont Gas formed a nonprofit called Burlington District Energy that would build and own the system. UVM Medical Center president and Chief Operating Officer (C O O) Stephen Leffler has personally endorsed the project. In May, he wrote a letter to Vermont Treasurer Mike Pieciak, encouraging the state to approve a \$25 million low-interest loan for it. Ever-Green estimated that the streamlined project would cost \$16 million. The project was banking on the \$25 million state loan, with the balance coming from \$12 million in tax-exempt bonds and a \$5.2 million federal grant lined up by former U.S. senator Patrick Leahy. There is no plan to hook up main campus buildings because the university hasn't shown an interest. The university runs its own steam-based district energy system, which is powered by natural gas with an oil backup. It's not clear how thoroughly the hospital has explored heating options or whether it considers McNeil its best bet. Burlington has an aggressive plan to get to net-zero carbon emissions in buildings and transportation by 2030 (by not counting wood burning emissions). The road map relies on weatherizing homes and businesses, and heating them with electricity (and if the electricity comes from wood fired plants then the electricity will be polluting).

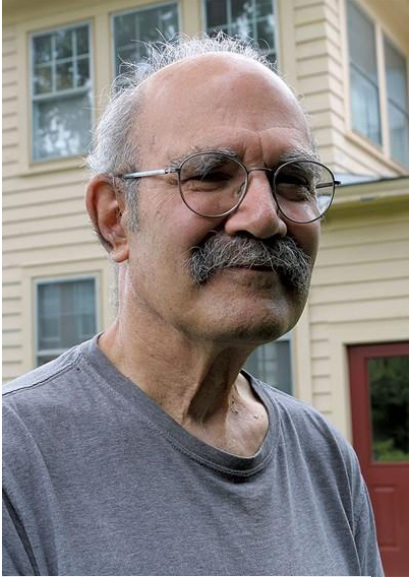
United Kingdom, Sandwell. RAWSEP View: The arguments in favor of continuing to allow barge dwellers to burn wood for heat on their boats can be summarized as follows. A-1)There are no alternatives to heating with wood on barges. A-2)Many barge owners are itinerant. A-3)Rules around wood burning on barges are unclear and not understandable. A-4)Rules around wood burning are complaint based. A-5)If wood burning on barges is a problem, it is a small problem. A-6)Wood burners on barges have other problems. A-7)Wood burning on barges is not a serious issue.

Rejoinders to these arguments from barge owners who burn wood for heat on their boats could be B1)There are clean and cleaner alternatives to burning wood for heat on barges, just as there are clean and cleaner alternatives to burning wood for heat in houses on land. B2)Barge owners may be itinerant but they have the wherewithal to buy boats and even have their own Association, the National Bargee Travelers Association (NBTA), are probably citizens of the United Kingdom, and probably have other connections to the land. Barge owners are not invisible are the pollution they produce is not invisible, even if they move frequently. B3)The rules on wood burning on barges are written in the same way as rules for wood burning on land. B4) To quote the article below "The Sandwell Council said the smoke control order was to deal with the issue of air pollution in Sandwell and said it wasn't targeting one group, but rather anyone emitting high levels of air pollution. " The RAWSEP View is that Complaint based enforcement will probably result in less enforcement than if authorities searched each houseboat everywhere to find non-compliance. Barge owners can expect only to comply with the rules if they are violating the air space of near neighbors or nearby observers living or working in the area of the wood smoke. B5)RAWSEP notes that DEFRA wood stoves are still highly polluting, but United Kingdom government programs exist to replace any wood stove with a cleaner alternative to wood burning that is eligible to barge owners. Barge owners should be aware of these non-wood burning alternatives, and use the alternative clean energy source, if necessary and eligible with financial help from the government. To quote from the article below: "The government's Household Support Fund can help boaters who are struggling with the cost of fuel. The Trust's license support team can signpost boaters to the help available." The RAWSEP View is that Equal treatment of all wood burning pollution emitters will contribute to the goal of cleaner air and less health problems and early deaths from wood burning air pollution including near neighbors as well as all residents of the United Kingdom B6)Barge owners who are indigent can take advantage of government programs providing financial help in obtaining clean energy sources for heating their barges, just as indigent homeowners on land can. A7)Wood burning pollution is a serious issue. PM2.5 from residential

wood burning, whether on barges or on the land, is higher than PM2.5 pollution from traffic in the United Kingdom, since 2019. Eliminating indoor residential wood burning would significantly contribute the most to clearing the air of PM2.5 pollution.

United Kingdom, Sandwell. [Calls for better understanding of rules around smoke control areas | Express & Star](#) Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates. The NBT said most boaters did not have an alternative way of heating their boats, unlike almost all residential homeowners with wood-burning stoves and chair Pamela Smith argued that any air pollution caused by boat dwellers was a drop in the ocean and said the new controls would cause poorer boaters a greater number of issues" Perhaps most worryingly, because the application of these orders relies on complaints being raised by local residents." In response, A spokesman for the Canal & River Trust said: "The Environment Act 2021 clarified that local authorities can take enforcement action against boats that breach smoke control orders. "Local authorities are required to consult stakeholders, including boaters, before they set up new Smoke Control Zones and the Trust will continue to advocate for the needs of boaters to be taken into consideration. "We advise all boaters in urban areas, whether it's a small town or large city, to only purchase and burn fuels approved for use in smokeless zones. "Rubbish and treated woods should never be burnt. Not only is it bad for health, but it affects other boaters, canal-side residents, and towpath visitors. "Burning rubbish, treated woods, damp wood and any other type of non-smokeless fuel in a Smoke Control Zone could result in a hefty fine from the local authority. "

RAWSEP View: Headlines from other parts of the world follow. United States, Midwest [New Heat & Glo Fireplace Redefines Realism - Midwest Home](#) However, wood burning has become increasingly problematic, in part due to the particulates and smoke it releases into the air. To replicate the. United States, Rocky Mountains [BLM plans Fremont County prescribed burns | Community | themountainmail.com](#) wood-smoke-and-health. For general information about the prescribed burn, contact Matthew Norden, BLM Rocky. Kansas, Topeka [Junction City Fire reminds residents of backyard fire pit policy as fall begins - WIBW](#) Officials indicated. Massachusetts [Improving US air quality, equitably - MIT News - Massachusetts Institute of Technology](#) Cutting C O 2 emissions reduces atmospheric concentrations of air pollutants that lead to the formation of fine particulate matter (PM2.5), which causes Nevada, Minden [The Sept. 27, 2023, R-C Morning Report | Serving Minden-Gardnerville and Carson Valley](#) The Record Courier The smoke plume from the Quarry fire near Strawberry is continuing to pour into Douglas County. You could smell the wood smoke on Tuesday morning. Washington, DC, Senate Republicans against lowering PM2.5 limits [Senators Urge EPA to Rescind Proposed Reconsideration of Standards for Particulate Matter](#) American Public Power Association The letter, which was signed by 23 Republican senators, specifically addresses EPA's proposal to reconsider the PM 2.5 NAAQS and review the NAAQS Greenland, near Canada [Canadian Wildfire Smoke Darkens Skies In Greenland's Capital | Barron's](#) wood. Canada has experienced its worst ever wildfire season this year, with every one of its 13 provinces and territories affected, and thousands Brazil [Brazil's Amazon rainforest faces a severe drought that may affect around 500000 people](#) The Business Standard "Until 2022, the annual limit for PM 2.5 was set at 15 micrograms per cubic metre. In this context, Sylhet has emerged as the least polluted district, Australia [Muscle, wood, coal, oil: what earlier energy transitions tell us about renewables](#) ET EnergyWorld Melbourne: In 2022, the burning of fossil fuels provided 82 per cent of the world's energy. In 2000, it was 87 per cent. India [Finding best air purifier for India? Check out top 8 options in September 2023 | Mint](#) PM 2.5 sensor for real-time air quality detection, May not cover large areas. H13 True HEPA filter (99.97% particle capture), Limited warranty Indonesia, Jakarta [Acute respiratory infections in Jakarta down 7%: official - ANTARA News](#) According to her, the central and regional governments are continuing to work together to reduce air pollution, especially particulate matter (PM) 2.5







Full Steam Ahead?

The proposed \$42 million project would pipe steam from the McNeil Generating Station to the University of Vermont Medical Center and a few buildings on the UVM campus. The steam would travel a mile and a half to the hospital, where it would augment an existing steam-heating system. As it cools, the steam would condense into hot water that a separate pipe would carry back to McNeil, where it would be used to bolster the plant's efficiency.

