

To: Samantha Meserve
Massachusetts Department of Energy Resources
100 Cambridge Street
Suite 1020
Boston, MA 02114

From: Janet Sinclair
71 Ashfield St.
Shelburne Falls, MA 01370

RE: APS

To Whom It May Concern,

Please accept my comments into your record.

I am writing regarding subsidies for biomass thermal energy through the Alternative Energy Credit program. I am opposed to subsidies for thermal biomass for the following reasons:

There will be no credible way to monitor your standards for sustainable harvesting. Forests would have to be monitored and committed as "no harvest" zones for decades after a biomass cut to achieve a semblance of recovering and maintaining carbon stores that have been released into the air from the burning of that forest material. The likelihood of such a standard and then monitoring by you seems remote.

The current record keeping used to subsidize biomass used by DOER is severely inadequate, and makes it virtually impossible to monitor harvesting or committed forest re-growth that would be necessary to deem the harvests as "sustainable".

The current standards for sustainable harvesting do not adequately account for soil depletion.

The emissions from thermal biomass will increase carbon emissions by 166% in the best case scenario compared to gas or low sulfur oil burning. In most cases it will be more.

The PM 2.5 emissions from thermal biomass will increase by 1,500 times in the best case scenario compared to gas or low sulfur oil burning. In most cases it will be more.

To assert that GHG emissions from burning will balance out with re-growth over some decades is erroneous. Assuming there will be continual burning, and given that it takes decades to absorb the carbon emissions of a single year, there will occur a continual net increase in GHG emissions. Therefore, any accurate calculation of emissions vs. sequestering should be done on an annual basis. If there is an increase in GHG emissions, a technology should not be subsidized.

Wood burning is the third largest source of toxic and carcinogenic dioxins. It is also a source of cesium 137 released into the air as has been documented in samples of wood ash from trees harvested in New England. We should be discouraging unleashing these hazardous materials that are being stored in trees, not paying for it.

It seems unconscionable that your agency would promote and fund technologies that increase GHG emissions and deadly particulate air emissions at a time when we are trying to reduce GHG emissions and we know that we are facing a public health crisis as exemplified by to increased asthma rates in children, among other negative health outcomes related to PM 2.5 air pollution. In addition, it is bad public policy for your agency to promote and fund biomass burning with no real way to monitor forest impacts as your agency does not seem to have a handle on the harvest areas that you have been subsidizing this far.

Your agency has the opportunity to fund relatively benign alternative thermal technologies including solar thermal, geothermal and thermal storage. I encourage your agency to fund these technologies, and only fund biomass if you can show that is better or equal to these technologies when it comes to public health, and enhances the goals in reducing GHG emissions on an annual basis. I do not believe that biomass burning can meet these reasonable and desirable standards.

The residents of Massachusetts deserve clean air and funding our forests as carbon sinks, not as sources of increased GHG emissions.

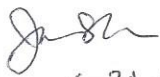
I am attaching a letter from Dr. William Blackley about the sad and irresponsible push for biomass boilers in schools in Massachusetts.

I am also attaching an article about recent research by Joel Schwartz of the Harvard School of Public Health is saying what we have known for many years. Wood smoke exposures in even small amounts are proven to be deadly.

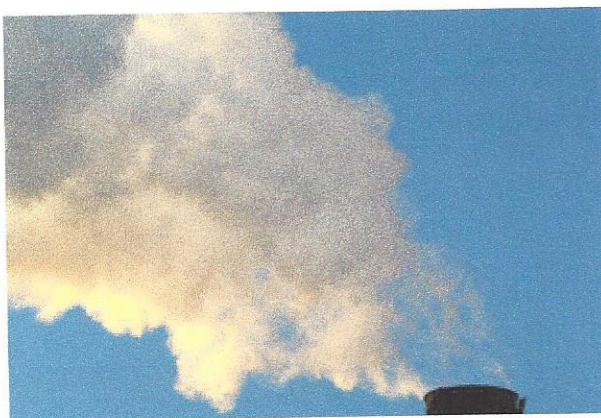
<http://www.familiesforcleanair.org/why-your-neighbors-wood-is-killing-you/>

Thank you for your consideration

Janet Sinclair


6-30-16

Why Your Neighbor's Wood Smoke is Killing You



In many locations, wood burning is the largest contributor to wintertime particulate pollution (PM2.5). An important [new study](#) from scientists at the Harvard School of Public Health demonstrates just how harmful this pollution is to human health.

What they found is alarming. In the study's sample of 2.4 million people, there were higher death rates in zip codes with higher particulate pollution levels than in those with lower levels. Even small increases in PM_{2.5} led to higher death rates, with each 10 µg/m³ increase in PM_{2.5} resulting in a 7.52% increase in mortality. This increase in death rates was seen even in zip codes in which the annual exposures were below EPA standards (the current limit is 35 µg/m³ PM_{2.5} daily).

The new study used satellite data to determine particle levels and temperatures in every zip code in New England, which is a much larger geographical region than previous studies. It then analyzed the corresponding health data of everyone covered by Medicare ≥65 years old in this area from 2003–2008. The results both confirm and extend [previous research](#) that shows a strong relationship between particulate pollution, adverse health effects, and increased mortality.

The findings add weight to [charges](#) from the public health community that the EPA standards for particulate pollution are insufficient to protect our health, since the air pollution levels tied to higher death rates were just one-third as high as the current levels mandated by the EPA.

As author Joel Schwartz notes, "This study shows that [current EPA limits are] not enough. We need to go after coal plants that still aren't using scrubbers to clean their emissions, as well as other sources of particles like traffic and wood smoke." According to Schwartz, there is no clear threshold below which particle pollution is safe.

Since any increase in PM_{2.5} levels result in increased death rates, it means our society must rethink our attitudes toward wood burning. We can no longer afford to regard the smell of wood smoke as something evocative, nostalgic, or natural.

The science is not subject to debate: if someone is burning wood, they are shortening the lives of their neighbors.

June 18, 2016 –Comment to "The Biomass Monitor" article "Is Biomass Heating Safe for Schools?"

By Josh Schlossberg June 4, 2016

William Blackley, MD, Fellow American Academy of Family Practice

Burning biomass at a school brings to mind the updated version of Hanlon's razor:

Never attribute to malice that which can be adequately explained by stupidity or carelessness, but don't rule out malice.

I have a few thoughts and questions to add to the discussion:

Biomass burning on school grounds is going to give a whole new meaning to recess.

I assume, tongue in cheek, that there would be on site monitors to allow school officials to protect kids from breathing nanoparticles, dioxins, furans, small particulate matter, NOx and SOx, etc. that will, by necessity, be emitted from smokestacks at the school sites?

Will the schools be burning tree pellets or also waste wood? Will the wood be checked for arsenic or materials that emit nano particles when burned?

Will emissions be checked on a real time and continuous basis for toxic emissions so that an alarm would be sounded when the playground air is toxic and unsafe?

Will there be an alert system and protocol to protect children and teachers, etc. during boiler start ups, shut down, maintenance and malfunctions since during these times pollution may be many times higher than normal. Of course dioxins are mostly going to fall on the area around the school like any other incineration where the ground will be contaminated. Make sure the teachers, parents and kids know that putting your fingers in dirt and then in their mouths could be hazardous, that chicken eggs in the rose plume of the smoke stack will be contaminated, and so to fish in streams and lakes and to grazing animals in fields near by. Will someone be checking for dioxins levels in humans, milk and meat of grazing animals, in local eggs and fish since it is known that burning wood creates these dioxins.

I'm sure that your officials know that boiler operations have a huge impact on the amount of dioxins emitted. Burning a boiler at a lower temperature increases dioxins emissions.

Do parent understand that dioxins are one of the Deadly Dozen most toxic chemicals known to mankind? Dioxins are created by the burning of hydrocarbon (just say biomass) in the presence of chlorine . . . and chlorine is a ubiquitous element in nature. There should be plenty of precursors to make lots of dioxins for the community to ingest. Think cancer, endometriosis, thyroid disease, neurologic problems in children and more.

Will there be any studies to determine the short-term impact on the pulmonary and cardiac systems of children, teachers and volunteers and especially those at higher risk with asthma, heart problems, etc.

Will there be any way to determine the increased long-term risk for cancer causing emissions and endocrine disruptors that increase the risk for multiple health problems?

Old people and/or people with chronic lung disease or heart disease should strongly consider not volunteering or working in these schools.

Athletes and children should stay away from these schools too since they breathe in and out far more air than average adults. Our kids and athletes at play, of course, breathe more rapidly and deeply and inhale more toxic air.

Will the smokestacks be near any ball stadiums? High-risk folks like those with COPD, chronic bronchitis, asthma, heart disease, stroke risk, and those pregnant should stay away from these areas.

Will anyone be watching for a weather inversion that basically voids all the air quality rules and expectations since air quality plans depend on the wind blowing the toxins away. (Away? Someone is always down wind? Perhaps your home?) When there is a weather inversion all the pollution will remain stagnant and more concentrated around these schools.

Will the schools close during these times so that people don't have to be in the toxic air? If an air inversion happens while kids are in school will it be safe inside or outside. Please note that the Environmental Protection Agency, (EPA) was established because of a deadly air inversion that made a whole town sick.

Since it is reasonable to suspect that the biomass burning scam is based on money for someone, some business, that will cut and haul the wood, build and sell the boiler and associated equipment, perhaps have a maintenance contract, sell the trees and land, etc. has anyone checked out the connections of these people to insure that there is no conflict of interest between whomever is making the decision to convert to biomass burning and those making the money?

How strange is it that parents are innocently allowing for their children to be abused in this way. Are they asking if health care due diligence has been done or are they just accepting this as safe for their kids? Yes, I know, I live in a small town and we trust our town fathers but, just for surety, as anyone asked to see the due diligence studies that have been done before approving this project? Due diligence is not based on anything that people making money off the project say!!!!

A decision like this is especially peculiar since there appear to be cheaper and probably safer alternatives to providing energy. The school and community could actually consider truly clean forms of energy like solar, wind, geothermal, etc.

Has anyone factored in the increased health costs from diesel pollution from cutting, harvesting and transporting the wood; the increased health costs to citizens, teachers, children, etc. from the toxic emissions; the potential lost school days due to weather inversions and high pollution days; the cost of a fire in the wood storage area; the cost and example of making decisions without considering the health consequences.

Parents should know that neither a handkerchief nor mask will keep dioxins, furans, nano particles, NOx, smog, or fine particulate matter, etc. out of their kids' bodies. There will be very little that parents or the school system can do to protect children, volunteers or staff

when they are coming to school, leaving school, at recess, on ball fields or actually inside, when a fog of pollution hangs over the schoolyard.

If I were a parent I would consult a lung specialist who understands air pollution before sending my child to any of these schools. I would consider moving to a different town or school district if economically possible. I know of another town that was faced with a similar issue and one of the largest business people in that town (who had school kids) simply moved his family 30 miles away to another school district. He kept all his business dealings in town but he and family were gone. As usual it will be those least able to move who will be most at risk for the host of medical complications that rise from toxic air.

If someone could prove that the smokestack emissions from these schools wouldn't increase health risks all this would be a horse of a different color. I would be happy to not raise these question if scientists could be proven wrong. But that hasn't happened yet.

Please, ask the decision makers what health due diligence they have done to prove that there are no increased health risks to children or adults in and around the proposed school smokestacks.

Please do not accept any testimonials from employees of biomass burning companies or take any verbal reassurances from anyone. Know that once people make a decision they develop the Tolstoy Effect and will defend their decisions even when absurd and proven unsafe. Get everything in writing including the safety guarantees so you can sue them if necessary if they are proven wrong.

If these folks provide any evidence that burning biomass is safe for you and your children, please have their evidence vetted by a pollution specialist.

Please don't accept health safety data from anyone but independent unbiased pollutions specialists who have studied the health risks stemming from the toxic emissions from burning biomass.

Especially, do not accept any data or reassurance from any company specialists, or any specialist they bring in (and pay) from outside. An outside authoritative source, a specialist air pollution and health effects is needed to determine the health risk independently.

The people who claim that emissions from burning biomass are safe should be required to prove it. The process should be transparent and free of the tampering fingers of whoever would make money off the process.

Companies have lots of slick and glossy PR suggesting their processes are clean and safe. What else would anyone expect them to say since they have a vested interest in selling their product. In addition, most likely, their kids won't live in your town and won't be

going to your school (at least not for long). Their kids won't be breathing the emissions or at any risk if they live in another county or state.

Simply trusting the decisions of other can be a big problem. Commissioners and board members can be misled or even dupped. Give them the benefit of the doubt and simply ask for proof of safety. Sometimes I think that even the company VPs of science and environment actually believe the data that they have claimed for so long. In a situation similar to yours I challenged a company on the toxicity of biomass emissions and they actually claimed that their emission were natural and that their whole burning process was solar . . . base on the fact that the fuel came from the sun. That's like saying burning coal is a solar process.

Please, make sure all parents know that emissions from biomass burning such as nano particles, fine particles, NOx that leads to smog after exposure to sunlight and volatile organic compounds, arsenic, dioxins, furans, etc. are all colorless and odorless as they leave the smokestack.

You would never know (by looking or smelling) that the smokestacks are producing deadly toxins. If parents don't understand this they could just trustingly drop their kids off at school, or put them on the bus and sent them into health hazard zones.

I could be wrong in all that I say and perfectly willing to retract anything if this can be proved wrong. Perhaps these companies have some new technology and that scientists, lung specialists, physicians and epidemiologists could give them the thumbs up but I don't think so.

I would demand an opinion from unbiased specialists who have no reason to tell parents and board members anything except the truth.

Get your own specialists who aren't paid by the company or the decision makers who may just be ignorant to the health risk.

Good Luck, William Blackley, MD, Fellow American Academy of Family Practice with an interest in clean air that is safe for us and our children.