

Episode 56K G j Part 10. The unscientific myth of “carbon neutrality” of wood burning explains why wood smoke pollution is not controlled.

The ten parts to this Episode 56K G

See Part 1. Episode 56K G a. EPA Airnow Maps are like one Sensor on a PurpleAir PM2.5 Monitor map. $((PA \times 0.5140) + 1.8304)$

See Part 2. Episode 56K G b. Ring Cameras catching “Porch Pirates” are like one Sensor on a PurpleAir PM2.5 Monitor map.

See Part 3. Episode 56K G c. Radar Guns catching automobile speeders in a neighborhood with a speed limit are like one Sensor on a PurpleAir PM2.5 Monitor map.

See Part 4. Episode 56K G d. Breathalyzer Tests (breath alcohol tests) catching automobile drunk drivers in a neighborhood with a speed limit are like one Sensor on a PurpleAir PM2.5 Monitor map.

See Part 5. Episode 56K G e. If Episodes 56K G a through d are challenged, baseline can be established by PurpleAir Map region data.

If the above 4 tests are challenged in court, average baseline readings above zero on a PurpleAir map can serve as a baseline above zero for one PurpleAir PM2.5 Monitor’s reading used to shut down an indoor wood burner, if a law has been passed (ordinance, state law or federal law) or grant project has established a program for exchange of a wood stove for a Heat Pump, and reward of a Heat Pump to the near neighbor whose PurpleAir Monitor has detected exceedance of National Ambient Air Quality Standards (NAAQS) by nearby indoor wood burning.

See Part 6. Episode 56K G f. argument for use of NAAQS standards for PM2.5 for wood stove emissions rather than certification of wood stoves.

See Part 7. Episode 56K G g. argument for “Parallel track” use of NAAQS standards alongside continuation of flawed EPA wood stove certification.

See Part 8. Episode 56K G h. what a to g have to do with grant proposal by Residents Against Wood Smoke Emission Particulates Corporation, a 501c3 organization.

See Part 9. Episode 56K G i. What PurpleAir Users Groups could do to support RAWSE Presidents grant.

This is Part 10. Episode 56K G j The unscientific myth of “carbon neutrality” of wood burning explains why wood smoke pollution is not controlled.

Few people are aware that wood burning emissions, including wood burning pollution in the form of PM2.5, are left out of calculations of pollution levels around the world which nations use to calculate whether nations are reaching their “Climate Goals” of reducing pollution and slowing climate change. Few people are aware that wood burning emissions, including wood burning pollution in the form of PM2.5, are left out of calculations of pollution levels in the United States which the United States uses to calculate whether the United States is reaching its “Climate Goals” of reducing pollution and slowing climate change. Few people are aware that wood burning emissions, including wood burning pollution in the form of PM2.5, are left out of calculations of pollution levels in individual states of the United States which the United States uses to calculate whether the United States is reaching its “Climate Goals” of reducing pollution and slowing climate change. This is because of the unscientific myth of Carbon Neutrality of wood burning. Scientists around the world, scientists in the United States, and scientists in individual states of the United States are overwhelmingly underwhelmed by the concept of Carbon Neutrality. Scientists notably have written letters signed by hundreds of scientists to the United States Congress and to the European Union leaders asking that Carbon Neutrality policies be taken out of government policies on pollution and government policies designed to slow climate change, on paper, not in reality. The Carbon Neutrality of wood burning is not based on science, but based on the wishes of politicians that an inconvenient truth be obscured by mumbo jumbo. The truth is that wood burning emits more PM2.5 and CO2 than the fossil fuel coal burning and wood burning emits 450 times the PM2.5 as natural gas burning. The particulates in the air do not magically disappear because they are caused by wood burning. PM2.5, particulate matter of 2.5 micrometer size, is the perfect size to infiltrate the human lung, setting off a cascade of human health problems and early deaths. Wood smoke is **90% PM2.5**

Briefly, the myth of Carbon Neutrality is that for every tree that is cut down and burned, another tree can take its place. In contrast, ancient fossils that have become ancient fossil fuels, cannot be replaced as easily deep within the earth. It can take a tree decades or hundreds of years to be replaced by a new tree of the same size, but it can be replaced, so some believe that wood burning is “renewable”, like wind and solar power, although when wind and solar are harvested for energy, no wind or sunshine is actually destroyed, as a tree is destroyed when burned. But carbon neutrality says that when the new tree is at the size of the burned tree it will absorb CO2 and produce Oxygen at the same level as the

tree that was destroyed and burned decades or centuries earlier. Therefore, according to the theory of Carbon Neutrality, emissions from wood burning should not be counted or if counted, wood burning emissions of CO2 and PM2.5 should be ignored in calculations of how much CO2 (a greenhouse gas) and PM2.5 (a pollutant, but not a greenhouse gas) is produced by wood burning of the first tree. And not only are wood burning CO2 and PM2.5 emissions ignored, taxpayer subsidies for wood burning (called Biomass burning when done on an industrial scale), because wood burning is considered Carbon Neutral and Renewable, wood burning industries are given subsidies by countries around the world and in the United States. Does replacing coal burning with wood burning result in less production of CO2 and PM2.5 in reality? No, wood burning hastens climate change faster than coal burning and wood burning produces more PM2.5 than coal burning. PM2.5 is not designated a greenhouse gas but like CO2, PM2.5 also hastens climate change as well as sickening people and causing early deaths. Fortunately, now that wind and solar are proving cost effective for consumers as the prices for these forms of energy plummet, an alternative to fossil fuels can be clean, in the form of wind, solar or geothermal and available to the average person for a lower price than for using fossil fuels or wood burning. Heat pumps that work at 40 degrees below zero Fahrenheit are also highly subsidized in 2023. Heat pumps also function as air conditioners and Heat Pumps are so efficient monthly electricity bill costs fall when Heat Pumps are used.

Resident user owned \$229 PurpleAir PM2.5 monitors are now placed alongside \$100,000 PM2.5 monitors on Environmental Protection Agency (E P A) maps of Smoke and Fire <https://fire.airnow.gov/> as well as on the PurpleAir PM2.5 map <https://map.purpleair.com/>

\$100,000 EPA PM2.5 monitors physically collect PM2.5 from the air and separate the PM2.5 into lighter “wood” density PM2.5 and heavier “gravel” density PM2.5, and weigh each of the two densities separately as the basis for PM2.5 data from \$100,000 monitors put on AirNow Maps of Smoke and Fire. \$229 PurpleAir PM2.5 monitors see the PM2.5 passing before a laser and count the number of PM2.5 particulates that pass before the laser within a 10 minute span of time. After ten minutes the PurpleAir PM2.5 data is put on the PurpleAir map, for each sensor. This makes PurpleAir PM2.5 data superior to EPA data because data published every 10 minutes is essentially real time data. Because the \$100,000 EPA PM2.5 monitor has to divide the PM2.5 into two densitiehttps://www.tiktok.com/@rawsepresidents/video/7292867699364072750?is_from_webapp=1&sender_device=pc&web_id=7288319674021250603s and weigh each density, the EPA \$100,000 monitor only publishes its data every hour. To correlate the two data sets to allow the two data sets to appear alongside each other on the AirNow Maps of smoke and fire, the U S government assumes that although PurpleAir PM2.5 monitors are accurate and accepted by the U S government as accurate and reliable, the U S Government assumes that PurpleAir PM2.5 monitors read “high”. So each state of the United States has a formula that it applies to the PurpleAir PM2.5 data before the PurpleAir PM2.5 data is put on AirNow Maps of Smoke and Fire. In Wisconsin, that simple mathematical formula applied to PurpleAir PM2.5 data is ((PA x 0.5140)+1.8304). For instance, if the reading on a PurpleAir Map was 28 the data for that 10 minute point would be (28 x 0.5140)+1.8304 (get out your calculators or Excell Spreadsheets) equal to 16.2224

16.2224 is above the annual National Ambient Air Quality Standards of 12 micrograms per meter cubed (NAAQS) of PM2.5 but below the 24 hour NAAQS standard of 35 (and below what citizens of the United States who testified in an EPA hearing in February 2023 would like NAAQS to be, which would be 8 micrograms per cubic meter (8 ug/m3) as the annual standard and 25 as the 24 hour **standard**).

To be at or above a future 24 hour standard of 25 micrograms per cubic meter, a PurpleAir PM2.5 reading would have to be 46.8077, This is using the opposite equation 25 divided by 0.514 and then subtracting 1.8304

To be at or above the current 24 hour standard of 35 micrograms per cubic meter, a PurpleAir PM2.5 reading would have to be 66.2629, This is using the opposite equation 35 divided by 0.514 and then subtracting 1.8304

To be at or above a future annual standard of 8 micrograms per cubic meter, a PurpleAir PM2.5 reading would have to be 13.7338, This is using the opposite equation 8 divided by 0.514 and then subtracting 1.8304

To be at or above the current annual standard of 12 micrograms per cubic meter, a PurpleAir PM2.5 reading would have to be 21.5159, This is using the opposite equation 12 divided by 0.514 and then subtracting 1.8304

Conversion PA MAP to AirNow MAP data	25 ug/m3 2024? 24 hour standard NAAQS PM2.5	35 ug/m3 2023 24 hour standard NAAQS PM2.5	8 ug/m3 2024? annual standard NAAQS PM2.5	12 ug/m3 2023 annual standard NAAQS PM2.5
PA	46.8077	66.2629	13.7338	21.5159
AirNow	25	35	8	12

The World Health Organization (W H O) annual PM2.5 standard is 5 micrograms per cubic meter. Bringing the PM2.5 “safe” standard down to 8 in the United States would bring the U S “safe” standard nearer to the W H O standard.

What is the purpose of the EPA AirNow Maps of Smoke and Fire. This summer of 2023 millions of Americans had their airspace invaded by wildfire smoke from Canadian wildfires. AirNow Maps of Smoke and Fire were consulted to find if outside air was safe to exercise in or so unsafe that people were advised to stay inside their sealed homes and use air purifiers to cleanse the air which seeped into even well-sealed homes.

Welcome America in 2023 to the world of near neighbors of indoor residential wood burners, whose wood burning smoke infiltrates the yards of near neighbors, and infiltrates near neighbors' homes, if homes are not tightly sealed or if doors or windows are opened. Up to now, PurpleAir PM2.5 monitors have been used only to inform residents of the air quality of their yards, neighborhoods, regions, states, and nation. Some United States states, and regions have chosen to use data taken directly from AirNow Maps of Smoke and Fire to issue requests that citizens stop all indoor residential wood burning or stop only certain forms of indoor residential wood burning until AirNow Maps readings reach a certain lower level of PM2.5 pollution. Residents Against Wood Smoke Emission Particulates would like PurpleAir PM2.5 monitor data to be used as evidence of the level of PM2.5 pollution entering near neighbors' yards (location of monitors in near neighbors' yards used as either "measurement at the stack" if near neighbor's monitors are placed very close to the wood burning stack or "fenceline measurement" if near neighbor's monitors are placed slightly farther away). Any PM2.5 monitor has to be placed hyper-locally to catch and measure the smoke from an indoor wood burner. \$100,000 EPA PM2.5 monitors are fewer in number than resident owned PurpleAir PM2.5 monitors. \$100,000 EPA PM2.5 monitors are also placed usually near industrial facilities to catch PM2.5 emissions from industry. PurpleAir PM2.5 monitors in the yards of near neighbors are usually hyper-localized near indoor residential wood burners. Residents Against Wood Smoke Emission Particulates (RAWSEPresidents) believes there need to be more, and more hyper-localized PM2.5 monitors near indoor residential wood burners.

Wood smoke is 90% PM2.5, particulate matter of 2.5 micrometer size, the perfect size to infiltrate the human lung, setting off a cascade of human health problems and early deaths. Wood burning emits more PM2.5 and CO2 than the fossil fuel coal burning. Wood burning emits 450 times the PM2.5 than the fossil fuel Natural Gas burning. Heat Pumps emit no appreciable level of PM2.5. In 2023 there are Heat Pumps that work at 40 degrees below zero Fahrenheit. Residents Against Wood Smoke Emission Particulates is writing a grant to hand of PurpleAir PM2.5 monitor to any near neighbor of an indoor residential wood burner whose smoke enters the near neighbors yard and sickens the near neighbor. If the near neighbor's PM2.5 monitor shows PM2.5 levels above NAAQS that evidence should be enough to shut down the indoor residential wood burner. Residents Against Wood Smoke Emission Particulates is writing the 2nd part of the grant to offer heavily subsidized Heat Pumps to any near neighbor who complains of the wood smoke entering their yard and would like a Heat Pump. Residents Against Wood Smoke Emission Particulates would also like to offer heavily subsidized Heat Pumps to indoor residential wood burners who end their wood burning forever in exchange for a Heat Pump. RAWSEPresidents would like this grant-funded pilot project to serve as a template for the federal government to pass laws, government pass laws to hand out PurpleAir PM2.5 monitors, use the monitors as the basis for shutting down PM2.5 polluting indoor residential wood burners, and offer heavily or state or local subsidized Heat Pumps in return for turning in indoor residential wood burners and pledging not to burn wood residentially again. This concludes the 10 part series.

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PA	46.8077	66.2629	13.7338	21.5159
AirNow	25	35	8	12