

Episode 56RG February 29, 2024. Heat Pumps outsold gas furnaces in 2023.

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RAWSEP is writing a grant to offer additional incentives for switching from indoor residential wood burning for heat to Heat Pumps, in addition to the up to \$8,000 rebates at checkout that the state of Wisconsin will offer for Heat Pump purchases starting by September 2024, based on a sliding income scale. The RAWSEP grant is also being written to offer free PurpleAir PM2.5 monitors to any near neighbor of a indoor residential wood burner whose wood smoke enters the near neighbor's yard and sickens them. <https://grist.org/energy/heat-pumps-outsold-gas-furnaces-again-last-year-and-the-gap-is-growing/> Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates, a 501c3 non profit organization. Heat pumps outsold gas furnaces again last year While sales of both heat pumps and gas furnaces were down in 2023, heat pumps are proving more popular than ever. February 19, 2024. The Air-Conditioning, Heating, and Refrigeration Institute released (data) last week, Americans bought 21 percent more heat pumps in 2023 than the next-most popular heating appliance, fossil (fuel natural) gas furnaces. That's the biggest lead heat pumps have opened up over conventional furnaces in the two decades of data available from the trade group. As electric appliances, heat pumps help slash planet-warming emissions from a major source – space heating – while also letting consumers ditch the health-harming fumes from gas and heating oil in their homes (and, RAWSEP adds, ditching th emuch more health harming indoor residential wood burning) . (Heat Pumps) can routinely produce the same amount of heat as a fossil-fired system using just a third or a quarter of the energy. Alex Amend, director of communications at pro-electrification advocacy group Rewiring America said Rewiring America put together a year-by-year sales growth trajectory for heat pumps that would be fast enough to take adoption from the 16 percent of U.S. homes they're installed in as of 2023 to all projected 140 million homes by (2050). Rewiring America's figures and the data from the Air-Conditioning, Heating, and Refrigeration Institute aren't directly comparable; AHRI tracks units sold while Rewiring tracks households. Wael Kanj, research associate at Rewiring America said sales for both heat pumps and fossil gas furnaces were down relative to 2023 due to supply-chain bottlenecks. in 2022, (Heat Pumps) surged ahead of gas furnaces by 12 percent and topped 4 million units sold for the first time. In recent years, heat-pump technology has improved, and the appliance has taken hold in states with frigid winter weather, such as Maine and Colorado. Heat pumps proved so popular in Maine that in July, the state beat its original deployment goal and had to set a new, more ambitious one. The Biden administration is galvanizing the move to heat pumps. The 2022 Inflation Reduction Act incentivizes heat pumps with a 30 percent federal tax credit up to \$2,000, and federal rebates are expected to start rolling out in 2024. Leaders at the state level are also setting ambitious clean-heat targets. In September, governors of 25 states pledged to cumulatively install 20 million heat pumps by 2030. And last week, nine states upped the ante with a target (albeit a nonbinding one) for heat pumps to make up 90 percent of home heating sales by 2040. Many states and utilities also have incentive programs to encourage residents to install heat pumps. Distilled states Google searches for the term "heat pump" have doubled in the last five years. Climate advocates are pushing policymakers to incentivize – or even mandate – homeowners to replace their broken-down ACs with heat pumps. 2)Colorado. PM2.5 polluter called ever distainful. RAWSEP View: The phrase ever distainful, seems like it might also fit indoor residential wood burners, ever distainful of the effect on human health of their wood burning pollution. According to Wikipedia Suncor Energy (French: Suncor Énergie) is a Canadian integrated energy company based in Calgary, Alberta. It specializes in production of synthetic crude from oil sands. In the 2020 Forbes Global 2000, Suncor Energy was ranked as the 48th-largest public company in the world.[4] Ever Disdainful, Colorado's Suncor Refinery is at It Again, Polluting to High Heaven Counterpunch. In fact, the federal Clean Air Act (CAA) 24-hour standard for PM 2.5 of 35 ug/m3) was exceeded about 14,820 times over six months of monitoring, Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates, a 501c3 non profit organization. If you were to receive a ticket for driving impaired, along with a \$600 fine, you would almost certainly have to go to drunk-driving school as well as pay the fine. Try asking the state to return most of that \$600 to offset lost time and expenses required to attend driving class? Even a Pollyanna might blush at the foolishness of such a request. Indeed, it's a certainty that if you continued to drive drunk, and were caught, you'd soon loose your license and go to jail. Suncor's record of killing its neighbors, if ever so slowly, is the equivalent of the habitual drunk driver,

except in its case it doesn't go to jail; it's not the victim of a debilitating disease, unless, of course, you consider greed and disdain diseases rather than pathologies. just 5 years ago Suncor was fined \$9 million, again for poisoning the people. We know this because about \$1.8 million of that earlier \$9 million fine went to a small, community-based Latina citizen group called Cultivando. Cultivando, with the help of other sympathetic citizens, used the money to continuously monitor the releases of toxins from the refinery. (Admission, I was on their advisory board.) What they found was a full-time abuser. For example, they found that soot, what air-quality people call PM 2.5, exceeded federal regulatory clean air standards all the time. Spikes in this pollutant were measured as high as 1700 micrograms per cubic meter (ug/m3.) In fact, the federal Clean Air Act (CAA) 24-hour standard for PM 2.5 of 35 ug/m3) was exceeded about 14,820 times over six months of monitoring, 3)United Kingdom. Drax criticized for burning rare wood, and also for wasting government money. RAWSEP View: All wood burning pollutes, but if this emphasis on Drax's problem of burning rare and ancient wood gets people's attention, it may also slowly dawn on people that burning wood, ancient and rare or new and ordinary, pollutes the air with PM2.5 and CO2, at 2.8 times the concentration as coal burning. Wood burning emits 450 times the PM2.5 as natural gas burning. Wood burning emits 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. Drax wood burning power plant burns and pollutes. United Kingdom. Biomass (Wood) Burning. [Using biomass to reach net zero could be a waste of taxpayer money - The Telegraph](#) It is time for the Government to put the brakes on yet more massive subsidies for burning wood, says Tory MP. [PRESS: Drax power station burning rare Canadian forest wood - BBC | AJ Bell](#) Drax Group PLC has been burning timber from protected forests in Canada at its North Yorkshire power station, at odds with its previous promise. [Drax: UK power station burns wood from rare forests - BBC](#) A power company that has received £6bn in UK green subsidies has kept burning wood from some of the world's most precious forests, [BBC claims Drax "continues to burn wood from rare forests" - Bioenergy Insight](#) Drax has continued to burn wood from some of the world's most precious forests, the BBC claims. The broadcaster said that papers obtained by its. [Government urged to end subsidies as Drax accused of burning old forest wood | Bracknell News](#) The Government is being urged not to extend subsidies for biomass as an investigation revealed that Drax is burning wood from rare "old growth". [PRESS: Drax power station burning rare Canadian forest wood - BBC - Morningstar](#) [PRESS: Drax power station burning rare Canadian forest wood - BBC · \(Alliance News\) - Drax Group PLC has been burning timber from protected forests in, \[Drax scrutinised as BBC report claims burning of rare wood for biomass - Proactive Investors\]\(#\) Drax Group \(LSE:DRX\) is again under environmental scrutiny as a BBC Panorama report today claimed the power plant operator's biomass furnaces. \[Drax power plant still burning rare forest wood - The Times\]\(#\) A British energy company has been found taking timber from ecologically important forests and burning the wood in one of the UK's largest power. \[Drax power plant burning rare forest wood despite £6bn subsidies - The Times\]\(#\) A British energy company has been found taking timber from ecologically important forests and burning the wood in one of the UK's largest power. \[Government urged to end subsidies as Drax accused of burning old forest wood\]\(#\) Yahoo Finance.The Government is being urged not to extend subsidies for biomass as an investigation revealed that Drax is burning wood from rare "old growth". 4\)United Kingdom, Headlines related to PM2.5 pollution, to wood burning, or to both. London. PM2.5 and negative impact on team performance. \[Air Pollution's Negative Impact on Team Performance | Mirage News\]\(#\) particulate matter smaller than 2.5 micrometers in diameter \(PM 2.5\). Pollution data were obtained from 16 monitoring stations in greater London. United Kingdom. RAWSEP View: The following charitable organization uncharitably pollutes the air unnecessarily, to produce charred \(burnt\) pizza rather than edible pizza, while secondarily spreading illness and early death. \[Charitable company agrees deal with Blyth restaurant to supply fuel for wood-burning pizza oven\]\(#\) Northumberland Gazette. The Woodfuel Centre, run by Blyth Star Enterprises, provides a real workplace setting producing premium logs and kindling for wood-burning stoves, United Kingdom. \[East Molesey: Rubble fly-tip leads to road closure - BBC\]\(#\) Logs burn on a wood burning stove. Council to deter wood burning after Defra funding. Elmbridge Borough Council wants to discourage burning wood. United Kingdom. \['It even smells realistic' - why Jorvik caused a sensation 40 years ago - Yahoo News UK\]\(#\) "It even smells realistic – rotting rubbish putrefies in the gutter, wood smoke fills the air and the fishmonger's stock of. United Kingdom, London. \[London » Air quality and dementia - NHS England\]\(#\) PM2.5 are incredibly fine particles, that stay aloft for a long time, exposing more people to breathing them in. United Kingdom. PM2.5 and breast cancer. \[Study: Air Pollution Increases Chances Of Breast Cancer By 45%, Prostate Cancer By Up To 10%\]\(#\) IBTimes UK The PM 2.5 limit set by the World Health Organization is 5 µg/m3. Particulate Matter \(PM\) 2.5 has especially become a major. United Kingdom. \[Two weeks left to share your views on Rushcliffe Smoke Control Area\]\(#\) Rushcliffe Borough Council. Correctly seasoned wood, timber or logs should only be burnt in a Defra approved appliance. Authorised fuels such as 'smokeless' fuels must be used in. 5\)California, Laguna Beach and Newport Beach under No Burn Orders. Laguna Beach. \[No Burn Order In Laguna Beach: Skip The Bonfire - Patch\]\(#\) wood burning due to a forecast of high pollution in the area. The wood-burning ban will be in effect through 11:59 p.m. Saturday for all those in. wood burning due to a forecast of high pollution in the area. Fine](#)

particles in wood smoke, also known as particulate matter or PM2.5 Gas and other non-wood burning fireplaces are not restricted, the SCAQMD said. California, Laguna Beach. [No Burn Order In Laguna Beach: Skip The Bonfire - Patch](#) California, Newport Beach. [No Burn Order In Newport Beach: Skip The Bonfire - Patch](#) 6)Discussion of EPA's lowering PM2.5 safe ambient (outside) Air annual limits from 12 to 9 micrograms per cubic meter. PM2.5 and 9 micrograms per cubic meter new NAAQS safe PM2.5 level. [EPA Lowers the Fine Particulate NAAQS: A Closer Look at Implementation and Potential Impacts](#) JD Supra. To implement the new PM 2.5 NAAQS, the first step is for each state to develop recommended designations of areas in the state as attainment or. [U.S. EPA Sets Stricter National Ambient Air Quality Standards for Particulate Matter](#) Lexology. particulate matter 2.5 micrometers in diameter or smaller (PM2.5) from 12 to 9 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). EPA asserts that the stricter. PM2.5 and EPA. [EPA Lowers Annual PM2.5 NAAQS, With Immediate Impacts for Air Permitting - JD Supra](#) particulate matter (PM2.5) from 12 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) down to 9 $\mu\text{g}/\text{m}^3$, changing the game on air quality permitting for much of the. 7)A new, portable PM2.5 sensor. PM2.5 and Black carbon sensor. [Black carbon sensor could fill massive monitoring gaps - EurekAlert!](#) burning versus wood burning to allow researchers and policy makers to triangulate such sources." Having established the portable sensor's accuracy. [New black carbon sensor is more portable but just as accurate, study finds](#) KSL NewsRadio. Black carbon is produced by diesel exhaust and wood smoke. "Now we can really get a better picture of what is in these particles that we are. 8)PM2.5 is linked to various illnesses including Alzheimers, Breast Cancer, Heart Attack, Hospitalization for Seniors, Household Income, Nasal passages, persistent organic pollutants (POPs), respiratory infection, respiratory mortality, and skin aging. PM2.5 and Alzheimers. [Study links soot exposure, Alzheimer's - E&E News by POLITICO](#) particulate matter or PM 2.5, because individual specks or droplets are no bigger than 2.5 microns in diameter. PM2.5 and Alzheimers. [Study Links Air Pollution to Build Up of Alzheimer's-Associated Amyloid Plaques](#) weather.com People with 1 microgram per cubic metre higher PM 2.5 exposure in the "These results add to the evidence that fine particulate matter from. PM2.5 and Breast Cancer. [Air pollution increases the risk of dying from breast cancer by 80% and is as dangerous as](#) -MSN wood-burning stoves, cooking, smoking and vaping. They enter the lungs then the bloodstream, and circulate around the body. 'PM2.5 won't cause a. PM2.5 and cancer. [Alarming Study Links Air Pollution to Increased Cancer Risk, Shedding Light on Global Health Crisis](#) BNN Breaking. At the heart of this health crisis is PM 2.5, fine particulate matter small enough to penetrate deep into the lungs and enter the bloodstream. PM2.5 and health effects. [Health effects of exposure to urban ambient particulate matter: A spatial-statistical study on](#) ScienceDirect.com PM2.5 (with an aerodynamic diameter of 2.5 μm or less). Depending on its composition, inhalation of PM can cause or exacerbate respiratory. PM2.5 and heart attack. [Continuous exposure to Even Low Level of Air Pollution Can Lead to Heart Attacks: Study](#) ETV Bharat particulate matter PM 2.5 increases the risk of cardiovascular disease and there is no safe threshold. Cardiac arrhythmia and heart failure are. PM2.5 and hospital admissions. [Fine Particulate Matter Levels Below WHO Guidelines Tied to Hospital Admission](#) Physician's Weekly. Chan School of Public Health in Boston, and colleagues estimated exposure-response associations between chronic exposure to PM2.5 and risks for the. PM2.5 and hospital admissions. [Fine Particulate Matter Levels Below WHO Guidelines Tied to Hospital Admission](#) HealthDay, The researchers found that three-year average PM2.5 exposure was associated with increased relative risks for first hospital admissions for. [Fine Particulate Matter Levels Below WHO Guidelines Tied to Hospital Admission - Drugs.com](#) [Full Coverage](#) PM2.5 and hospitalization for seniors. [Air Pollution Exposure Linked to Increased Risk of Hospitalization for Seniors - HCPLive](#) Participants exposed to mean PM 2.5 exposure were linked to increased relative risks in hospitalizations for ischemic heart disease, cerebrovascular. PM2.5 and Household Income. [Is air pollution exposure linked to household income? Spatial analysis of Community](#) ScienceDirect.com particulate matter (PM2.5). Statistical analyses were carried out using electoral district level data on gross household income (GHI), and NO2 and PM2.5 PM2.5 and Nasal passages. [Nasal key driver genes linked to ozone, fine particulate matter exposure in asthma - Healio](#) particulate matter (PM2.5) exposure. U.S. Environmental Protection Agency stations calculating daily levels of air pollutants provided insight on. PM2.5 and persistent organic pollutants (POPs). [Health assessment of emerging persistent organic pollutants \(POPs\) in PM2.5 in northern](#) ScienceDirect.com Currently, PM2.5 is a significant global concern due to its small size and the associated health risks (Song et al., 2022). Studies have estimated. PM2.5 and respiratory infection. [Respiratory infection transmission risk and indoor air quality at outpatient departments and](#) -PLOS The average levels of PM2.5 (particulate matter with diameters $<2.5\mu\text{m}$) outdoors, OPDs and ETUs respectively, were 28.7 $\mu\text{g}/\text{m}^3$, 32 $\mu\text{g}/\text{m}^3$ and 25.6 $\mu\text{g}/\text{m}^3$. PM2.5 and respiratory mortality. [and long-term exposure to PM2.5 on respiratory mortality in a population](#) ScienceDirect Fine particulate matter (PM2.5) easily penetrates human lungs and is deposited in the respiratory tract, where it can cause asthma, respiratory. PM2.5 and skin aging. [A synergy between cigarette smoke and sunlight - EurekAlert!](#) In addition to cigarette smoke, wood smoke from forest fires, for example, could also be tested. Patrick J. Rochette's laboratory has adapted. 9)United States, the Midwest. [EPA approves year-round sale of higher ethanol blend in some Midwest states - PBS](#) EPA faces lawsuit from 10 states over emissions standards for residential wood-burning stoves. By Associated Press.10)Arizona. [New standards to reduce harmful pollution and improve air quality](#) Big News Network.com Bahr pointed out the standard failed to strengthen the 24-hour PM 2.5 standard, which would have helped protect Arizonans from short-term spikes in. 11)California. [California's air quality standards could be a climate penalty -](#)

[KPBS](#) particulate matter pollution known as PM 2.5. “When you look at the really big PM 2.5 spikes. They come from wildfires. They're not coming from. California, San Francisco. [Bay Area air quality can plummet from an 'inversion layer' during the winter](#) San Francisco Chronicle. Burning wood. “Wood burning is the worst,” says Clifton Mass, a meteorologist at the University of Washington. “It puts out carcinogens and. 12)Colorado. [Climate change is erasing decades of air quality improvements. It's also making Colorado's air worse](#) Colorado Public Radio. PM 2.5, shorthand for particulates that are smaller than 2.5 microns in diameter, which can burrow deep in the lungs and cause major health problems. Colorado. Air quality improvements erased by climate change. [Climate change is erasing decades of air quality improvements. It's also making Colorado's air worse](#) The Durango Herald. Wildfire smoke is responsible for the dominant air pollutant degrading air quality in this region and across much of Colorado: PM 2.5, shorthand for. Colorado. [Lakewood Van Gordon Street Structure Fire - 5280Fire](#) wood burning stove and the exterior siding. Additional information provided by West Metro Fire Rescue. Units on Scene: District 2, District 1, SAM. On February 25th, 2024 at 10:29 [Jeffco](#) dispatched [West Metro Fire Rescue](#) to a possible structure fire in the 900 block of Van Gordon St. in Lakewood. The cause of the fire was contact between the exhaust piping from a wood burning stove and the exterior siding. 13)Florida, Fernandina Beach. [Residential Structure Fire – 522 Citrona Drive | News-Leader, Fernandina Beach Florida](#) Fernandina Beach News-Leader. wood-burning stove with a faulty flue. “The Fernandina Beach Fire Department encourages everyone to install working smoke detectors in their homes and have all fireplaces, wood-burning. 14)Louisiana, Lake Charles. [Grass, woods fires burning across SWLA - KPLC](#) A woods fire is burning. 15)New York. [An EPA Squeeze on Fossil Fuels - WSJ](#) The Wall Street Journal. The EPA recently finalized a rule slashing the national ambient air quality standard for fine particulate matter (PM 2.5) by 25%. These pollutants. New York. [BMO bankers sent each other crude memes before they were fired - BNN Bloomberg](#) Junior bankers who were recently fired from Bank of Montreal's metals and One of the photos that was distributed, known as the “Wood” meme. 16)North Carolina. Controlled burn. [Suspicious car parked near woods results in two arrests - Sandhills Sentinel](#) Heavy smoke expected in Aberdeen as firefighters conduct live burn “While in the area, detectives observed a vehicle parked off the roadway in the. 17)Oregon, Eugene. [People get head start on outdoor burning to clear ice storm debris | News | kezi.com](#) KEZI “We need to get this thing cleaned up.” Green wood. Normal burning regulations do not allow for wood to be burned that has yet to be completely dry. 18)Texas. [Firefighters use controlled burns to manage wildfire risk in East Texas - KLTU](#) The billowing smoke seen at Mill Creek Farms in Wood County was part of a controlled burn firefighter training exercise, but training was only. 19)Virginia. [Beyond The Wood: S1-E7 | Rotunda Studios | therotundaonline.com](#) an update on the Virginia burn ban. RAWSEP View: Just as the debunked unscientific theory of Carbon Neutrality of Wood Burning gives cover for continued polluting and health denying wood burning, any religious view that wood burning is sacred also gives cover to the same health and life denying wood burning, with the result of increasing human illness and early human deaths as well as hastening climate change. Burning wood actually causes illness and death, which is the opposite of healing from illness and death. Wood burning is simply wood burning, with the essential effect harm to human health and early deaths. Words do not erase pollution. Don't burn wood to begin with. 20)Canada, Prince Rupert. [Sacred fire near the Prince Rupert Civic Centre offers place of healing](#) Yahoo News Canada wood burning. Organizers emphasized it was much more than just wood burning. The sacred fire is described as a practice of Ayaawk (ancestral matriarchal law). Canada. [Canadian Studies Conference reflects on last year's record wildfires - Yale Daily News](#) Chen, who studies the impacts of climate change on human health, explained that wildfire smoke is rich in fine particulate matter, or PM 2.5. Canada, Ontario, Bruce County, Saugeen. [New open-air burning By-law passed by Council | Saugeen Times](#) In addition, cooking fires, small recreational fires that burn. 21)Chile. [Chile struggles with economic stagnation - Atlantic Council](#) wood-burning stoves are the principal method of domestic heating. This is very polluting, 22)Cuba. [Strengthen Cuba's air quality monitoring](#). Radio Habana Cuba. PM 2.5 and PM 10 particles. These terms refer to airborne particles such as soot, dust, smoke and aerosol, which can be inhaled and accumulate. 23)Israel, Gaza. RAWSEP View: 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. The humanitarian crisis in Gaza will be worsened by supplying Gaza with wood to burn, rather than supplying cleaner fuel alternatives for cooking than wood. [Gaza crisis: 'There is no flour, no bread, no gas, no wood for burning' - YouTube](#) The humanitarian situation in Gaza is continuing to worsen, with air drops the chief way of getting help into the north of the strip. 24)Kenya. [Unea-6 key platform for discussing household air pollution - Daily Nation](#) In-door air pollution from wood smoke. In Kenya, up to 23,000 people succumbed to household air pollution-related health issues in 2021. 25)India. [Clearing the Smog: Strategies for Cleaner Air - Climate Expert Sanval Nasim](#) The Friday Times. The interview progresses to discuss the specific characteristics of air pollutants, with a particular emphasis on PM 2.5 (Particulate Matter 2.5), India. [Lockdown In India Impacts To Improve Air Quality - VOI](#) PM 2.5 particles, which are smaller than 2.5 micrometers in diameter, are considered extremely dangerous because they can enter the lungs and. 26)Korea. [Ultrafine dust levels this year could be severe: ministry - The Korea Herald](#) PM 2.5 levels below 15 micrograms. According to the ministry's ultrafine dust response measures, flexible work is encouraged especially for. 27)The Philippines. Link between PM2.5 and more COVID. [Time-delayed causal network analysis of meteorological variables and air pollutants in Baguio city](#) ScienceDirect.com Numerous researchers have examined the relationship between PM2.5 and PM10 concentrations and precipitation in various regions, revealing that the. Recent research has shown that higher PM 2.5 levels are associated with more confirmed COVID-19 cases and hospital admissions (Andrée, 2020, Karimi et al). 28)Thailand. [Huge forest areas destroyed by raging fires in Chiang Mai - Nation Thailand](#) PM 2.5The NationThailandNews.