Episode 56Q i February 6, 2024. Wood burning degrades solar panels, Ground PM2.5 monitors, Michigan plants to close.

In Episode 56Q I 1)Wood burning degrades solar panels, 2)Ground PM2.5 monitors are probably more appropriate for detecting hyperlocalized indoor residential wood burning affecting near neighbors, than satellite PM2.5 monitors, even if they are Geostationary Satellite PM2.5 monitors, 3) two out of the five remaining Michigan Lower Peninsula wood burning plants to close, 4)Headlines. 1)United States. Wildfire (wood burning) smoke PM2.5 and rooftop PV. The impact of wildfire smoke on rooftop PV - PV Magazine Photovoltaic (PV) technologies – more commonly known as solar panels – generate power using devices that absorb energy from sunlight and convert it into electrical energy through semiconducting materials. "The PM2.5 concentration represents the number of PM2.5 particles per unit volume of air at the altitude of the PV system," the scientists specified. The academics stressed that wildfire smoke affects PV system performance by reducing solar irradiance and causing soiling through the deposition of particles on the solar panels. 2)Washington, DC. George Washington University (GW). RAWSEP View: Ground level PM2.5 monitors, although possibly more costly in aggregate than Satellite PM2.5 monitors, may be needed to detect PM2.5 pollution from indoor residential wood burning on a hyperlocalized scale so that the source of the PM2.5 pollution can be pinpointed, and each indoor residential wood burner can be shut down based on monitor evidence, one by one if necessary. According to this article, Satellite PM2.5 level data is only taken during daylight hours, which would render satellite data of PM2.5 levels at night void during the very nighttime hours when many people burn wood indoors residentially. RAWSEP's editor also wonders if the data collected by Satellites will be hyperlocalized enough to pinpoint neighborhood air pollution from one indoor residential wood burner that affects a near neighbor, with the PM2.5 from the wood burning entering the near neighbor's yard and sickening him or her. GW, NOAA and the Environmental Protection Agency (EPA) collaborate. Key takeaways from this article 1)Satellite monitors that remain at the same location above one area of the earth can detect changes in levels of Particulate Matter (PM2.5) in that area that the satellite focuses on. 2)If Satellite PM2.5 level data is available it can warn people to stay inside their sealed homes with air purifiers running if the data indicates, in real time, PM2.5 levels harmful to human health. 3)Satellite data could possibly be gathered in the future for rural ares where there are now no ground level PM2.5 monitors, at a potential cost savings to the government if they use Satellite monitors instead of ground monitors in certain rural araes. On balance, after reading this article, RAWSEP's editor advocates for more ground level PM2.5 monitors for the purpose of detecting PM2.5 pollution from indoor residential wood burning in a neighborhood setting where the PM2.5 from wood smoke entering the yards of near neibhbors and sickening them happens during nighttime hours as well as daytime. From the article: Satellites measure air pollution in the atmosphere by observing the quantity of light that is reflected off of particles in the air. In contrast, ground monitoring systems chemically monitor air composition, drawing in air and measuring the concentration of particles. Satellite and ground air pollution monitors measure levels of PM2.5 (The lead researcher) hopes better air quality data collected from satellites will help individuals make better health decisions like staying indoors and using air filters on poor air quality days. Researchers have linked (PM2.5) exposure to premature death, birth defects, (and) lung cancer. researchers (found that) geostationary satellites would generate 60 percent more person-alerts than polar satellites. 1,200 more people per year would avoid premature death by factoring in estimates of how people reduce their exposure to pollutants based on these alerts. The researchers showed that the satellites could reduce $13 billion (in costs) per year nationally. The George Washington University (GW) Hatchet student newspaper. The National Oceanic and Atmospheric Administration (NOAA) Satellites and PM2.5 Geostationary satellites could provide better air quality alerts: study - The GW Hatchet Satellite and ground air pollution monitors measure levels of particulate matter of 2.5 micrometers, (known as) PM 2.5. if we had satellites that were geostationary, that hovered over the United States as the Earth spins (they would be) able to take measurements of the earth's atmosphere every hour throughout the daylight hours, (with) that capability, we would be able to provide better information for people to protect themselves on poor air quality days. Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates, a 501c3 nonprofit organization. February 5, 2024. Satellites that stay over the same point could help provide faster and more accurate air quality alerts and save billions in health care costs per year, according to a study by GW's Air, Climate and Health Lab. Researchers from GW, NOAA and the EPA found that surveys of the same region taken from geostationary satellites — which stay in the same place relative to the surface of the Earth — provided more frequent air quality alerts than polar-orbiting satellites, which orbit around the poles of Earth. The Satellites may be placed as part of a future NOAA satellite mission GeoXO. The NOAA mission, planned for the 2030s, would place more geostationary satellites in orbit over the Western Hemisphere to improve weather, air pollution and climate change monitoring.. a recent review by the EPA shows people do undertake behavior change when they know it's a poor air quality day. In some cases, they're staying indoors and running their air conditioning with a filtration

device. In other cases, they are wearing masks when they're outdoors. a researcher for NASA, said "People want information about when it's near and when they should take action to protect themselves or even just the regular air pollution from traffic, and (RAWSEP interjects, say, when you are a near neighbor of an indoor wood burner whose wood burning smoke in the form of PM2.5 enters your yard and sickens you) that changes throughout the day (RAWSEP interjects: Real time monitoring so near neighbors of indoor residential wood burners could take real time actions to protect their health, or near neighbors of indoor residential wood burners could have evidence of hyper-localized indoor residential wood burning from a local source which could serve as evidence to shut down a PM2.5 polluting indoor residential wood burner)." "So when you have geostationary satellites, you have a better ability to see those changes throughout the day." Remote sensing modeling capabilities only became available for the past 10 years. the EPA uses ground monitoring instruments to assess air quality in accordance with the Clean Air Act of 1990. Though legally required by the act, the technology is limited by infrequent data collection and missing data for rural areas, which satellites help combat. "Two-thirds of the ground monitors only take samples once every three days, so that's how you leave a big information gap in there. And because of its expensive operations, most of these monitors are only or mostly located in urban centers. We have 75 percent of U.S. counties without a single air quality mark," wildfires and dust storms (of non-urban origin), demonstrate the need for a method of detection without relying on costly ground monitors, (PM2.5 detection) which satellites could provide. 3)Michigan. RAWSEP's editor is interested in the reasons given in the following article for closing two biomass plants. If the two Michigan biomass plants discussed here close, there will be only three remaining wood burning power plants in Michigan's Lower Peninsula, a cause for celebration for clean air advocates. The first reason given by clean air advocates for the two closures is A-1)Economy. Wood burning is more expensive than wind and solar power. Closure will save ratepayers millions of dollars. A-2)Transportation of wood to wood burning power plants is costly. A-3)Consumers want to replace wood burning with solar energy. What are advocates of wood burning saying in response? B1)Wood burning advocates say that wood burning is a backup when wind and solar fail. B2)Wood burning advocates say wood burning supports forest preservation (which seems like convoluted logic to RAWSEP's editor, since trees are cut down to feed wood burning plants). Forest preservation protects the Kirkland's Warbler, which was delisted as an endangered species in 2019. B3)Wood burning advocates say adding tires to wood burning prevents the build up of tires in landfills. taking tire-derived fuel away … (from primarily wood burning power plants) loses production efficiencies and the wood burning industry loses economic benefits, although an industry spokesperson conceded "We're able to keep on keeping on." B4)If wood is not burned in wood burning power plants, it will feed wildfires. RAWSEP's editor feels this is debatable. B5)No change wanted by advocates for wood burning power plants. Michigan ranked third behind California and New Hampshire for the total amount of electricity produced from biomass in 2019. B6)Michigan wood burning power plants supported 150 direct rural jobs in 2021. Michigan, Grand Rapids. 2 more Michigan biomass plants set to close as industry's future hangs in jeopardy Crain's Grand Rapids Business. Two of the five remaining wood-fired biomass energy plants in the Lower Peninsula may close in the coming months, raising questions (about) Biomass plants in Michigan. Two of the five remaining biomass plants — National Energy of Lincoln and Cadillac Renewable Energy — in the Lower Peninsula would close at the end of May under plans filed with state regulators. 2 more Michigan biomass plants set to close as industry's future hangs in jeopardy February 5, 2024. Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates, a 501c3 nonprofit organization. Photo of Wood that is converted into biomass pellets at a North Carolina plant. Two of the five remaining wood-fired biomass energy plants in the Lower Peninsula may close in the coming months, raising questions about the energy source's future as it attempts to compete with cheaper wind, solar and natural gas. The two plant owners and their primary customer, Consumers Energy, say the planned closures in Cadillac and the northeastern Lower Peninsula are a financial decision that will save ratepayers tens of millions of dollars. Consumers want to replace the biomass contracts with solar. Under that rapidly shifting energy sector that's trading in legacy fuels like coal for renewables like wind and solar, the question remains: Is biomass getting squeezed out in the process? "It appears to be," (a spokesman) said, noting the recent Hillman closure. "That's three biomass plants right there in the last couple of years set to or already closed. It appears to be a trend on that alone." Headlines. United Arab Emirates, Abu Dhabi. Winter warning: Avoid heater dangers with Abu Dhabi Police advice - Gulf News Such wood-burning stoves should be lit outside the rooms or provided with special hoods for the smoke to rise to the top while ensuring proper Do not leave wood-burning stoves burning for long and extinguish them outside the house. Asian agriculture and PM2.5 pollution (RAWSEP View: some PM2.5 is from wood burning smoke). TFMA Advocates for National Implementation of Good Agricultural Practices to Combat PM Asia Food Journal. This move aims to mitigate PM 2.5 pollution levels, following efforts to discourage corn cultivation in forest areas prone to illegal clearing. India. Solid Fuel dung for burning at cremation is called eco-friendly, ignoring PM2.5 emissions, similar to when another solid fuel burning (turf burning) is used in Ireland. PMC to use cow dung cakes for eco-friendly cremations - Hindustan Times "I had even visited crematoriums of 13 municipal corporations and despite the availability of gas and electric crematoriums people prefer burning wood. Fool's Corner. RAWSEP View: Toastiness, toasted skin syndrome, cancer, coziness. The Royal Standard of England named as one of UK's cosiest pubs | Bucks Free Press From the medieval tiled flooring to the warming smells of wood smoke, this pub places cosiness at its core, rightfully earning an overall score of 99.