

# JEOPARDY!

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**JEOPARDY!**

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# JEOPARDY!



# **Africa Wood Smoke PM2.5 Pollution**

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# **Asia Wood Smoke PM2.5 Pollution**

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# **United Kingdom PM2.5 Wood Smoke Pollution**

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# **Scotland Wood Smoke PM2.5 Pollution**

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# **1) How to prove Wood Smoke PM2.5 Pollution**

**JEOPARDY!**



# **2) How to prove Wood Smoke PM2.5 Pollution**





African women walk miles every day to search for this scarce resource, in dangerous conditions.

[Click here for the answer](#)



# Solution:



What is wood collected  
for domestic burning?

\$ 200





Heat pumps are a clean renewable heat technology introduced recently here.

[Click here for the answer](#)



Solution:

What is  
Kenya?

\$ 400





Installation cost of a typical  
geyser heat pump system,  
depending on the size of the  
geyser in South Africa.

[Click here for the answer](#)



# Solution:



What is R23500 (South African Rand) or \$1,250 as of June 2, 2024?

\$ 600





Green Building Africa says  
this percent reduction in  
energy costs can be achieved  
by installing a heat pump.

[Click here for the answer](#)



Solution:

What is 60 percent  
reduction?

\$ 800



The percentage of African households, about one billion people, who still cook using smoky, high-emissions fuels, such as wood, that contribute to climate change and take a heavy toll on women's health.

[Click here for the answer](#)



 Solution:

What is 80  
percent?

\$ 1000



Poor air quality in South Asia is often “brick kiln industrial emissions, agricultural waste burning, and cremation”, and the burning of this for cooking and heating, especially during colder months, adds to the air pollution.

[Click here for the answer](#)



# Solution:

What was solid fuel  
burning, including  
wood burning?



\$ 200





The contribution of the farmer's field stubble-burning fires to the air pollution in Delhi in the months of October through November 2021.

[Click here for the answer](#)



Solution:

What was 30 to 35  
percent ?

\$ 400





Annual particulate matter (PM<sub>2.5</sub>) concentrations in India averaged this recently. Levels remained 10 times above the World Health Organization's recommended limit of five micrograms per cubic meter.

[Click here for the answer](#)



## Solution:

What is 54.4 micrograms per cubic meter of air ( $\mu\text{g}/\text{m}^3$ ) in 2023?

\$ 600





Experts are skeptical that India's capital New Delhi's first "smog tower" will reduce air pollution blamed for thousands of premature deaths every year.

[Click here for the answer](#)



Solution:

Do giant outside air purifier towers work to reduce PM2.5 pollution?

\$ 800





2023's most polluted city was Begusarai, India at a 118.9 micrograms per cubic meter annual average.

[Click here for the answer](#)



## Solution:

What city had the highest  
annual PM2.5 average in  
2023?

\$ 1000



A UK EcoDesign wood stove emits 450 times the PM<sub>2.5</sub> as a natural gas furnace.

[Click here for the answer](#)



## Solution:

Is the cleanest burning wood stove in the UK cleaner than natural gas burning?



\$ 200





A UK EcoDesign wood stove emits 2.8 times the PM<sub>2.5</sub> and CO<sub>2</sub> as the fossil fuel coal burning.

[Click here for the answer](#)



\$

\$

## Solution:

Is the cleanest burning wood stove in the UK cleaner than coal burning?

\$

\$ 400

\$



In a UK smoke control area  
EcoDesign wood stoves are allowed.  
Unallowed wood burning stoves emit  
more PM<sub>2.5</sub>

[Click here for the answer](#)



# Solution:

In UK smoke control areas, are wood burning PM<sub>2.5</sub> emissions 450 times those of natural gas burning, still allowed?

\$ 600





UK Clean Air Night on January 24, 2024, shone a light on three uncomfortable truths about wood burning. (Number 1 truth of 3) wood burning harms your wallet.

[Click here for the answer](#)



\$

## Solution:

\$

UK's Clean Air Night's 2nd and 3rd messages were 2) Wood burning harms your health and 3) Wood Burning harms the planet. What was the first Clean Air Night message?

\$

\$ 800

\$



The Clean Air (Human Rights) Bill, or Ella's Law, would establish the human right to breathe clean air precisely and explicitly in UK law.

[Click here for the answer](#)



# Solution:

What is the pending UK  
legislation named for a  
9-year-old girl who died in  
2014?

\$ 1000



A Scotland Law went into effect on April 1, 2024 to ban wood stoves in new construction.

[Click here for the answer](#)



# Solution:

What legislation passed in the Scottish Parliament effective April 1, 2024, that protects clean air?

\$ 200





How you could protect  
the health of your near  
neighbor in Scotland.

[Click here for the answer](#)



# Solution:

Why not voluntarily stop wood burning and replace it with a government-subsidized Heat

Pump?

\$ 400





In Scotland, Grant funding for new heat pumps is up to £7,500, or £9,000 if the household qualifies for the rural uplift.

[Click here for the answer](#)



## Solution:

Why do Heat Pumps  
provide a cheaper home  
heating solution in  
Scotland?

\$ 600





The Scotland ban on wood burning in new construction was designed to help reduce air pollution and tackle climate change.

[Click here for the answer](#)



## Solution:

What were the underlying reasons for the ban on wood burning stoves in new construction in Scotland?

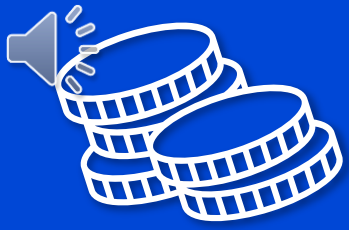
\$ 800





Beginning on April 1, 2024, new homes built in Scotland are not allowed to use direct emission heating systems such (oil and gas boilers), nor bioenergy sources (wood and log burning stoves) and will need to use "climate-friendly alternatives" such as heat pumps or heat networks.

[Click here for the answer](#)



## Solution:

Were oil and gas boilers also banned, along with banning wood burning appliances, in new construction in Scotland?

\$ 1000



Use percentage of PM<sub>2.5</sub> over NAAQS in the yard of a near neighbor of an outdoor wood burner instead of NSPS\* as proof of pollution. \*NSPS is New Source Performance Standards

[Click here for the answer](#)



# Solution:

\$ Reason 1: Why not use NSPS for wood stoves to stop PM2.5 air pollution affecting the health of near neighbors? \$

\$ 200 \$



The Office of the Attorney General (O I G), Watchdog of the EPA stated in February 2023 that the EPA's NSPS wood stove certification was a failed program.

[Click here for the answer](#)



# Solution:

Reason 2: Why not use NSPS for wood stoves to stop PM<sub>2.5</sub> air pollution affecting the health of near neighbors?



\$ 400





10 U.S. State Attorneys sued the EPA in August 2023 to improve the NSPS program, but in Spring 2023 the EPA had already replied that any changes could only possibly happen in 2027.

[Click here for the answer](#)



## Solution:

Reason 3: Why not use NSPS for wood stoves to stop PM<sub>2.5</sub> air pollution affecting the health of near neighbors?

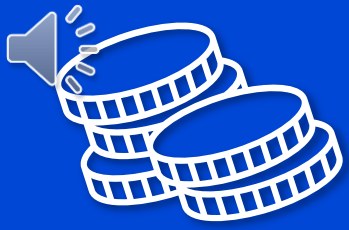
\$ 600





Go to your local Health Department, or even to the United States Department of Health and Human services.

[Click here for the answer](#)



## Solution:

Where could PurpleAir Monitor owners who are near neighbors of indoor residential wood stove burners go with their data on percentage above NAAQS in a 3 day period?

\$ 800



PurpleAir PM<sub>2.5</sub> monitors are already used on EPA AirNow Maps of Smoke and Fire alongside \$100,000 EPA PM<sub>2.5</sub> monitors.

[Click here for the answer](#)



## Solution:

Why are PurpleAir PM2.5 monitors the best resident owned monitors to use to collect data on air pollution?

\$ 1000



(PA times 0.514)  
plus 1.8304

[Click here for the answer](#)



## Solution:

What is the simple Mathematical Formula that the Wisconsin Department of Natural Resources uses to correlate PurpleAir PM2.5 data with \$100,000 EPA monitor data?

\$ 200





Wood burning emits 2.8  
times the CO<sub>2</sub> & PM<sub>2.5</sub>  
as coal burning

[Click here for the answer](#)



\$

\$

## Solution:

Is the fossil fuel coal burning  
cleaner than wood burning?

\$

\$ 400

\$



Wood burning emits 450 times  
the PM<sub>2.5</sub> as the fossil fuel  
natural gas burning

[Click here for the answer](#)



## Solution:

Is the fossil fuel natural gas  
burning cleaner than  
wood burning?

\$ 600



Wood burning emissions are 90% PM<sub>2.5</sub>, 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.

[Click here for the answer](#)



# Solution:

Are wood burning  
emissions

harmful to human health?

\$ 800





Get a PurpleAir PM2.5 monitor,  
download data, or your local Health  
Department can download PM2.5 data  
during ordinary government working  
hours.

[Click here for the answer](#)



# Solution:

What can I do to stop PM<sub>2.5</sub> emissions from neighborhood indoor residential wood burning?

\$ 1000