

Episode 56FM June 26, 2023. Fairbanks, Alaska is content with wood stove to wood stove changeouts done in the 2010s, and content still living with PM2.5 pollution.

RAWSEP note: Many new viewpoints and interviews are being put on the website Doctors and Scientists Against Wood Smoke Pollution these days. If you are interested in the issues, check out <https://www.dsawsp.org>

RAWSEP note: The editor of RAWSEPresidents has a Bachelor of Science Degree in Biochemistry, worked for years doing Epilepsy research, and authored or co-authored several peer-reviewed papers about her research.

RAWSEP View: The most important part of a wood stove exchange program is what the wood stove is exchanged for. If one wood stove is exchanged for another wood stove, the pollution is perpetuated, and the government has lost \$1.25 million that could have been used to clear the air of particulate pollution and CO2 emissions at higher levels than coal burning. In the article below, it is explained that Fairbanks, Alaska changeout dollars are going to be used particularly for conversion of heating oil systems to those that use natural gas or propane. So this is a changeout of not just wood stoves but heating oil stoves. Unfortunately this article refers to wood stove changeouts done in the early 2010 to other makes and models of wood stoves, as having largely accomplished reduction of pollution from wood burning. But the pollution from wood burning is still in the air in Fairbanks, Alaska in 2023. These wood stove changeouts in the 2010s therefore only perpetuated pollution from wood stoves, instead of changing the wood stoves to natural gas furnaces (the cleanest alternative in the 2010s) or the best changeout solution for wood stoves in 2023, changeout of wood stoves to heat pumps, which would run on electrical grids powered by wind, solar and geothermal. Could this money in 2023 at least be used for ending wood stove use entirely in Fairbanks, replaced by natural gas or propane, as bridges to the still cleaner energy of heat pumps? Heat pumps now work at 40 degrees below zero Fahrenheit. With global warming, even Fairbanks should not get below 40 degrees below zero Fahrenheit. The only set back to exchanging wood stoves (any wood stove is highly polluting) for heat pumps is the lack of an electrical grid. Fairbanks is a city, and should have a functioning electrical grid, or should use government money to build a functioning electrical grid. 1)Exchange wood stoves for heat pumps. 2)exchange wood stoves for natural gas furnaces as a bridge to eventual change to heat pumps 3)use government dollars to build a functional electrical grid 4)use wind, solar and geothermal to power an electric grid 5)Fairbanks is a city and should have a functioning electrical grid. 6)areas outlying Fairbanks should have functioning electrical grids.

Change from oil-fed stoves to natural gas should not be the first priority, although it is a step toward some reduction of pollution. The optics are bad, Fairbanks not highlighting shifting from wood stove changeouts to cleaner alternatives, when all wood stoves are highly polluting. This is excused by the official stating "The issue with woodstoves that you look at is the variability in use, pattern, fuel, and air ratios, Not every stove is going to operate the same way. Not every person is going to operate the stove the same way." Which are weasel words. This official is stating that the way the wood stove is used makes it polluting or not. That is not true. Wood stoves are highly polluting because they burn wood. Any solid fuel produces many particulates. The solution is to stop burning things, especially solid fuels, like wood and coal, entirely. Then the next step is to stop burning oil or gas like fuel oil or natural gas. The next step is to use energy generated without burning things, from wind, solar and geothermal energy distributed to electrical grids that reach every home in the Fairbanks North Star district.

Alaska, Fairbanks North Star Borough (FNSB)

[FNSB accepts \\$1.25 million in stove change-out grant funds from the State of Alaska - KTVF](#)

KTVF

At issue in parts of the borough is the presence of high levels of fine particulate matter, referred to as PM 2.5. Hoke said, "It's trapped ...In the Interior, P-M 2.5 primarily comes from wood smoke, but can also be found in diesel burning and other forms of energy production.

NSB accepts \$1.25 million in stove change-out grant funds from the State of Alaska

Jun. 23, 2023.

FAIRBANKS, Alaska (KTVF) - The Fairbanks North Star Borough (FNSB) accepted \$1.25 million in grant funds from the State of Alaska on Thursday, June 22.

In a unanimous vote, without debate, the borough assembly agreed that the borough should use the funds, which are designated for use in its stove change-out program, particularly in the conversion of heating oil systems, to those that use natural gas or propane.

Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates.

Borough Mayor Bryce Ward says the stove change-out program, running since 2010 and designed to improve air quality in the Alaskan Interior, has so far proved successful, with North Pole cutting its PM 2.5 levels in half. As a result, the borough has been working since 2010 to shift how residents heat their homes and businesses.

In parts of the (Fairbanks North Star) borough (are) high levels of fine particulate matter, PM 2.5. (PM2.5 is 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 Smoke is 90% PM2.5. Wood burning emits more PM2.5 and CO2 than coal burning, and Wood burning emits 450 times the particulates as natural gas burning.) In the Interior, P-M 2.5 primarily comes from wood smoke, but can also be found in diesel burning and other forms of energy production.

Mostly (in) residential areas and areas (is where there is a lot of) wood burning. "The issue with woodstoves that you look at is the variability in use, pattern, fuel and air ratios, Not every stove is going to operate the same way. Not every person is going to operate the stove the same way."

Originally focusing on changing out woodstoves for more efficient models, the program has since expanded to include converting oil-fed stoves to natural gas, "The majority of the changeouts we've been doing, from 50 to 60 percent, depending on the area, has been oil to gas."

He explained wood-stove conversion is "less frequent now. I think a lot of them got changed out in the early 2010s, and then it's kind of petered off a little bit."

In recent years, the number of residents utilizing the program has greatly increased. Around "2019, 2020 when the first natural gas funding became available, you can really see the sharp incline as far as the amount of participants."

RAWSEP View: The article from the Union of Concerned Scientists below does not mention biomass (wood) burning and does not discuss residential wood burning in this article about the PM2.5 from Canadian wildfires. Where does he think the PM2.5 comes from: when wildfires burn? The obvious answer is from burning wood, that is where a vast amount of PM2.5 comes from. Burning wood emits more CO2 and particulates (PM2.5) than the fossil fuel coal burning. Burning wood produces 450 times the particulates as the fossil fuel natural gas burning. Yet the author makes the brave but misdirected decision to place the blame for this particular incident of wood burning as coming from fossil fuel burning. Do we have proof that a spark from drilling for fossil fuels in Quebec caused a forest fire in Quebec? No. The spark starting a fire in Quebec could more likely, statistically, have come from a wood burning stove in Quebec. Stop burning wood, stop burning coal, stop burning solid fuels, and you have taken real steps toward slowing climate change. The problem is that in the case of Biomass (Wood) burning, to stop you would have to forgo the mistaken government subsidies for biomass burning, and to stop residential wood burning you would have to take personal responsibility for your own personal actions in perpetuating the pollution from wood burning in your own wood burning stove. It is tiresome to think that RAWSEP is analogous to Mothers Against Drunk Driving (M A D D) but the parallels are obvious. There was technology by the 1980s to measure the blood alcohol levels of an individual with a breathalyzer test, so M A D D was able to point to an unused technology to use to stop drunk driving. M A D D pointed out the need for government testing of drunk drivers, in order to keep them off the road and stop them from killing innocent children and others who innocently happened to be in the path of drunk drivers who shouldn't have been on the road. Breathalyzer tests isolated the problem and pinpointed the individuals who had to change through alcohol cessation programs, or at least stop driving. Residents Against Wood Smoke Emission Particulates (RAWSEPresidents) pinpointing the problem of residential wood burning with hyper-localized PM2.5 monitors, can make the solution to the problem concrete and make the solution doable. Hand out PM2.5 monitors to any near neighbor of a residential wood burner who complains of PM2.5 emissions entering the near neighbor's yard and infiltrating the near neighbor's home. Use the data from the PM2.5 monitors as evidence of PM2.5 levels above Environmental Protection Agency (E P A) "safe" levels of PM2.5 The low-cost technology exists now. PurpleAir PM2.5 monitors cost \$249, and the data on PurpleAir maps is available to the general public and to government official during normal government working hours. Polluting residential wood stove use could be shut down without having to enter homes of residential wood burners, and data from overnight and weekend burning as well as all historical data could be available as evidence. PurpleAir PM2.5 monitors are already used on U S E P A Airnow Maps of Smoke and Fire, alongside \$100,000 E P A standard PM2.5 monitors, correlated to the standard E P A monitors with a simple mathematical formula. The general public is probably now more aware than ever of the data from PM2.5 monitors, given that large swaths of the U S are currently being affected by Canadian wildfire smoke. The public wants to be informed of pollution. The public also wants to be protected from pollution. Using data from PM2.5 monitors for hyper-localized enforcement of clean air laws should be routine across

the United States, and PM2.5 monitors could deal with the problem of PM2.5 pollution from residential wood burning once and for all.

Health

[Through the Haze: When Disinformation Dulls Climate Urgency | Common Dreams](#)

Common Dreams

Fine particulate pollution, known as PM 2.5, kills between 4.2 million and 5.7 ... due to the fine particulate matter of acute wildfire smoke.

Through the Haze: When Disinformation Dulls Climate Urgency

Climate change denial and skepticism is a key feature of the deep political divide in this nation, fueled by long-running and coordinated campaigns of disinformation, often funded by fossil fuel interests.

Jun 24, 2023 [Union Of Concerned Scientists/Blog](#)

Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates.

(RAWSEP note: There are infamous wood stove industry shills that are not mentioned in this article. Those who are against residential wood burning are quite aware of the PM2.5 pollution from all wood smoke, be it wildfire wood burning smoke, biomass wood burning smoke or residential wood burning smoke. Wood burning emits more CO2 and PM2.5 than the fossil fuel coal burning and wood burning emits 450 times the particulates as the fossil fuel natural gas burning). The infamous fossil fuel and tobacco industry [shill](#) Steve Milloy falsely [claimed](#) on FOX News—which itself [glorifies](#) oil and gas and lambasts environmental regulations—that the wildfire smoke posed “no health risk.” Not-a-scientist Milloy further [pontificated](#), “This doesn’t kill anybody. This doesn’t make anybody cough. This is not a health event. This has got [nothing](#) to do with climate . . . This is not because of fossil fuels.” Fine particulate pollution, known as PM 2.5, [kills](#) between 4.2 million and 5.7 million people a year, [according](#) to a range of [studies](#). More life years are [lost](#) around the globe from PM 2.5, according to the Energy Policy Institute at the University of Chicago, [than](#) from cigarette smoking or alcohol. In the U.S., exposure to PM 2.5 prematurely [kills](#) at least 100,000 people a year. That is more than gun deaths and fatal car crashes combined. This is before considering a world with more wildfire smoke. Emergency room visits for asthma [doubled](#) in New York during the June plume, with [most](#) of the afflicted coming from Black, Latino, and high-poverty [neighborhoods](#). A 2021 [study](#) in Lancet Planetary Health [found](#) that [worldwide](#), 33,500 people a year die from cardiovascular and respiratory complications due to the fine particulate matter of [acute wildfire smoke](#). A decade ago, a review of nearly 12,000 studies conducted between 1991 and 2011 [found](#) that 97.2 percent of them agreed that humans were causing global warming. A 2021 [analysis](#) of more than 88,000 studies since 2012 now finds 99.9 percent agreement. If only such agreement could escape the lab. The enduring gap in public awareness and understanding received a fresh exclamation point in a [new poll](#) this month by the [Yale Program](#) on Climate Change

Arizona, Maricopa County

[News Flash • Maricopa County, AZ • CivicEngage](#)

Maricopa County

Ozone High Pollution Advisory issued for Friday, June 23 through Sunday, June 25 · Wood burning in residential fireplaces, chimeneas, outdoor fire pits ...

California & Nevada, Lake Tahoe

[Summer fire restrictions in place around Lake Tahoe starting June 26](#)

South Tahoe Now

The round metal camp stoves like the Solo brand, give off little smoke but are still burning wood, so not allowed.

California, Sierras

[Dennis Mattinson Weather 06-23-2023 06-25-2023 - Sierra Wave](#)

Sierra Wave

He specialized in the monitoring, measurement and movement of particulate matter 2.5 and 10 microns in size (known as PM-2.5 and PM-10). He also ...

Colorado, Colorado Springs

[At Home: 12 ways to allergy-proof your home - Colorado Springs Gazette](#)

Colorado Springs Gazette

Avoid wood-burning fireplaces. Wood and tobacco smoke can worsen respiratory allergies. Natural gas fireplaces won't cause this problem. 12. Keep cool ...

Illinois, Chicago

[Why is the air quality bad in Chicago today? A look at what's causing the haze](#)

NBC Chicago

Meanwhile, smoke from wildfires in Ontario and Quebec continues to drift into the Midwest, causing a drastic increase in PM 2.5 on Friday ...

Maryland, Baltimore

[Advocates, health experts urge Maryland to cut emissions by swiftly moving to electric vehicles](#)

The Baltimore Banner

Of particular concern is exhaust from diesel trucks, which is a potent source of fine particulate matter pollution, known as PM 2.5. The analysis by ...

Ohio, Mid-Ohio Valley

[Mid-Ohio Valley Climate Corner: Wildfires smoke – not just a nuisance - News and Sentinel](#)

News and Sentinel

Wildfire smoke sends tiny particulates, known as PM 2.5, over great distances. These particulates are not just wood smoke, which is bad enough for ...

Pennsylvania, Williamsport

[Two-alarm blaze damages three structures in Elimsport - Williamsport Sun-Gazette](#)

Williamsport Sun-Gazette

His wife Karen looked out and saw the small structure that houses the family's wood-burning stove on fire. She called 911 while her husband ran ...I just couldn't," Dan Voneida said as smoke poured from the building on ... small structure that houses the family's wood-burning stove on fire.

Utah

[Utah Kicks Off 2023 'Clear the Air' Challenge - Public News Service](#)

Public News Service

Burning wood releases fine particulate matter, which is easily inhaled and can lodge deep in the lungs, where it can cause chronic heart and lung ...

Canada, Ontario, Ottawa

[Burn ban issued for the city of Ottawa | CTV News](#)

CTV News Ottawa

Ottawa residents will not be able to have campfires and wood burning outdoor fireplaces this weekend. The Ottawa Fire Service has issued a burn ...

Australia, Sydney, Sutherland Shire

[Leader readers have their say about issues and events in Sutherland Shire](#)

St George & Sutherland Shire Leader

Wood smoke contains a range of pollutants that are harmful to human health, such as particulates, nitrogen oxides, carbon monoxide, ...

United Kingdom, Wales, Pembrokeshire, Monkton

[Fire at Monkton apartment block caused by 'unattended wood burn'](#)

The Pembrokeshire Herald

... a Monkton apartment block on Wednesday evening was determined to have been caused by an unattended brazier where waste wood was being burned.

Asia

[World's Biggest Study Of Wildfire Smoke Impact Reveals Alarming Long-Term Health Impacts](#)

Eurasia Review

Importantly the study found no significant associations of wildfire-related PM2.5 exposure with mortality from cardiovascular, respiratory, and mental ...

Health

[Air Pollution May Raise Risk of COPD, Heart Disease, Premature Death - Healthline](#)

Healthline

Air pollution from dangerous particulate matter like PM2.5 could have significant effects on health and well-being, which may vary depending on where ...

Health

[Across Borders, Worse COVID Outcomes Seen in Polluted Areas | MedPage Today](#)

Medpage Today

... particulate matter (PM2.5) and nitrogen dioxide (NO2) and incident COVID-19 from March 2020 to April 2021: PM2.5 and COVID infection (HR 1.10 per ...

Health

[An examination of whether long-term exposure to air pollution is associated with risk of ...](#)

News Medical

A study from Italy detected an association between long-term exposure to particulate matter less than 2.5 µm in diameter (PM2.5) with incidence of ...

Health and PM2.5 from Wood Smoke

[Prior exposure to air pollutants and black carbon load predicts outcomes in hospitalized ...](#)

News Medical

In vitro studies have shown that long-term exposure to particulate matter less than 2.5 µm in diameter (PM2.5) increases the expression of ...

Residents Against Wood Smoke Emission Particulates, see <https://RAWSEPresidents.wordpress.com> and click on the nearest right icon for the latest month, June 2023, of PDFs of articles with U R L's to search on. To the right of that, Stickers to handout for RAWSEP <https://rawsepresidents.wordpress.com/rawsep-sticker-templates-get-your-two-cents-in/> Games such as 1)Bingo for RAWSEP, 2)Crosswords for RAWSEP, 3)EndWoodSmokeJeopardy. 4)EndWoodSmokeMonopoly Games, 5) a RAWSEP Flyer, 6)the Un-Twist-it Game, and 7)"Vending Machines for PM2.5 monitors", and icon links to 30 minute Youtube videos and Spotify podcasts as well as podcasts on Amazon Music Prime (free for Prime subscribers), podcasts.google.com, Cast Box, and Pocket Cast (Pocket Cast is only free on the phone App. Pocket Cast works on Apple phones) and, below those icons, icon links to monthly PDFs of articles with URL's to search on, from May 2023 to May 2022.