Episode 56UX. June 17, 2024. Spare the Air in California, and worldwide statistics on wood smoke.

In Episode 56UX, 1) United States. Environmental Protection Agency (EPA) Environmental Justice (EJ). EJ in EPA Rulemaking. 2)Wood smoke pollution in the US. Residential wood burning is the largest direct source of PM2.5 in the United States after road dust and fires (wildfires and prescribed combined), responsible for 340,000 tons of PM2.5 emissions annually. 3A)California. Sierra Forest harvesting. California officials, environmentalists split over plans to harvest biomass from Sierra forests. 4A)California. Fresno/Clovis and Bakersfield study. In Southern California, wood burning emits approximately four times the amount of PM2.5 as all the region's power plants combined. 4B)California, San Francisco and Bay Area. The Bay Area Air Quality Management District in California has determined that wood burning is the largest source of annual PM2.5 pollution in the greater San Francisco Bay Area contributing 25% of the area's PM2.5 pollution. The next highest contributor to PM2.5 levels is gasoline vehicles at 14%, and diesel vehicles at 8%. 5)Colorado. Zornio: 6 reasons why campfires should be banned year-round in Colorado. 6)Georgia. A study of a street in Atlanta, Georgia, that found residential wood burning contributes an average of 50% of particulate emissions in winter, compared to an average of 33% for gasoline vehicles and 4% for diesel. 7)Montana. A study of five western Montana valley communities found that wood burning was the largest source of PM2.5 in each of the communities studied, ranging from 56% to 77% of measured wintertime PM2.5 pollution. 8)Nevada, Reno. Wildfires were responsible for 19% of total VOC emissions and 30% of total PM2.5 emissions. 9)New York. Air Quality Health Advisory Issued for Long Island Region. 10)Oregon. More PM2.5 from wood smoke than car exhaust. Portland, Oregon. Residential wood burning was responsible for 58% of PM2.5 in Portland, Oregon; 86% in Klamath Falls, Oregon, and 92.7% in Lakeview, Oregon. 11)Pennsylvania, Philadelphia. Air Quality In Philadelphia Region Will Be Dangerous To Some Friday – Patch. Reducing fine particulate matter (PM-2.5) pollution in the air can be aided by: Limiting or eliminating fireplace and wood stove use. 12)Utah, Salt Lake city. You can now track Salt Lake County's less-visible air quality. KSL.com Most air quality monitors and air quality data focus on PM2.5 particulate matter. 13)Washington. What is the Washington State Burning Guideline? 14)Canada, Alberta, Calgary. In the city of Calgary, more PM2.5 comes from wood smoke (16%) than from traffic and rail combined (14%). 15)Canada, British Columbia, Vancouver. In British Columbia, 41% of PM2.5 emissions in populated areas have been found to be from residential wood burning (compared to 33% from industry and 21% from road vehicles). 16)Canada, Quebec. 40% of PM2.5 emissions in Quebec are from residential wood burning. Homes burning wood emit an estimated 21% of PM2.5 across Canada, compared to 12% from all on- and off-road transportation combined. 17)Australia, New South Wales, Armidale. Doctors warn of air pollution risks. The Armidale Express. Air pollution in Armidale, mainly from woodsmoke, causes severe health risks. 18) New Zealand. Residential wood burning is a major source of pollution in New Zealand, both in urban and rural areas. In wintertime, 79% of PM2.5 in Christchurch comes from residential wood burning, while 69% is due to wood burning in Auckland. 19)United Kingdom, In the United Kingdom, official government data released in 2023 showed that more particle pollution comes from residential wood burning (21%) than from traffic (13%). The government analysis noted that PM2.5 emissions from residential wood burning increased by 124% between 2011 and 2021. In London, residential wood burning is contributing to air pollution levels described as a "health crisis," with PM2.5 levels reaching higher than those in Beijing. 20)Scandinavia. Areas of Scandinavia have high levels of fine particulates from residential wood burning, such as in Lycksele, Northern Sweden, where it contributes up to 81% of PM1 emissions. A study from southern Sweden showed that 32% of carbonaceous aerosols were from wood burning (vs. 28% from fossil fuels). In Denmark, approximately 65% of fine particle emissions come from wood burning. 21)European Union. "Wood combustion represents 51% of the total PM2.5 emissions in the European Union (EU), which is the highest among all emission sources. 22)France. In the Île-de-France region that includes Paris, 30% of PM2.5 emissions in winter are from residential wood burning. Wood is used for only 5% of all residential heating in the area yet is responsible for 84% of heating-related PM2.5

emissions. 23)The Netherlands. Residential wood burning is responsible for 23% of fine particle emissions in the Netherlands. 24)Germany, Neumarkt in der Oberpfalz. Aussiedlerbote (Emigrant messenger). Person inhales fumes from wood-burning furnace. June 14, 2024. In Neumarkt in der Oberpfalz, a local individual tried burning waste in a stove, resulting in minor smoke inhalation. 25)Ukraine. Burning Ukrainian bulker evacuated by crew and 'sinking' in the Gulf of Aden. TradeWinds wood products has been evacuated and is currently burning out of control and sinking. 26)Kenya. Experts Warn of Negative Effects of Cooking with Firewood. 27)India. Post-Diwali Delhi wakes to toxic firecracker smog. 28)Indonesia, Jakarta. Air Quality In Jakarta Is The Second Worst Today In The World. 29)Pakistan. Perils of deforestation. 30)Pakistan. Ambient sampling of real-world residential wood combustion plumes. Deadly to breathe. 31)PM2.5 and fat distribution metrics including visceral adipose tissue. A causal relationship between particulate matter 2.5 and obesity and its related indicators. 32)PM2.5 and poor mental health. 1)United States. Environmental Protection Agency (EPA) Environmental Justice (EJ). EJ in EPA Rulemaking. King & Spalding – JDSupra. In February, EPA targeted particulate matter standards, reducing the primary annual National Ambient Air Quality Standard for PM2.5 from 12 micrograms per cubic meter (to 9 micrograms per cubic meter). Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates, a 501c3 nonprofit organization. Including selected statistic excerpts from the website Doctors and Scientists against Wood Smoke Pollution as of 6/17/2024. 2)Wood smoke pollution in the US. Residential wood burning is the largest direct source of PM2.5 in the United States after road dust and fires (wildfires and prescribed combined), responsible for 340,000 tons of PM2.5 emissions annually. Hyper-localization matters, and increases the intake fraction. Intake fraction: More is inhaled when the source is closer. The “intake fraction” is the proportion of a released material that is actually inhaled by humans. Because wood smoke from residential wood burning is emitted right where people live, and at times of day when more people are home, it has a large intake fraction compared to most other pollutants. In densely populated neighborhoods, the intake fraction from wood burning can be particularly high, simply because there are more people exposed to the smoke in a small area. Homes nearest to wood burners are exposed to far more pollution than others. Even during periods of relatively good air quality according to regional monitoring, neighbors of wood-burning households can be exposed to air pollution levels that are 100 times higher or more than what others in the community are breathing. Closing windows doesn’t keep it out. PM2.5 not only can reach into the deepest part of our lungs and enter our bloodstream once inhaled, but they also infiltrate into our homes from outside, even with the windows closed. Even in the most modern, insulated house, air from outside still infiltrates in. Wood burning increases community-wide as well as hyper-localized PM2.5 levels. While much of the effects of wood burning are highly localized and can vary considerably between neighborhoods, wood burning also increases community-wide pollution levels. It is the largest source of PM2.5 in many towns, cities, and regions. 3)California. Sierra Forest harvesting. California officials, environmentalists split over plans to harvest biomass from Sierra forests. Courthouse News Service. Buckley disagrees with claims from groups like the Sierra Club that burning wood creates more pollution than coal — or that such projects would. 4A)California. Fresno/Clovis and Bakersfield study. In Southern California, wood burning emits approximately four times the amount of PM2.5 as all the region’s power plants combined. A study in a town in California found that an average of 78% of the level of black carbon particles from wood smoke outside eventually wound up inside surrounding homes. A typical residential house offers little protection from outdoor wood smoke. “Wood burners as well as the general public must understand that these localized spikes in wood smoke inhalation create an unjustifiable concentration of risk.” Wood burning raises community-wide pollution levels. California, The Post Fire in the Los Angeles area. Post Fire in Gorman explodes to nearly 11,000 acres, prompts evacuations. The Desert Sun. smoke from the fire southeast toward Santa Clarita, the San Fernando “Residents should also avoid burning wood in their fireplaces or firepits. California, Los Angeles. Map: See how smoke from the Post Fire is affecting LA County air quality. NBC Los Angeles. Avoid burning wood in your fireplace or firepit and minimize sources of indoor air pollution. Wildfire north

of Los Angeles prompts evacuation orders; over 14k acres scorched. Yahoo. wood burning and urging residents to avoid smoke exposure. 4B)California, San Francisco and Bay Area. The Bay Area Air Quality Management District in California has determined that wood burning is the largest source of annual PM2.5 pollution in the greater San Francisco Bay Area contributing 25% of the area's PM2.5 pollution. The next highest contributor to PM2.5 levels is gasoline vehicles at 14%, and diesel vehicles at 8%. Alphabetical by media name. Spare the Air Alert in effect for San Francisco Bay Area through Monday - ABC7 News. Wood burning is banned. Avoid exposure by staying indoors, if temperatures allow. An air quality advisory has gone out due to wildfire smoke. People concerned about wood smoke pollution can call (877) 4NO-BURN, Firefighters battling 1013-acre Point Fire in Sonoma County - ABC7 News. The Point Fire burning in northern Sonoma County near Lake Sonoma had burned Wood burning is banned. Avoid exposure by staying indoors. 'Spare the air' in effect Sunday night through Monday in wake of Point Fire - Almanac News. By at least 8:30 p.m., the fire had reached 900 acres, with smoke being seen and detected in Marin, Napa and Solano counties. wood burning devices. Air District Issues Spare the Air Alert for Wildfire Smoke. Contra Costa News. It is illegal for Bay Area residents and businesses to use their fireplaces, wood stoves, pellet stoves, outdoor fire pits or any other wood-burning. Firefighter injured battling Point Fire in Sonoma County; wildfire has potential for further spread. CBS News. fire pits, or any other wood burning devices during a Spare the Air alert. Fire grows to 1,100 acres – KTVU. Community members are expected to refrain from burning wood. If possible, stay inside to avoid smoke exposure. A Red Flag warning has also been. A Spare the Air Alert is in effect for the North Bay as well as Contra Costa Fire. Community members are expected to refrain from burning wood. Spare the Air Alert in effect for second straight day because of Point Fire in Sonoma County. Marin Independent Journal. wood stoves, outdoor fire pits or any other wood-burning device. Spare the Air alert issued for parts of the Bay due to smoke from Point Fire. NBC Bay Area. wood burning is banned. California wildfires: Sonoma's Point Fire burns amid evacuations. San Francisco Chronicle. Wood burning is banned. Officials recommended avoiding exposure by Other major fires in the state included the Junes Fire and Rocky Fire in. Buildings destroyed because of the Point Fire in Sonoma County, with evacuation orders issued. Yahoo. As of 8 p.m., the fire, named the Point Fire, was at approximately 550 acres. "Wood burning is banned. Avoid exposure by staying indoors." California. A California Study. Wood smoke hotspots are not reflected by regulatory monitoring. Residential wood burning creates islands of neighborhood pollution that are not reflected by official monitoring numbers. 5)Colorado. Zornio: 6 reasons why campfires should be banned year-round in Colorado. The Colorado Sun. Smoke pollution from campfires has long been known to negatively affect health due to fine particles released during wood burning. Colorado. 386-acre Snow Ranch Fire held within perimeter. The Pagosa Springs Sun. Wildfire smoke may affect your health. For more information, please go to: https://www.colorado.gov/pacific/cdphe/wood-smoke-and-health. Colorado, Pagosa. WILDFIRE UPDATE: Snow Ranch Fire, June 13, 2024.Pagosa Daily Post. Wildfire smoke may affect your health. 6) Georgia. A study of a street in Atlanta, Georgia, that found residential wood burning contributes an average of 50% of particulate emissions in winter, compared to an average of 33% for gasoline vehicles and 4% for diesel. 7)Montana. A study of five western Montana valley communities found that wood burning was the largest source of PM2.5 in each of the communities studied, ranging from 56% to 77% of measured wintertime PM2.5 pollution. 8)Nevada, Reno. Wildfires were responsible for 19% of total VOC emissions and 30% of total PM2.5 emissions. Nevada, Las Vegas. A study in Las Vegas found that wood burning was a "surprisingly large" source of particle pollution "even though the monitoring site was located next to a major freeway in a city with no tradition of home heating from wood stoves or fireplaces." 9)New York. Air Quality Health Advisory Issued for Long Island Region. NYSDEC. New York State Department of Environmental Conservation. NY.gov reduce or eliminate outdoor burning and attempt to minimize PM2.5 indoor sources. New York state. Primary PM2.5 emissions from residential wood combustion exceed those from the entire transportation sector in New York State. New York State. Similarly, in New York state, more PM2.5 pollution comes from residential wood burning than from electricity generation and industry. Although accounting for only 2% of New York

state's heating market, residential wood burning contributes 79% of its primary PM2.5 emissions from residential sources. In some communities, there is no official monitor. A study in New York state, for example, found that "wood smoke concentrations can be high in areas not measured by regulatory monitoring networks." New York, Niagara. AIR quality health advisory in effect for Eastern Lake Ontario & Western New York regions. Niagara Frontier Publications. Reduce or eliminate outdoor burning and attempt to minimize indoor sources of PM 2.5 such as smoking. 10)Oregon. More PM2.5 from wood smoke than car exhaust. Portland, Oregon. Residential wood burning was responsible for 58% of PM2.5 in Portland, Oregon; 86% in Klamath Falls, Oregon, and 92.7% in Lakeview, Oregon. 11)Pennsylvania, Philadelphia. Air Quality In Philadelphia Region Will Be Dangerous To Some Friday. Patch. Reducing PM2.5 pollution in the air can be aided by limiting or eliminating fireplace and wood stove use. 12)Utah, Salt Lake city. You can now track Salt Lake County's less-visible air quality. KSL.com Most air quality monitors and air quality data focus on PM2.5 particulate matter. 13)Washington. What is the Washington State Burning Guideline? NewsRadio 560 KPQ. Washington State. Seasonal Moratorium on Outdoor Burning Begins June 15, 2024. Living Snoqualmie. The EF&R's burning moratorium is critical in protecting neighborhoods from potential fire hazards each year. The Northwest (Washington State and Oregon). A study of the US Northwest found wood smoke at virtually every winter location that was monitored. Residential wood burning was responsible for 31% of PM2.5 in Seattle, Washington. 14)Canada, Alberta, Calgary. In the city of Calgary, more PM2.5 comes from wood smoke (16%) than from traffic and rail combined (14%). Canada, Alberta. Natural Gas Gaining Power Generation Share in Alberta. Natural Gas Intelligence. The projected new level of gas-fired generation will exceed the current total capacity of about 5,600 MW at coal-burning plants. wood-burning. 15)Canada, British Columbia, Vancouver. In British Columbia, 41% of PM2.5 emissions in populated areas have been found to be from residential wood burning (compared to 33% from industry and 21% from road vehicles). B.C. Climate News: UBC announces new $23-million hydrogen energy hub. The Vancouver Sun, wood smoke. Smoke from residential indoor wood burning continues to be the most significant source of PM2.5 emissions. 16)Canada, Quebec. 40% of PM2.5 emissions in Quebec are from residential wood burning. Homes burning wood emit an estimated 21% of PM2.5 across Canada, compared to 12% from all on- and off-road transportation combined. 17)Australia, New South Wales, Armidale. Doctors warn of air pollution risks. The Armidale Express. Air pollution in Armidale, mainly from woodsmoke, causes severe health risks. Learn how we can clean the air and save lives. Australia. Wood heating is responsible for 51% of PM2.5 emissions in Melbourne. In the greater Sydney metropolitan area, wood stoves are the largest source of PM2.5, despite being used by only around 10% of residents. According to a 2023 government report, wood heating contributes an estimated 42% of emissions in the region, compared to 17% for on-road motor vehicles and 7% from power plants. In smaller cities, pollution levels from wood burning can be particularly high. For example, 40% of homes in Armidale, New South Wales (population around 25,000) heat with wood, creating the main source of air pollution in the city. In Tasmania, "the vast majority" of air pollution is due to wood burning. Australia. 'Prisoner in his own home': how wood fire smoke is choking us - South Coast Register. Learn how winter wood fire smoke worsens health issues for residents, driving a growing push to phase out wood heaters by 2045. The arrival of winter is seriously affecting residents with breathing difficulties as residents light up their wood burners. It's an issue close to home; his father David lived with a serious lung condition. The constant burning of firewood in winter made it hard for him to breathe, Matthew said. 18) New Zealand. Residential wood burning is a major source of pollution in New Zealand, both in urban and rural areas. In wintertime, 79% of PM2.5 in Christchurch comes from residential wood burning, while 69% is due to wood burning in Auckland. New Zealand, South Island, Timaru. Second high pollution night for Timaru. Stuff. 19)United Kingdom, In the United Kingdom, official government data released in 2023 showed that more particle pollution comes from residential wood burning (21%) than from traffic (13%). The government analysis noted that PM2.5 emissions from residential wood burning increased by 124% between 2011 and 2021. In London, residential wood burning is contributing to air pollution levels described as a "health crisis," with PM2.5

levels reaching higher than those in Beijing. According to researchers, the smoke control legislation enacted after the Great Smog of 1952 that killed thousands may no longer be effective, given how much wood smoke is being measured in London's air. London. Why Are More People Turning Towards Heat Logs To Heat Their Homes? The London Economic. With some pointing out that, despite timber's regenerative nature, burning wood at home makes more tiny pollution particles than UK traffic. 20)Scandinavia. Areas of Scandinavia have high levels of fine particulates from residential wood burning, such as in Lycksele, Northern Sweden, where it contributes up to 81% of PM1 emissions. A study from southern Sweden showed that 32% of carbonaceous aerosols were from wood burning (vs. 28% from fossil fuels). In Denmark, approximately 65% of fine particle emissions come from wood burning. In a small rural area of Denmark, wood burning was shown to create air pollution levels comparable to what would be experienced at a busy street (with about 70,000 vehicles per day) in urban Copenhagen. 21)European Union. "Wood combustion represents 51% of the total PM2.5 emissions in the European Union (EU), which is the highest among all emission sources. Flavor companies find loophole in EU smoky flavor ban. Food Manufacture. Smoke flavorings are produced by a wood-burning process called pyrolysis. The EU ban will see smoky flavors phased out in the EU. 22)France. In the Île-de-France region that includes Paris, 30% of PM2.5 emissions in winter are from residential wood burning. Wood is used for only 5% of all residential heating in the area yet is responsible for 84% of heating-related PM2.5 emissions. Pollution from wood burning is a large problem in Alpine valleys, contributing to high levels of air pollution. A 2017 BBC news report on wood smoke pollution in the French Alps noted that schoolchildren are "not allowed to run around" at playtime because the air quality is so poor. 23)The Netherlands. Residential wood burning is responsible for 23% of fine particle emissions in the Netherlands. 24)Germany, Neumarkt in der Oberpfalz. Aussiedlerbote (Emigrant messenger). Person inhales fumes from wood-burning furnace. June 14, 2024. In Neumarkt in der Oberpfalz, a local individual tried burning waste in a stove, resulting in minor smoke inhalation. Neumarkt, located in Upper Palatinate - Person inhales fumes from wood-burning furnace. A man in Neumarkt, Oberpfalz, had a brush with carbon monoxide poisoning after burning waste in his fireplace. The excessive heat and smoke caused by the burning waste led to the ignition of other household items nearby. The 62-year-old man was luckily unharmed and the local fire department swiftly arrived to put out the fire before it could spread any further. The man was then transported to hospital. 25)Ukraine. Burning Ukrainian bulker evacuated by crew and 'sinking' in the Gulf of Aden. TradeWinds wood products has been evacuated and is currently burning out of control and sinking. The United Kingdom Maritime Trade Operations (UKMTO) reports. 26)Kenya. Experts Warn of Negative Effects of Cooking with Firewood. MSN. Kenya: Respiratory diseases plague Kenya from burning wood. (WION). Kenya. Euronews.com Respiratory diseases are affecting the health of millions of people in Kenya as many burn wood at home to save money. Although electricity access. VOA. Burning biomass such as firewood is largest contributor to those diseases, experts say. YouTube. Kenya: Respiratory diseases plague Kenya from burning wood | World of Africa | WION. June 10, 2024. ASSOCIATED PRESS Kiambu, Kenya - 23 May 2024 1. Jane Muthoni Njenga fetching firewood. 27)India. Post-Diwali Delhi wakes to toxic firecracker smog. Naharnet. The PM 2.5 reading had eased to around 145 by mid-morning, still nearly 10 times the WHO limit. MPCB warns marriage halls about disposable waste choking drains - Times of India The study highlighted the harmful effects of particulate matter 2.5 (PM 2.5) on human health. Minister tells Pollution Board to issue CFE, CFOs. 28)Indonesia, Jakarta. Air Quality In Jakarta Is The Second Worst Today In The World. VOI.ID PM2.5 at a concentration rate of 75 micrograms per cubic meter. This concentration is equivalent to 15 times the annual air. Indonesia. High Jakarta Air Pollution, Reduce Outdoor Activities - VOI.ID Air quality is declared unhealthy for sensitive groups when it is in the range at 101-150. 29)Pakistan. Perils of deforestation. Pakistan Observer. The smoke produced from burning wood for domestic use, brick kilns and factories releases large amounts of carbon dioxide and other pollutants. Ambient air pollution and urological cancer risk: A systematic review and meta-analysis. Nature. We conduct a systematic review and meta-analysis with epidemiological studies, showing that a 5 μg/m3 increase in PM2.5 exposure is associated with. 30)Pakistan. Ambient sampling of

real-world residential wood combustion plumes. Deadly to breathe. The Express Tribune. The study says Pakistan is among the top 10 countries for premature deaths because of high prevalence of 'PM 2.5' particles, which come from (wood combustion). 31)PM2.5 and fat distribution metrics including visceral adipose tissue. A causal relationship between particulate matter 2.5 and obesity and its related indicators. Frontiers. Additionally, PM2.5 concentrations were positively associated with fat distribution metrics, including visceral adipose tissue (VAT). 32)PM2.5 and poor mental health. LabOnline. The team found that every 0.72 mg/m3 increase in fine particulate matter (PM2.5) during pregnancy and childhood was associated with (poor mental health).