

August 11, 2022, RAWSEP news paraphrased

The U.S. Midwest

Wisconsin

<https://www.lung.org/clean-air/at-home/indoor-air-pollutants/woodstove-changeout-program>

RAWSEP View: Asthma Australia says “there is no safe level of the air pollutant PM 2.5”

[American Lung Association: Launches Woodstove Changeout Program in Northern Wisconsin](#)

WisPolitics.com

“Replacing older high polluting stoves with new ones is an important way for communities to reduce harmful particle pollution and improve air quality, ...

RAWSEP View: For Northern Wisconsin, the American Lung Association (ALA) is offering \$2,000-\$6,000 credit toward a **GAS furnace** in exchange for turning in a wood stove. Because the ALA is partnering with a wood burning association, there is also the alternative of getting credit for a newer wood stove.... **Please take the credit for a GAS furnace** and help save the environment while keeping your own air breathable. Natural gas furnaces produce thousands of times LESS particulates (PM 2.5) than residential wood burning. PM 2.5 is particulates of 2.5 micron size, the perfect size to infiltrate the human lung, producing a cascade of human health problems.

2.The U.S. Northeast

Washington, D.C.

https://www.pbs.org/newshour/show/what-the-reconciliation-bill-would-do-to-boost-clean-energy-and-combat-global-warming?utm_source=PBS+NewsHour&utm_campaign=65df237dfe-EMAIL_CAMPAIGN_2022_01_18_COPY_01&utm_medium=email&utm_term=0_47f99db221-65df237dfe-321294041

RAWSEP View: Biomass (wood) burning was not mentioned in this transcript. The Inflation Reduction Act may mean a 40 percent reduction in America’s carbon emissions by 2030 from 2005 figures. Paul Bledsoe of the Progressive Policy Institute was interviewed by the Public Broadcasting Service (PBS) Newshour, and the following are excerpts from a transcript, edited for length. Paul Bledsoe, a strategic adviser at the Progressive Policy Institute, a policy firm that specializes in climate change, who’s worked on several international climate change treaties, is interviewed. PBS: Brian Deese, the president's economic adviser, says that this bill puts America on a path to meet its climate commitments. Paul Bledsoe (PB): It comes very close. It will reduce U.S. CO2 emissions by about 40 percent this decade by 2030. But the U.S. is only 15 percent of total global emissions. China has 30 percent of global emissions, and just withdrew from bilateral talks on climate change. PBS: Tax incentives. They're carrots, as opposed to sticks, to encourage utilities and cities and individuals to move in this direction. Are those incentives enough to encourage this process to start really moving aggressively? PBS: GOP was hostile or dismissive to any real substantive action on climate change. Public opinion polling on climate change seems to waffle as to how important it really is to voters. Yet these very substantial climate provisions have endured for almost a year. How do you account for that? PB: Formerly, Democrats proposed energy taxes, that is, carbon taxes, to deal with the climate problem, and those were politically unpopular. Now, Democrats have finally hit on a tremendously popular set of policies, **tax cuts for businesses and consumers for clean energy**. These are favored by Republicans, Democrats, and independents in all polling. If Democrats are smart, they will run on this pro-business, pro-economic platform of clean energy in the midterms. PBS: What are some other steps you would like to see the administration take going forward? PB: Reform for U.S. infrastructure. It’s extremely difficult to put up the **big power lines** we need to move clean energy from the places where we can cheaply generate it to the places where we can use it. We also need more pipelines for **natural gas, so that we can completely eliminate coal**. And we're going to need to **export gas**, so that we can help the rest of the world eliminate coal. Another area is methane emissions. Methane is a super pollutant 80 times more powerful than CO2 and is the key to controlling near-term temperature increases. This bill creates about a \$1.5 billion fund to **mitigate methane from the oil and gas sector**, which is important, but much more needs to be done on these non-CO2 pollutants, which are a key to limiting near-term temperatures and preventing runaway warming in the natural system.

3.The U.S. West Coast

Arizona

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

Maricopa County

This High Pollution Advisory includes the following restrictions: **Wood burning** in residential fireplaces, chimeneas, outdoor fire pits, and similar ...

RAWSEP View: Maricopa County, Arizona has a High Pollution advisory, with restrictions on wood burning.

[Air Quality Hourly Forecast | Yuma](#)

Arizona Department of Environmental Quality

If burning wood for heat or food preparation, use dry **wood** (**burning** wet wood releases more particulate matter). Air Quality Forecast.

[Air Quality Hourly Forecast | Yuma](#)

Arizona Department of Environmental Quality

Particulate Matter & Your Health - PM-10 (Dust) and **PM 2.5** (Smoke). People most vulnerable to the impacts of air pollution include children, ...

RAWSEP View: In Yuma, Arizona, people are advised to use dry wood. The advice should be not to burn wood at all.

California

RAWSEP View: This information is from an email from PurpleAir, saying that its R2 values are the best in the business. Reading it will give you valuable information about how your PurpleAir sensor measures PM 2.5 pollution in your residential hyper-localized area. R² is a statistical term representing how well a sensor performs compared to reference monitoring technologies. Purpleair writes "As noted by the South Coast AQMD testing results, PurpleAir sensors are leading the industry, with the PA-II testing up to 97% correlation with FRM/FEM concentration measurements for small particulate matter, or PM2.5." The standard measurements or baselines in these tests are set by Federal Reference Methods (FRM) and Federal Equivalent Methods (FEM).

[What are R2 values in Air Quality?](#)

by Adrian Dybwad August 10, 2022



South Coast AQMD and Air Pollution

The South Coast Air Quality Management District (AQMD) is conducting efforts that will help improve air quality and public health in environmental justice communities in South California. Specifically, the counties and areas the agency covers include:

- Los Angeles – 4,753 mi² (12,310 km²)
- Orange – 948 mi² (2455 km²)
- Riverside – 7,303 mi² (18,915 km²)
- San Bernardino – 20,105 mi² (52,072 km²)
- The Coachella Valley – 777 mi² (2012 km²)

Together, they account for half of the state's population of almost 40 million people.

The agency regulates emission standards, mainly from stationary sources like power plants, refineries, and gas stations. In total, the agency oversees almost 30,000 businesses.

The South Coast AQMD ensures organizations follow federal and state clean air standards through its Air Quality Management Plan.

Not All Sensors Are Made the Same

The South Coast AQMD also evaluates the accuracy of various air quality sensors, such as the outdoor PurpleAir PA-II.

Recognizing the benefits and challenges of having low-cost sensors widely available, South Coast AQMD is helping to assess the wide range of performance from these sensors through their AQ-SPEC program. Accurate sensors "significantly augment and improve current ambient air monitoring capabilities that now predominantly rely on more sophisticated and expensive fixed-site federal-reference monitoring devices and methods."

For the consumer, the good news is that the South Coast AQMD has a program for testing consumer-targeted sensors. The goal is to provide a guide that details each sensor's accuracy in the lab under controlled settings and in the field where conditions are dynamic. The standard measurements or baselines in these tests are set by Federal Reference Methods (FRM) and Federal Equivalent Methods (FEM).

In their assessment of more than 50 low-cost consumer sensors, PurpleAir sensors perform best-in-class. At the heart of our achievement is how closely our sensors matched the results of the smallest particulate matter: PM1.0 and PM2.5. This impressive performance is neatly captured by a "coefficient of determination," or R².

Introducing R² Values

An R² value shows how closely a sensor's data correlates with FRM/FEM concentration measurements. In other words, R² is a statistical term representing how well a sensor performs compared to reference monitoring technologies. For example, a value of R²=1 would mean the sensor has a perfect correlation to the reference monitor, and R²=0 would mean no correlation to a reference monitor. The table below shows PurpleAir R² scores.

Model	Pollutant size	Field R ²	Lab R ²
PurpleAir PA-I-Indoor	PM2.5	0.75	0.99
PurpleAir (PA-II)	PM2.5	0.93 to 0.97	0.99

As noted by the South Coast AQMD testing results, PurpleAir sensors are leading the industry, with the PA-II testing up to 97% correlation with FRM/FEM concentration measurements for small particulate matter, or PM2.5.

Now that you know more about the R² value, feel free to read the [various sensor evaluations](#) from the SCAQMD. They have a complete list of [particulate matter](#) and [performance](#) evaluations, as well as [gaseous sensors](#).

References:

AQ-SPEC. PM sensor evaluations. Air quality sensor summary reports. Retrieved August 9, 2022, from <http://www.aqmd.gov/aq-spec/evaluations/summary-pm>

New Mexico

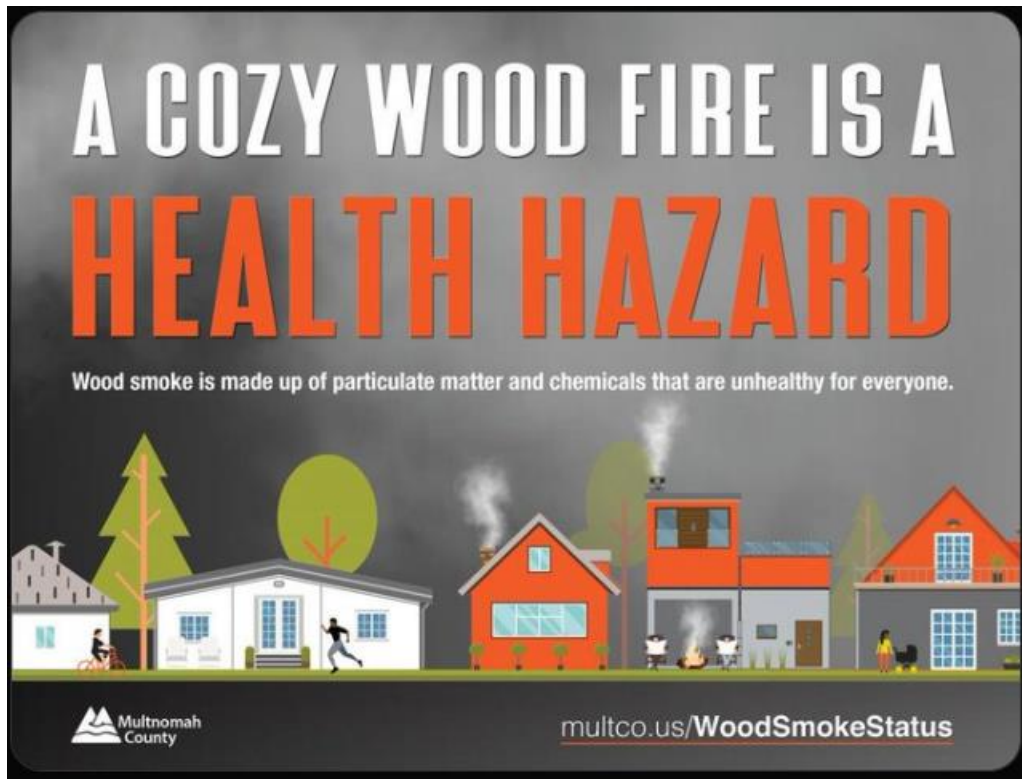
[UNM: Join Indoor Wood Burning Study, Earn Up To \\$250 - Los Alamos Daily Post](#)

Los Alamos Daily Post

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RAWSEP View: The University of New Mexico, Los Alamos Comprehensive Cancer Center is still advertising for participants in a study on the link between Indoor Wood Burning and Health (or Cancer). You can join if you burn wood for winter heat, are between 40 and 69, you never smoked, and you are generally healthy. You can earn up to \$250.

Oregon, Multnomah County



4.Canada

British Columbia

IASLC: Air Pollution Exposure Adds To Lung Cancer Risk

Posted on [August 10, 2022](#)

[IASLC: Air pollution exposure adds to lung cancer risk](#)

By AuntMinnie.com staff writers

RAWSEP View: "Air Pollution Exposure Adds to Lung Cancer Risk" is an August 10, 2022, International Association for the Study of Lung Cancer (IASLC) presentation in Vienna Austria of research on foreign-born Canadian women with newly diagnosed lung cancer who never smoked. The researchers found that an assessment of three-year exposure to a carcinogenic level of outdoor air pollution significantly underestimated cumulative exposure to PM 2.5 prior to lung cancer diagnosis, especially among patients born outside of Canada. Only four (2%) of the foreign-born patients had a three-year cumulative PM 2.5 exposure of more than 10 ug/m³, while 38 (20%) had a 20-year cumulative PM 2.5 of more than 10 ug/m³. The difference was statistically significant (p < 0.001). What's more, all patients had a PMI 2.5 exposure greater than 5 ug/m³.

A team of researchers led by Dr. Renelle Myers of British Columbia (BC) Cancer in Vancouver found that many foreign-born Canadian women had experienced long-term exposure to air pollution. The researchers studied 236 female patients with newly diagnosed lung cancer who had never smoked and were invited to participate in the study. Of these, 190 (83.3%) were born outside of Canada and 71% were Asians. The patients had a mean age of lung cancer diagnosis of 66 years, and 92.8% had adenocarcinoma and 55.9% had stage III/IV lung cancer. To assess both short- and long-term exposure to outdoor air pollution, the researchers used the International Agency of Research on Cancer's carcinogenic benchmark level of particulate matter of **2.5 micrograms/meter³ (PM 2.5)** in outdoor air pollution. After collecting detailed patient background and residential history, they **linked residential locations to satellite-derived PM 2.5 exposure data beginning in 1996**. A high spatial-resolution global exposure model was then used to quantify cumulative exposure to PM 2.5.

"Our study demonstrates the importance of incorporating long-term cumulative exposure to ambient air pollutants in the assessment of individual lung cancer risk **in combination with traditional risk factors,**" said Myers in a statement from the IASLC. "Our finding has important clinical implications in assessing lung cancer risk with global migration." The researchers found that an assessment of three-year exposure to a carcinogenic level of outdoor air pollution significantly underestimated cumulative exposure to PM 2.5 prior to lung cancer diagnosis, especially among patients born outside of Canada.

Ontario

[Houseworks: Controlling a runaway wood stove | Ottawa Citizen](#)

Ottawa Citizen

Q How can I stop my **wood** stove from **burning** too hot? Even with all the dampers closed, it still burns like crazy. I'd like to get this figured out ...

RAWSEP View: In an exercise in ignoring the obvious, this reader writes to an advice column asking how to stop a wood stove from burning too hot, rather than asking if the wood stove will take years off his life, and his neighbors' lives. The answer is yes, the wood stove will "runaway", with years taken off his neighbors' lives. Asthma Australia says "There is no safe level of the air pollutant PM 2.5"

5.Australia

Formerly urban Tree Change convert to air pollution with wood burning

<https://www.realestate.com.au/advice/what-is-a-tree-change/>

RAWSEP View: "Tree Change" is a concept sweeping the nation of Australia, through advertising. It means moving from the city to the country. Quote from a mindless, formerly-urban "Tree Change" convert to air pollution with wood burning: "Personally, I've recently bought a chainsaw to cut a tree that had fallen down due to Melbourne's stormy winds. If someone had told me a year ago that I would be chopping **firewood**, I would have laughed. I believe my thinking and attitude has totally changed with the change in environment." RAWSEP View: The change in the environment in this case, is for the worst, with wood burning PM 2.5 pollution, whether in a rural or urban environment.

Asthma Australia

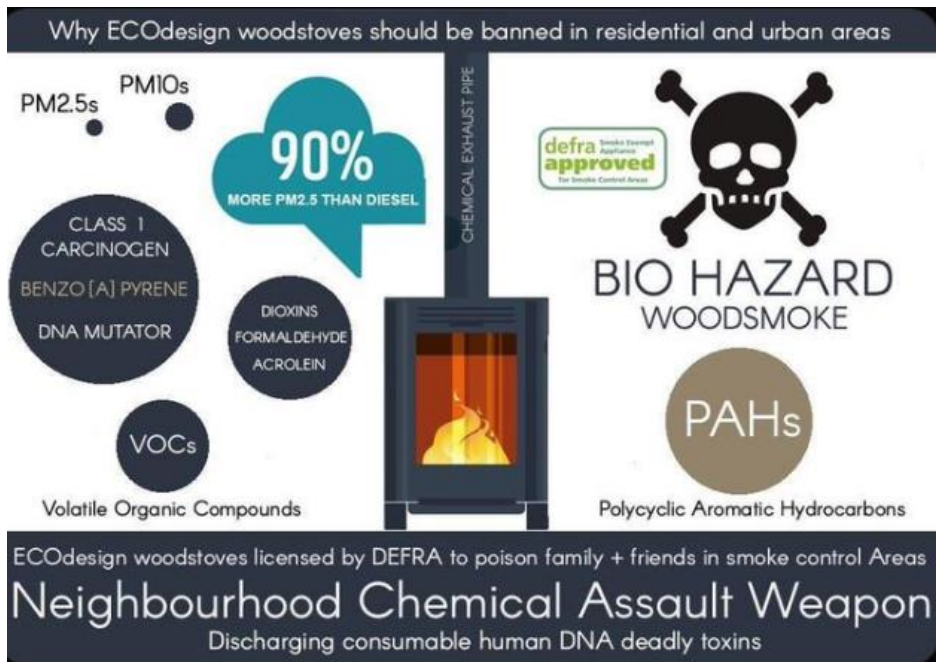
PM2.5

An air pollutant
with no safe
level of exposure

6. New Zealand

7. The U.K.

U.K. Department for Environment, Food and Rural Affairs (DEFRA)



[DEFRA Website on Air Quality Education](#)
Raising Awareness (Education)

Overview

Raising awareness of air quality, especially in an educational context is considered in many Air Quality Action Plans. There are several ways of linking air quality to the national curriculum – some local authorities have carried out short term diffusion tube surveys in school grounds, while others have produced an education pack and an educational focus to their air quality website.

Examples

North Lanarkshire Council and SEPA

[LearnAboutAir.com](#) contains material for primary and secondary education, including secondary science.

Greater London Authority

In partnership with the Greater London Authority, London Sustainability Exchange have published the [Cleaner Air 4 Schools Toolkit](#) for primary schools in London.

York

[Jor Air – Kids Zone](#) is specific to York and provides interactive games and a completion certificate.

Cheshire West and Chester

Visit [Whitby Park Air Quality Trail](#) – A 'trail' of artwork has been set up (0.4 mi) to improve awareness of changes in air quality since 1950s. Map and quiz downloadable.

Sussex

[Air Quality for Kids](#) Providing general text about AQ for kids, link to (for local schools)

[Air Alert](#) – Sends alerts via text, email, voicemail

Educational Resources

Clean Air Day

The Clean Air Day website has various [free resources for schools](#), including posters, stickers, a word search and a quiz.

Air Quality in Scotland

Air Quality in Scotland has two separate educational websites aimed at children and secondary school pupils; [Air Pollution Detectives](#) and [Clean the Air](#).

Northern Ireland

Visit Northern Ireland's [Pollution Busters!](#) which provides a kids quiz and information about pollutants.

Air Quality in Wales

Air Quality in Wales has two separate educational websites aimed at children and secondary school pupils; [Young Dragons](#) and [Air Your View](#).

8. Germany in the European Union, and Europe

Austria

IASLC: Air pollution exposure adds to lung cancer risk - AuntMinnie Europe

AuntMinnie Europe

... Agency of Research on Cancer's carcinogenic benchmark level of particulate matter of 2.5 micrograms/meter³ (**PM 2.5**) in outdoor air pollution.

RAWSEP View: August 9, 2022 — Long-term exposure to air pollution should be considered a risk factor for lung cancer in patients who have never smoked, according to research presented August 9 at the International Association for the Study of Lung Cancer (IASLC) 2022 World Conference on Lung Cancer in Vienna, Austria.

Germany

“Das ham wer schon immer so gemacht” in German means “who has always done it that way” in English.



9. Nigeria in Africa

10. India in Asia

10.5 Research Papers and Technology

Researchers suggest air pollution be included as risk factor for lung cancer in non-smokers

Air Quality News

... which allowed accurate linking of residential locations to satellite-derived **PM 2.5** exposure data that were available from 1996 onwards.

Researchers suggest air pollution be included as risk factor for patients with lung cancer and ...

Medical Xpress

In 2013, the International Agency of Research on Cancer **classified** outdoor air pollution and particulate matter of 2.5 micrograms/meter³ (**PM 2.5**) ...

RAWSEP View: This is a synopsis of the Study of Canadian Women, presented in Austria this month, covered in Canada and Austria sections of this news paraphrase.

[Wood Burning Fire Pits Market to See Major Growth by 2028 - nuviun](#)

Nuviun What so unique about this **Wood Burning** Fire Pits Assessment? Market Factor Analysis: In this economic slowdown, impact on various industries is ...

RAWSEP View: Not to rain on a parade, this advertisement is out of touch with reality.

11.The Future