

Episode 39. September 24, 2022

Episode 39 A Wendy and the California Valley Air District exchange of wood burning fireplaces or wood burning devices for electric or gas devices

In Fresno, California, the San Joaquin Valley Air District Governing Board approved enhancements to the Residential Wood Smoke Reduction Program by increasing the dollar amount available to residents willing to replace their fireplace or wood burning device with an electric or gas device. A chart shows that the amount the Program now offers is \$2,000, plus \$650 for installation, for replacement with a gas furnace (up from \$1,000 and \$500, respectively, last year). Also \$3,500 and \$650 for an Electric Heat Pump (up from \$1500 and \$500 last year), and up to \$750 for Fireplace Decommissioning. There is an additional incentive of \$1,500 for low-income households. In Hot-Spot counties in California there is an additional \$1,500 incentive. Wendy noted in an article from Fresno, California, that the District urges all Valley residents to help reduce harmful PM2.5 emissions and heat their homes by means other than burning wood whenever possible. Residential wood burning is one of the Valley's largest sources of wintertime PM2.5 emissions and is shown to have a direct effect on neighborhood air quality. "During the winter, residential woodsmoke is a leading contributor to public health impacts in neighborhoods where we live, work, and play," said a District Executive Director and Air Pollution Control Officer. "Choosing to replace or remove wood-burning fireplaces this winter is an important part of our collective efforts to reduce air pollution and improve the quality of life in our communities. We're excited to now offer increased funding assistance to our residents, with the highest funding going to residents converting to electric heat pumps for home heating". The winter season Residential Wood Smoke Reduction program runs from November 1 through the end of February every year, reducing PM2.5 emissions from wood burning devices such as fireplaces, wood stoves, outdoor fire pits, and chimeneas. During that time, the District releases a daily, county-by-county wood burning declaration based on the air quality forecast and significantly restricts residential wood burning during the winter. Burning trash or yard refuse is always prohibited. To participate in this program, please visit www.valleyair.org/burncleaner call 559-230-5800. The Valley Air District covers eight counties including San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare and San Joaquin Valley air basin portions of Kern. For additional information about the San Joaquin Valley Air Pollution Control District, visit www.valleyair.org or call 559-230-6000. Wendy noted a 2nd article from Turlock, California that said that, in Stanislaus County, homeowners can receive a voucher for \$2,000 toward a new gas device, and an additional \$650 to address specific installation costs. For an electric heat pump, a voucher for \$3,500 is offered. An additional \$1,500 voucher is available for low-income applicants, a person who has a gross annual income of \$30,578 or less (add \$10,620 for each additional household member). The District even offers up to \$750 to decommission fireplaces.

Episodes 39 B and C combined, Washington State and Alabama.

Episode 39 B Wendy and Washington State concern about air quality due to Bolt Creek Fire, and Putin's role in the rise of wood burning in Ukraine

Wendy noted that air quality worsened in Seattle due to the Bolt Creek Fire. The air quality was "very unhealthy" for everyone downtown and in north Seattle. A government agency recommended that people stay indoors when possible. The King County Regional Homelessness Authority opened a wildfire smoke shelter. Some Seattle schools canceled outdoor activities. A worker at a Bar and Grill described it as something you can "almost feel" as you breathe. "It's definitely that burning wood smell," he said. "Like if it was a campfire in front of you, you might not hate it, but since it's coming in and taking over everything it's just overwhelming." People who have pets with respiratory conditions like asthma, or even heart disease, should keep their pets indoors when the air quality is unhealthy. If animals start to show signs like coughing or gagging, those are signs to bring your pet into the vet's office. An online article included a video on [How to take care of pets in unhealthy air quality](#)

Wendy also noted, in a Seattle newspaper, that a photo of Wood-burning stoves stockpiled in a government building in Lviv, Ukraine, illustrated an article about Putin being cornered and cutting off natural gas supplies to Europe, along with other offensive actions. The article concluded by saying "Putin cornered is Putin at his most dangerous. That was one of the core lessons of his hardscrabble youth that he took from the furious reaction of a rat he cornered on a stairwell in what was then Leningrad."

Episode 39 C Mary and a Lithuania-based online advice columnist sympathizes with Alabaman's Residential Wood Burning
Mary noted that a Lithuania-based online advice columnist sympathized with a sad story from an Alabama residential wood burner. The 25 year old Alabaman moved into a home provided by his relatives and began burning wood. One neighbor objected after she saw the first shipment of logs arrive, but that first neighbor then moved away. Another neighbor objected. Both neighbors lived in nearby houses which belonged to a Home Owner's Association. Both neighbors believed that under the Home Owner's Association rules, they could object to the particulate pollution from their neighbor's wood burning. However, the 25 year old man knew his house did not belong to the Home Owner's Association. He asked for advice, from the Lithuanian online columnist, on whether his rude responses to his neighbors was justified. The Lithuanian advice columnist asked for responses to his question in comments. The online commenters responded with multiple repetitions of foul language directed at the two neighbors, and at Home Owner's Associations in general, and urged the Alabaman to consult a lawyer. The issue of whether residential wood burning emits PM 2.5 particulate matter of 2.5 micrometer size, the perfect size to infiltrate the human lung and cause a cascade of health problems, was not discussed.

Episode 39 D Noel and some New Hampshire environmentalists are concerned about biomass burning in the state
Noel noted that New Hampshire Republican state legislators called, in a recent Energy Summit, for 2023 to be "The year of Biomass". Republican legislators in New Hampshire said increasing biomass should be a priority for the 2023 State Legislature Session, as a way to reduce costs. Republicans view biomass as renewable energy and want to increase biomass burning. The Republicans pushing this are two New Hampshire State Representatives, Michael Vose and Jeb Bradley. New Hampshire Republicans currently control the state House, Senate, and governor's office heading into midterm elections expected to favor their party.

Some attendees were not only skeptical that the biomass plan would bring down energy prices but also voiced concern about the environmental impact of burning wood to generate electricity. One of New Hampshire's last consistently operating biomass power plants, Burgess BioPower in Berlin, New Hampshire, went to the Legislature to request ongoing support from taxpayers., which Bradley sponsored, granting the plant an additional year with no cap on above-market energy. Bridgewater Power is the one other biomass plant active and consistently running, because other biomass plants are either idle or shuttered. Stored Solar, which owns Four biomass plants in New Hampshire, filed for bankruptcy last week. There is not a long-term guarantee that biomass will continue to be cheaper than natural gas. The cost of natural gas could go down in the future, or other renewables like wind and solar could offer cheaper energy. Environmentalists are concerned that biomass does more harm than good. Biomass releases a lot of carbon into the atmosphere, as much as a coal plant or worse, according to a representative of Biofuelwatch, a nongovernmental organization. But it's classified as carbon neutral under the presumption that a new tree will grow back, absorbing that carbon. That can take 50 years, in which time ongoing emissions will continue to exacerbate climate change, climate scientists say. Many biopower plants are also highly inefficient. Burgess BioPower is about 25 percent efficient, which means for every four trees burned, the energy from only one is actually used. The rest is released as waste heat. That equation can improve if the waste heat is captured and put to use. "The Burgess biomass plant, which can produce 75 megawatts of power, is small, really small, compared to other resources. But it burns through an acre of forest per hour," said the chair of the Rindge Energy Commission, addressing Bradley and Vose during the summit. "Climate scientists are telling us that we have to stop burning things for power if we want to survive. And when we're burning at 20 to 30 percent efficiency, we are doing ourselves no favors." A Consumer Advocate questioned the burden biomass subsidies would place on ratepayers. "Is it fair to pursue that on the backs of utility customers who are captive customers?" he said. "I would say maybe not."

Episodes 39 E, F, G & H combined, Vermont, British Columbia, and U K Letters to the Editor, and an Ireland Editorial against Residential Wood Burning

Episode 39 E Noel and a Vermont Letter to the Editor against Residential Wood Burning

Noel noted that a Vermont Letter to the Editor from a retired Professor of Environmental Studies stated that to mitigate climate change, we should reduce our reliance on wood-fired electricity. He went on to say that not all "renewable fuels" are the same. And wood-fired electricity, while called "carbon neutral" by the E P A, is not in the same category as wind and solar, which are non-depletable carbon-neutral renewables. This Professor believed wood burning was not carbon neutral because it takes 50 to 100 years before the carbon dioxide that was released into the atmosphere from that tree, during its life, will be recaptured and incorporated into a new tree. Until then, there will be more carbon dioxide in the atmosphere than if the tree had not been burned. And since carbon dioxide is a greenhouse gas, there will

be more climate change. The Professor went on to state that there are also concerns about the efficiency of combustion and environmental justice. Many national and international groups of scientists have recommended reducing or eliminating reliance on wood-fired electricity and that is also the most prudent recommendation for Vermont.

Episode 39 F Cameron and a Comox Valley, British Columbia, Canada Letter to the Editor against Residential Wood Burning

Cameron noted that, in a Letter to the Editor, a Courtenay, British Columbia man in Comox Valley said, if wood smoke is not already an election issue, it should be. The man asked "Why do people not understand that **burning wood** to heat your home in an urban environment is also a health hazard?" He encouraged all health conscious voters in Comox, Courtenay and Cumberland to ask those running for office if they support poisoning their constituents with wood smoke every winter. He wrote that "We need bylaws with a mechanism to report poor burning practices and institute corrective measures or penalties as required. There is ample electricity available for installation of heat pumps. Anyone who has owned their home here for more than five years should be able to leverage their equity to get the funds to decommission their wood burner and install a heat pump. The use of wood burning appliances to heat homes in an urban environment is a relic of a bygone era and needs to be stopped."

Episode 39 G Island and a U K Letter to the Editor against Residential Wood Burning, suggesting Anaerobic Digesting instead

Island noted that, in a Letter to the Editor, a Norfolk, U K , man said that there were more good reasons to stop burning at home. A rush to buy firewood in the U K amid rapidly rising gas prices, only highlights the pollution that will result from burning more wood. There is another issue: the relatively poor overall efficiency of wood-burning stoves. The stove itself takes time to start and can't be shut down at will, so may generate more heat than is required. A gas-fired stove doesn't suffer from these disadvantages. Wood can be anaerobically processed in a slurry digester to generate methane, and there is already a gas distribution mechanism that makes gas available to users, at least in cities and towns. If firewood is to be used, surely it should be in this way, anaerobically digested?

Episode 39 H Island and an Ireland Editorial against Residential Wood Burning

Island noted an article in an Irish publication titled "Dirty air will damage our health if we respond to rising oil and gas prices by burning more solid fuels". The editorial stated that "Rising oil and gas prices will understandably tempt many to burn cheaper smoky fuels in winter, despite the health risks." The editorial went on to say "This week leading Irish experts warned that air pollution will damage our health nationally if we respond to rising oil and gas prices by burning more solid fuels. Burning solid fuels, especially turf, briquettes and undried wood, emits air pollutants which annually cause more than seven million premature deaths globally, more than 1,300 in Ireland. These deaths are mainly due to particulate matter such as PM2.5 which causes asthma attacks, C O P D, and lung cancer. Ireland's 1990 ban on selling particularly smoky fuels in urban areas saved many lives. However, the ban needs to be extended, to all suburban areas at least, nationwide. For as the E P A report also shows, six air pollutants including PM2.5 do endanger our health currently, according to the more stringent, and more medically credible World Health Organization recommendations. Rising oil and gas prices will tempt many to burn cheaper smoky fuels in winter, despite the health risks. This is a wicked problem. It can only be resolved by treating this crisis as an opportunity to move energetically beyond all fossil fuels, towards truly sustainable energy systems, without further delay.

Episodes I J K and L combined, DRAX news, French and German wood burning, and movements to put preventive measures into law

Episode 39 I Island and DRAX sells 3 million carbon removal credits for an unknown amount of money

Island noted that British power biomass (wood burning) generator Drax has signed a memorandum of understanding with carbon finance firm Respira International which could see Drax sell up to 2 million carbon removal credits from proposed biomass projects in the United States. Drax is developing technology to capture and store emissions generated at its power plants which burn wood-based biomass pellets in Britain and is seeking to build similar projects in the United States by the mid- to late 2020s. Respira International has the option to buy up to 2 million tons of carbon removals over a five-year period from future Drax operations in the United States. "Securing commitments from customers to buy the removal credits is a big part of what will enable the project to proceed," Plants plan on capturing the emissions they create by burning pellets, allowing the projects to generate carbon removal credits. Green groups

have criticized the burning of wood biomass pellets, arguing it is not a carbon-neutral method of energy generation and that pellet production can contribute to deforestation. No financial details of the deal were disclosed.

Episode 39 J Gerda and French wood burners fall for online scam for “low cost” heating wood

Gerda noted that people with wood-burning stoves in France are being warned to watch out for online website scams relating to apparently ‘low-cost’ heating wood and wood pellets. Instead of receiving their delivery, the buyers found that their bank account had been charged, and in some cases, by hundreds of euros, or even up to €1,000. After the payment, the ‘sellers’ are uncontactable, and the bank is unlikely to offer victims a refund because the payment was ‘authorized’ by the client. Some scam websites are already closed, but others remain open. These include: Bois-ecologique.com and Bois-energie-plus.com This scam comes during a period of rising electricity costs, as well as rising wood costs, as more people turn towards the wood-fired method. The value per ton of pellets has more than doubled in 2022 compared to the same time in 2021, while rising energy and fuel prices have also increased the cost of production and distribution. Wood pellet shortages in France caused prices to soar.

Episode 39 K Gerda and German burning wood becomes more expensive, and half of wood stoves are imported from China

Gerda noted that prices for firewood and wood pellets in Germany soared around 86 percent in August from a year ago. The German government has launched three relief packages totaling 95 billion euros (94 billion U.S. dollars). These include short-term relief to cover the high heating bills in winter, as well as a general increase in welfare state payments starting from next year. As the Germans turn to wood for heating, imports of wood-burning stoves went up by around 9 percent between March and July, according to Destatis. More than half of the imported stoves came from China. In new residential buildings completed in Germany last year, wood has become the most important secondary source for heating, alongside solar thermal energy.

Episode 39 L Mary and Air Quality News online magazine’s conclusion about stopping Residential Wood Burning.

Mary noted that new equipment is offering opportunities to mitigate the dangerous effects of air pollution, but should we be focused on simpler prevention measures rather than research and development? Mary noted that members of the public are taking air quality monitoring into their own hands to get a clearer picture of pollution in their community, in turn, fueling campaigns pushing for legislative and policy-level changes. Across the country, the work can be read as a blueprint, informing others how they can begin to enact change in their area. An Air Quality News online magazine article titled “The psychology of wood burning, why we do it and how to stop” cuts to the chase at the end of the article and concludes that persuading people is hard work. “A more effective strategy would be to ban wood heaters if there is political will.” And “With more evidence stacking up about the dangers of wood burning, public health messaging is needed as a crucial first step to scrapping these harmful sources of heat”.

Mary noted that the focus of Residents Against Wood Smoke Emission Particulates (RAWSEP) is on the health effects to near neighbors of living next to residential wood burning, in those hyper-localized areas where the source of particulate pollution, PM 2.5, is concentrated. PM 2.5, particulate matter of 2.5 micrometer size, is the perfect size to infiltrate the human lung, causing a cascade of human health problems. Wood smoke consists of 90% PM 2.5. Residential PM 2.5 monitors can be purchased by neighbors from PurpleAir for less than \$300, and their locations are put on the online PurpleAir Map, along with data uploaded every 10 minutes, available to the general public, and of course to governmental authorities. Neighbors of Residential Wood Burners would like their PurpleAir PM 2.5 monitor data to be used to regulate and shut down Residential Wood Burning detected at neighbors’ fence lines that exceeds the World Health Organization (W H O) standards of 5 micrograms per meter cubed or future US standards of 8 micrograms per meter cubed. There could even be court-ordered monitoring using a neighbor-owned PurpleAir PM 2.5 monitor as a “breathalyzer” (similar to car breathalyzers court ordered for repeat drunk drivers) to turn off the ignition of a neighboring indoor wood stove when levels of PM 2.5 in a near neighbor’s yard is exceeded. In this way governmental authorities would not have to check the make and model of an appliance and would not have to rely on unreliable certification and other worthless assurances of levels of wood stove particulate emissions by the company that manufactured the wood stove. PurpleAir monitors also provide data every 10 minutes 24 hours a day, and data can be downloaded from the map by governmental authorities the day after the PM 2.5 levels are exceeded, during normal government working hours. PurpleAir PM 2.5 monitors are so reliable and accurate they are put on U S AirNow Smoke and Fire maps alongside \$100,000 Environmental Protection Agency (E P A) monitors, correlated to the EPA monitors with a simple mathematical formula. But to publicize this, it is necessary to point out that living hyper-localized next to a

residential wood burner is essentially the same as living hyper-localized next to any kind of PM 2.5 emitting wood burning appliance, next to a PM 2.5 emitting wood burning wildfire or next to a PM 2.5 emitting industrial biomass (wood) burning facility.