

Episode 56Ei May 20, 2023. The “Wildfire Smoke arrives in the Upper Midwest” and “The weather people are coughing” issue.

Yesterday I was like Phoebe in Friends crying out “My eyes, my eyes!” when seeing an unattractive neighbor by accident, en déshabillé . Usually the unattractive neighbor, actually my unseen neighbor, is cranking out wood smoke from his residential wood burning stove and the smoke is usually arriving in my back yard and infiltrating my house by my neighbor’s design. Yesterday the smoke was from a wildfire started in Alberta, Canada which slowly wended its way across the continent and arrived in my backyard in force on Thursday and camped out overnight and overstayed its welcome over Friday. Today, Saturday, we hope for relief. The weather people are coughing, and some anchors too, but the news is put on the cheeriest spin possible with “you may notice beautiful sunsets”. This morning I longed for an eyewash station in my house, like the one I used to have in the lab I worked in, for accidental chemical exposures. I absent mindedly was rubbing the grit out of my eyelids before I realized it might be better to wash it out. Good old kitchen sink and dishwashing liquid. The timing was interesting, and unfortunate, as by a happy accident two dwarf cherry trees (one Montmorency pie cherry tree, one Benton sweet cherry tree) were delivered to our house on Thursday. We had to be outside to soak each tree’s roots in a bucket of water for 18 to 24 hours starting Thursday and had to plant them on Friday. They are gorgeous even as young trees, straight and tall, with lime green buds all over. They are the first trees we’ve intentionally planted in our yard. Now that we feel we are on the verge of reclaiming our yard from residential wood smoke, we suddenly decided to smarten it up. Cherries from the trees are expected in two years at the earliest, but I can’t wait to taste the first cherry pie with cherries from our own trees. I cannot tell a lie, cherries are the silver lining to this story.

World

[Effects of global climate mitigation on regional air quality and health | Nature Sustainability](#)

Nature

As a carbon price lowers fossil fuel use, our analysis suggests consistent reductions in ambient fine particulate matter (PM2.5) levels and ...

[Health effects of a global carbon price | Nature Sustainability](#)

Nature

However, these policies often target sources that also affect atmospheric fine particulate matter (PM2.5) concentrations, and, as a result, ...

[Fine-Tuning Air Pollution Models - Eos.org](#)

Eos.org

However, InMAP overestimates and underestimates specific PM2.5 chemicals: It underestimates particulate sulfate and overestimates particulate ammonium ...

[\[Mission 2023\] STATIC QUIZ, 18 May 2023 – Environment - INSIGHTSIAS](#)

Insights IAS

PM 2.5 is an atmospheric particulate matter of diameter of fewer than 2.5 micrometres, which is around 3 per cent the diameter of a human hair. It ...

United States

California, Humboldt County, Northern California

[Beloved But Not Green | Mailbox - North Coast Journal](#)

North Coast Journal

Many people burn trash in their wood stoves, which makes their ... heat than can be produced in a wood stove burning the same amount of wood fuel.

Beloved But Not Green

Editor:

Lynda McDevitt, in her May 4 letter (Mailbox), didn't mention a biomass energy technology that is much higher emission and much lower efficiency than the Scotia biomass power plant, the much-beloved wood stove.

Beginning more than 30 years ago, when I attended a talk by the "Burning Issues" organization (burningissues.org/lukebiomass.html), I have been strongly opposed to wood stoves.

If even you believe that the emissions standards for biomass power plants are inadequate, there are enforced emission standards. There are no emission standards for wood stoves. Their emissions per unit of net energy delivered are much higher than for biomass power plants. Wood stoves often use poorly-seasoned wood and are typically operated even less efficiently than their already-low rated efficiency. Many people burn trash in their wood stoves, which makes their pollution even worse. Wood stoves are often located in urbanized areas (such as my across-the-street neighbor) directly exposing not only the residents and their children, but also their neighbors, to high levels of pollution. Studies cited in the "Burning Issues" website show that asthma and other respiratory diseases are much more prevalent in the children of households that use wood stoves.

Finally, the biomass power plant produces electricity that can be multiplied by three or more in a heat pump to produce much more heat than can be produced in a wood stove burning the same amount of wood fuel.

Iowa

[Drought is projected to lift from most of Iowa - KIMT](#)

KIMT

A band of very heavy ground-level smoke from wildfires in northern ... such as outdoor burning, and use of residential wood burning devices.

Minnesota

[AIR QUALITY ALERT ISSUED FOR NW MINNESOTA BECAUSE OF CANADIAN WILDFIRE SMOKE](#)

KROX

A band of very heavy ground-level smoke from wildfires in northern Alberta ... as outdoor burning and the use of residential wood-burning devices.

Minnesota, Rochester

[Air Quality Alert still in effect for parts of Minnesota due to Canadian wildfires | Local News](#)

KXRA

Canadian wildfires still causing smoke and haze in Minnesota ... such as outdoor burning, and use of residential wood burning devices.

[Cold front to bring a few showers and wildfire smoke Thursday afternoon | Video - KIMT](#)

KIMT

Sean Macaday is concerned about air quality going into the later half of Thursday and through Friday.

Montana

[Stay safe as wildfire smoke covers Montana - KPAX](#)

KPAX

Reduce your use of fireplaces and wood stoves. Use HEPA air filters in your HVAC system.

South Dakota, Sioux Falls and Worthington

[Haze from Canada wildfires prompts air quality alert for the region - Worthington Globe](#)

Worthington Globe

Smoke is expected to clear rapidly overnight into Friday morning. ... such as outdoor burning, and use of residential wood burning devices, ...

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

SIOUX FALLS, S.D. — The Minnesota Pollution Control Agency has issued an air quality alert for fine particle pollution in southwest Minnesota, including Nobles, Cottonwood, Jackson, Murray, Pipestone and Rock counties, through 6 a.m. Friday.

According to the alert, some people may experience health effects, and sensitive groups, such as people with heart disease, lung disease, including asthma, as well as children and older adults, may experience health effects.

"A band of very heavy ground-level smoke from wildfires in northern Alberta and Saskatchewan is currently moving along a cold front in northwestern Minnesota," the alert states. "The smoke will continue to move south and east and eventually impact the entire state of Minnesota."

Smoke is expected to clear rapidly overnight into Friday morning.

The Globe

Fine particle levels are expected to reach the red air quality index category, a level considered unhealthy for everyone. Anyone in an area where the air quality index category is red should avoid prolonged time outdoors.

Sensitive groups should avoid prolonged or heavy exertion, and even the general public should limit prolonged or heavy exertion.

People are also asked to reduce or eliminate activities that contribute to air pollution, such as outdoor burning, and use of residential wood burning devices, as much as possible.

For information on current air quality conditions or to sign up for alerts, visit <https://www.pca.state.mn.us/air/current-air-quality> .

Washington

[Washington's Proposed Wildfire Smoke Designed to Protect Workers from Dangers](#)

Insurance Journal

The air quality index for small particles of dangerous material, known as PM 2.5, is 69 or higher. As air quality gets worse, employers must ...

Wisconsin, Northern

[DNR issues air quality advisories as Canadian wildfire smoke moves into Wisconsin](#)

WAOW

... Marathon, Oneida, Portage, Price, Taylor, Vilas and Wood counties. ... The DNR states Canadian wildfire smoke moves into the state Thursday, ...

[Canadian wildfires cause air advisories in northeast Wisconsin - Door County Daily News](#)

Door County Daily News

... to move into the area at around midnight Thursday, which is when concentrations of particulate matter (PM 2.5) are supposed to increase.

Canada

Canada, Alberta, Wood Buffalo National Park

[Fire crews working to contain out-of-control wildfire in Wood Buffalo National Park - CBC](#)

CBC

Billows of smoke rise high into the sky in an aerial photo over forest. A wildfire in northern Alberta has grown to more than 60,000 hectares and has ...

Canada, Alberta, Calgary

[Calgary air-quality level at 'very high risk' as wildfire smoke blankets region | CBC News](#)

CBC
Such particles are heavy in wood smoke. "It's that stuff that you can't cough out. You're not coughing out that 2.5. It's staying in your lungs," ...

While the machines test several factors, the most important of these is PM 2.5. In plain English, that translates to particulate matter that's 2.5 ...

Canada, British Columbia, University of British Columbia (U B C)

[UBC In The News](#)

UBC In The News - The University of British Columbia

Dr. Michael Brauer (school of population and public health) said that wildfire smoke is responsible for roughly 20 per cent of Canada's annual PM 2.5 ...

Canada, Saskatchewan, Estevan

[How long is the smoke expected to last? - DiscoverEstevan.com](#)

DiscoverEstevan.com

"Extreme PM 2.5 concentrations and associated AQHI values of 10+ or very high risk are occurring," said the Thursday-morning statement.

[Smoke-filled sky could bring health risks for people working outside - DiscoverEstevan.com](#)

DiscoverEstevan.com

They forecast extreme PM 2.5 concentrations and associated AQHI values of 10+ or very high risk occurring in some areas.

Australia

[Grim new warning linking ADHD to pollution as El Nino looms - News.com.au](#)

News.com.au

The study, which included an analysis of 164,000 Chinese schoolchildren, found that in every 10 micrograms of PM 2.5 (particles smaller than 2.5 ...

United Kingdom

U K, Leicestershire

[The health dangers of using a wood-burning stove, and how to be safe - Leicestershire Live](#)

Leicester Mercury

But burning wood can produce harmful pollutants, such as particulate matter and nitrogen dioxide. These pollutants can contribute to air pollution and ...

Europe

Estonia, Tallinn

[New residential subsidies available soon for replacing old stoves | News | ERR](#)

news | ERR

... their old burner with an air heat pump or a new, less polluting stove. ... New government bans burning wood chips at Auvere power plant ...

New residential subsidies available for replacing old stoves

[NEWS](#)

ERR

May 18, 2023.

Chimneys. Source: Siim Lõvi /ERR

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

Ministry of Climate aims to allow residents of densely populated areas to apply for a **grant to replace their old burner with an air heat pump** or a new, less polluting stove.

One of the biggest sources of urban air pollution, according to chief specialist, Romario Siimer, of the department of air and radiation, is the **use of stoves for heating**.

"During the winter, the air quality in densely populated residential areas deteriorates due to the emission of harmful **pollutants by heating stoves**," he said.

The new grant is meant for either heating system replacement or connecting the property to the district heating network. "Priority will be given to replacing the heating system with a more environmentally friendly alternative, such as **an air-to-water heat pump or geothermal heating**," Siimer explained, adding that the plan will also involve assistance in **replacing old stoves with less polluting ones**. "You don't have to give up the oven," he emphasized. "However, it is worthwhile to replace old stove with one that is newer, more energy-efficient and less polluting."

[Tallinn to create joint district heating venture with Utilitas](#)

The plan is to begin providing assistance in cities where its impact on air quality and human health is anticipated to be the greatest. The selection of the communities was based on a study conducted by the Estonian Environmental Research Centre (EKUK).

The projected rate of support varies by location and is either 50 or 70 percent.

A 70 percent subsidy rate is proposed for heating system renewal in Jõhvi, Kiviõli and Sillamäe in Ida-Viru County; in Jõgeva County in Jõgeva and Põltsama; in Valga County in Valga, Otepää and Tõrva.

A 50 percent subsidy rate is planned for Pirita, Nõmme, Kesklinn, Kristiina and Põhja-Tallinn in Tallinn, and for Tartu, Viljandi, Rakvere, Kuressaare, Keila, Võru, Turku, Saue, Paide, Tapa, Kärdla, Elva, Haapsalu, Karksi-Nuia, Kilingi-Nõmme and Pärnu.

To qualify, the applicant's residence must have been occupied prior to January 1, 2010. The type of heat supply for a dwelling or part of a dwelling must be indicated in the building register as local or district heating and the type of energy source must be solid fuel.

Individuals can apply through the e-support environment (e-toetus) until the funding runs out. With a budget of €18.5 million, the measure is expected to support the **renovation of an estimated 1,850 residential heating systems**.