Episode 56SE March 22, 2024. A picture is worth 1,581 words, a resident's eye view of WI PM2.5 air pollution.

You may have noticed that Episode 56SC, Wisconsin PM2.5 levels over a 3 day period, was published yesterday 3/21/2024. In 1,581 words, 11 minutes and 39 seconds, all PurpleAir PM2.5 monitors in Wisconsin, of the 73 outside Dane County, were accounted for yesterday. The remaining 24 PurpleAir PM2.5 monitors within Dane County were accounted for on 3/20/2024 in Episode 56SAC, for a total of 101 resident-owned PurpleAir PM2.5 monitors across the state of Wisconsin on 3/21/2024. Five PurpleAir PM2.5 monitors were "Love my Air" monitors at public schools in Milwaukee. The monitor data, collected over a three day period, was analyzed for average PM2.5 in micrograms per cubic meter. The data was also analyzed for levels above the Environmental Protection Agency's National Ambient Air Quality Standards (EPA NAAQS) (which are 9 micrograms per cubic meter annually and 35 micrograms per cubic meter in a 24 hour period), with increments of 9, 15, 25, 35, 45, 55, 65, and 75 micrograms per cubic meter of the pollutant PM2.5 in % over a 3 day period. 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 2.8 times the PM2.5 and CO2 as the fossil fuel coal burning. Wood burning emits 450 times the PM2.5 as the fossil fuel natural gas burning.

Residents Against Wood Smoke Emission Particulates, a 501c3 organization, is writing a grant to distribute PurpleAir PM2.5 monitors to any near neighbor of an indoor residential wood burner whose PM2.5 wood smoke enters the near neighbor's yard and sickens them. The second part of the grant is to offer incentives for wood burners to hand in their indoor residential wood burners in exchange for Heat Pumps that work down to 40 degrees below zero (the Centigrade and Fahrenheit temperature scales converge briefly at 40 degrees below zero). Possibly the grant could also offer Heat Pump incentives to the near neighbors of former wood burners, to achieve the goal of clean communities. By September 2024 in Wisconsin, the federal government will offer Heat Pump rebates up to $8,000 based on a sliding income scale, and RAWSEP's incentives are intended to be additonal to the government Heat Pump rebate.

So the picture of residential wood smoke pollution in Wisconsin just got a little clearer, using only 1,581 words. Will you pay attention? Are you affected adversely by wood smoke? Two years ago the count of PurpleAir PM2.5 monitors in Wisconsin was around 55, including EPA government-owned PM2.5 monitors. Today the resident-owned PurpleAir PM2.5 monitor count in Wisconsin is 101. Resident owned PurpleAir PM2.5 monitors are used on United States EPA AirNow Maps of Smoke and Fire. The public has residents to thank for much of the air quality information you are given when wildfire smoke enters your own hyperlocalized airspace, such as when the incursion of wood burning smoke from Canadian wildfires in June 2023 entered the United States, halting commerce and school attendance in many areas, and even stopping or delaying flights. In June 2023 the public was given advice by health authorities to stay inside their sealed homes, and advised to use air purifiers to clean the air of the wood smoke that seeps into homes or enters when doors or windows are opened. That is the way near neighbors of indoor residential wood burners live every day, in sealed homes with multiple air purifiers running. Wood smoke incursions are not "weather" that we should passively endure. Wood smoke is preventable. Don't burn wood to begin with. The clean alternatives for home heating of wind and solar power extending to all rural areas to power electric Heat Pumps are cheaper than any other method of home heating in 2024. In the meantime, we need more PurpleAir PM2.5 monitors across Wisconsin, and we need them in hyperlocalized areas near residences to capture information about the true level of pollution caused by indoor residential wood burning.