

Comments on Woodsmoke Pollution re. Terramor
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Conservation Advisory Council, and
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Quality Coalition

-Thank you for allowing me to comment regarding the 75 firepits and other wood burning proposed by the Terramor resort. This proposal has the potential to affect not only immediate neighbors of this development, but residents of the Hudson Valley at large, as air travels and the type of pollution produced by burning wood can travel 50 or more miles:

https://www.webcms.pima.gov/UserFiles/Servers/Server_6/File/Government/Environmental%20Quality/Air/Air%20Monitoring/AAWhat%20is%20Particulate%20Matter.pdf

In fact, last year, the smoke from CA wildfires was documented here in the Hudson Valley.

Though it may be new information to some people, the science is now overwhelming and firm that burning wood seriously harms **both the environment and human health**.

The wildfires plaguing our world **are both caused by and related in composition to woodsmoke** produced by residential or recreational burning.

Components of woodsmoke:

1. high levels of PM 2.5- very tiny particles (1/30 the diameter of a human hair that lodge in the lungs and go directly into the circulatory system; they cannot be coughed or sneezed out). PM 2.5 is widely recognized as the most dangerous pollutant to human health. The **WHO** states that there is **no safe level** of exposure to PM 2.5 (just as there is no safe level of exposure to lead).

From the World Meteorological Organization

<https://public.wmo.int/en/our-mandate/focus-areas/environment/atmospheric-deposition>

"From a human health perspective, the single most damaging pollutant is particulate matter (PM)... There is a strong relationship between particle size and health effects – i.e. the smaller the particles, the deeper they penetrate into the respiratory system, with PM in size equal or smaller than 2.5 µm being of primary concern."

2. In addition, woodsmoke contains 16 EPA “priority toxins” including benzene, formaldehyde, dioxins, mercury and arsenic.

EPA:

<https://www.epa.gov/burnwise/wood-smoke-and-your-health>

-Estimates are that if one burns 2 lbs of wood (think 2 lbs of butter), this produces as much PM 2.5 as more than 225 cigarettes, and, in addition, there are many more toxins in woodsmoke than there are in cigarette smoke. One would have to light 27,333 cigarettes to approximate the benzopyrene in 2 pounds of wood.

<https://woodsmokepollution.org/toxins.html>

The health effects of PM 2.5 include respiratory illness, cardiac events, stroke, dementia, SIDS and **even premature death**. And, because woodsmoke contains high levels of carcinogens, these effects include cancer. These effects apply to **everyone**, not only to “sensitive” people. (American Lung Association)

-Many health organizations such as the American Lung Association and the EPA warn that it is risky to be outdoors when wood is being burned, and especially risky to engage in physical activity. It is not possible to keep smoke out of homes (even “tight” homes) because of the nature of smoke, so people are affected even indoors.

-Because we live in a valley, and are near the river, we are subject to frequent **temperature inversions**, i.e., pollutants are kept close to the

ground by warmer air aloft, and these pollutants can hang around at breathing level for days.

Environmental impacts of burning wood:

45% of global warming is attributable to black carbon (a major component of soot). It is the pollutant produced by burning wood and coal. It is a major cause of Arctic ice melt and a powerful climate forcer.

<https://www.ccacoalition.org/en/news/un-declares-healthy-environment-%E2%80%93-including-clean-air-%E2%80%93-human-right>

-Burning wood is **worse than burning coal** in that it emits more CO₂ per unit of energy. The science shows it is **41% more polluting**.

(Partnership for Policy Integrity)

-Hundreds of peer-reviewed studies have shown that woodsmoke, because of its emissions components, is a menace to public health and to the environment.

<https://woodsmokepollution.org/>

Final thoughts:

-Air is a “public common”

-Already, in NYS, woodsmoke pollution is a major health and environmental threat: From the **NYS Climate Leadership and Community Protection Act** (CLCPA) scoping document:

“although only 2% of households are estimated to burn wood for heat, the PM 2.5 produced by wood burning is **more** than that generated by BOTH power and transportation sectors combined.”

-In Ulster County, woodsmoke emissions are rising rapidly, as this excerpt from the **EPA’s National Emissions Inventory** already shows. (This is from the 2014 report — the last year before the Trump administration dismantled the scientific team responsible for reassessing and assuring the

Clean Air Act PM 2.5 thresholds were protective). These are the numbers for PM 2.5:

- line 3859: on-road light duty, non-diesel cars: 37.7 tons
- line 3856: on-road, heavy-duty diesel: 28.9 tons
- line 3844: residential heating: wood-burning: **554.314 tons**

-NYS now has a new constitutional amendment: the right to clean air and water for every resident.

-Yale scientists and physicians have identified the rapidly increasing phenomenon that applies to this proposed development and its planned firepits, and has termed it “**recreational woodburning**”. They are sounding the alarm that we must act to protect our lives and health as well as our precious environment. They have laid out recommendations for states, municipalities and counties to follow that include regulating, banning, and shutting down firepits and other woodburning devices, as they affect everyone.

<https://www.ehhi.org/woodsmoke-exposures.pdf>

-The science is clear that a **single** firepit:

1. causes harm—in high or chronic exposures, this includes premature death in people who are previously healthy
2. results in unhealthy air quality
3. can be the source of neighbors’ inability to draw a clean breath, and
4. Contributes in a major way to global warming

****The science is firm that igniting even a **SINGLE** firepit emits levels of pollutants that have been shown to rival those of wildfires:

Multnomah County, Oregon air quality specialists have tested single outdoor firepits using PM 2.5 sensors, and found that within a few moments, the AQ went from "healthy" to "unhealthy" to "hazardous", making the air **as hazardous to breathe in one backyard as it was during the 2020 wildfires there.**

<https://www.multco.us/multnomah-county/news/just-how-harmful-backyard-fire-what-our-air-quality-expert-found-will-alarm>

****Another organization working on this is the South Coast Air Quality Management District (SCAQMD) in southern CA. They have been conducting testing at many beaches over long timespans as a response to firepit use on the beaches there:

<https://www.aqmd.gov/docs/default-source/air-quality/special-monitoring-and-emissions-studies/beach-fire-monitoring/beach-fire-monitoring-results.pdf?sfvrsn=0>

" One fire pit in one evening estimated to emit as much PM2.5 as one Heavy-Duty Diesel Truck driving 564 miles."

70+ firepits is analogous to living near a large-scale toxic incinerator.

Of all the dangers and incursions to daily life posed by this development, woodburning is the one with the potential to do the greatest harm both directly to residents and in the degradation of the environment.

Dr. David Carpenter, the first Dean (and a creator of) the University at Albany School of Public Health and founder of the Institute for Health and the Environment, former director of the Wadsworth Lab of the NYS Health Department, and an expert in air toxicology makes clear:

“Woodsmoke is a very dangerous source of pollution, no matter how much pleasure people think they are getting from the look and smell.”

From the public health expert Zoe Chafe's report for the WHO entitled, "Residential Heating with Wood and Coal: Health Impacts and Policy Options in Europe and North America":

“No burn” areas are needed.....it is important to define urban areas with dense populations and/or geographical features (such as valleys between mountains) where residential heating or cooking with small-scale appliances

burning solid fuels (wood and coal) is not permitted at all "

-You, as representatives of your community, have a huge opportunity, and responsibility, to prevent major emissions from assaulting our ecosystem in the Hudson Valley, and threatening our health and environment by not allowing this development to include firepits or wood burning.
Thank you for acting to protect public health and our environment.