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EPA Designates Areas Not Meeting New Fine Particle Air Pollution Standard in New Jersey

http://yosemite.epa.gov/opa/admpress.nsf/f2812c1a8484b3b5852572a000650c02/073b76943dc149178525711e00782b36!OpenDocument

Where it states:

EPA Designates Areas Not Meeting New Fine Particle Air Pollution Standard in New Jersey

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Contact Information:

(#04186) NEW YORK, N.Y. – In an important step toward clean air, the U.S. Environmental Protection Agency (EPA) today announced the final designations of the areas that do not meet new health-based air standards for fine particle pollution, commonly known as soot. After considering comments from the state and the public, EPA has designated Bergen, Burlington, Camden, Essex, Gloucester, Hudson, Middlesex, Monmouth, Mercer, Morris, Passaic, Somerset and Union Counties as areas that are not attaining the standard. Fine particles, or PM 2.5, are 1/30th the size of a human hair and can lodge deeply in the lungs. They have been shown to cause an estimated 12,000 to 15,000 premature deaths, aggravate asthma and other respiratory conditions, and contribute to cardiovascular problems such as heart attacks and arrhythmias.

"Fine particles are the highest risk air pollutant," said Acting Regional Administrator, Kathleen C. Callahan. "Our goal is to reduce particle pollution, and we are providing national tools to accomplish that goal. Today's action is an important step in the process of ensuring clean air for everyone."

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The NJ law of what Air Pollution is can be best illustrated by Atlantic County's Website where it states

"Air Pollution Program

Pursuant to the County Environmental Health Act (CEHA), the Environmental Health Unit inspects and investigates sources of air pollution. The State of New Jersey defines air pollution as follows:

"Air Pollution means the presence in the atmosphere of one or more air contaminants of any composition whatsoever, in such quantities and duration as are, or tend to be, injurious to human health or welfare, animal or plant life, or property, or would unreasonably interfere with the enjoyment of life or property within any portion of this State"."

http://www.aclink.org/PublicHealth/Environmental/env_topics.asp?ID=1

Camden Country's Website for Air Pollution

http://www.camdencounty.com/health/healthserv/environ_ceha.html

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Here's the New Jersey

Highlands Air Quality Assessment Technical Report

http://www.highlands.state.nj.us/njhighlands/master/tr_air_quality_assessment.pdf

where I found on page 3 of the report

PARTICULATE MATTER The fine particulate problem in New Jersey comes from sources such as diesel-powered engines that directly emit particles and from upwind power plants that emit both direct fine particles and gases that are converted to particles as they travel downwind to New Jersey. A major contributor of particulates from in-state sources is diesel exhaust from on-road vehicles.[6] In addition, wood smoke is major contributor of particulates. [7]

HEALTH IMPACTS FROM FINE PARTICULATES ($PM_{2.5}$) on page 15

Health studies have shown a significant association between exposure to fine particles and premature death. Other important health effects include aggravation of respiratory and cardiovascular disease (as indicated by increased hospital admissions, emergency room visits, absences from school or work, and restricted activity days), lung disease, decreased lung function, asthma attacks, and certain cardiovascular problems, such as heart attacks and irregular heart beat. Individuals particularly sensitive to fine particle exposure include older adults, people with heart and lung disease, and children.[25]

NJDEP estimates that in New Jersey every year, exposure to fine particulate levels above the federal health standard results in an estimated 1,900 deaths and 53,000 asthma attacks. This death rate is nearly twice that from motor vehicle accidents (approximately 730 annually in New Jersey) and homicides (approximately 300 annually).

2. Other New Jersey State Specific Control Measures Under Consideration (on page 26)

NJDEP is currently considering control measures for wood smoke due to the growing trend for homeowners to burn wood to ease the cost of heating. As usage has increased, many homeowners have filed complaints against their neighbors and have contacted local, county and state officials for relief. Citizens have indicated that they are experiencing health related issues due to the smoke. Wood smoke contains harmful chemical substances such as CO, NO_x, VOCs, dioxin, and inhalable PM. Some of the VOCs are irritating, toxic, and/or cancer causing. One of the biggest human health threats from smoke, indoors or outdoors, comes from PM. Wood smoke PM is composed of wood tars, gases, soot, and ashes. Toxic air pollutants are a potentially important component of wood smoke. A group of air toxics known as polycydic organic matter includes potential carcinogens such as benzo(a)pyrene.[46]

Since wood smoke has caused health-related complaints and contributes significantly to PM2.5 levels, control measure strategies addressing the control of wood smoke at the local level in order to reduce nuisance complaints are being considered by NJDEP, at the state level to designate no burn days, and at the federal level to set standards for wood burning equipment[47]

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From the EPA's website

Health Effects of Wood Smoke

In particular please read on page 18 and 19 the sections titled

Indoor Air Quality and Population Most at risk.

Where it states
Wood smoke interferes with normal lung development in infants and young children. In addition, several studies have found that home use of wood burning stoves increases the risk of lower respiratory tract infections (LRTIs) such as bronchiolitis and pneumonia. LRTIs are a major cause of of early childhood diseases and death.

http://www.ecy.wa.gov/pubs/92046.pdf

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EPA Burn Wise Website
http://www.epa.gov/burnwise/

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EPA Consumers- Best Burn Practices

http://www.epa.gov/burnwise/bestburn.html

Practical Tips for Building a Fire

Once your wood-burning appliance is properly installed, building an effective fire requires good firewood (using the right wood in the right amount) and good fire building practices. The following practical steps will help you obtain the best efficiency from your wood stove.

- Season wood outdoors through the summer for at least 6 months before burning it. Properly seasoned wood is darker, has cracks in the end grain, and sounds hollow when smacked against another piece of wood.
- Wood burns best when the moisture content is less than 20 percent. You can purchase a wood moisture meter to test the moisture content of your wood before you burn it.
- Store wood outdoors, stacked neatly off the ground with the top covered.
- Burn only dry, well-seasoned wood that has been split properly.
- Start fires with newspaper and dry kindling.
- Burn hot fires.
- To maintain proper airflow, regularly remove ashes from your wood-burning appliance into a metal container with a cover and store outdoors

Items You Should Never Burn in Your Appliance

- **Never** burn household garbage or cardboard. Plastics, foam and the colored ink on magazines, boxes, and wrappers produce harmful chemicals when burned. They may also damage your wood-burning appliance.
- **Never** burn coated, painted, or pressure-treated wood because it releases toxic chemicals when burned.
- **Never** burn ocean driftwood, plywood, particle board, or any wood with glue on or in it. They all release toxic chemicals when burned.
- **Never** burn wet, rotted, diseased, or moldy wood.

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What's released from burning pressure treated wood when burned

http://www.origen.net/arsenic.html

CCA pressure-treated wood contains arsenic which can be released from the wood when the wood is burned, through mechanical abrasion (like sanding or sawing), direct contact and when acid contacts the treated lumber. See the 'CCA Wood' tab to the left for more information. Incineration of CCA pressure treated wood does not destroy arsenic. It is illegal to burn CCA wood in all 50 states. Some countries in Europe have banned CCA wood and its use is being reviewed by the whole European Union. It is incredible, but a single 12 foot 2 x 6 contains about 27 grams of Arsenic - enough arsenic to kill more than 200 adults. A tablespoon (about 20 grams) of CCA wood ash has enough arsenic to kill an adult human.

To add to that, CCA wood ash tastes salty, and is a natural attractant to animals and livestock. 5 Tablespoons of this are enough to kill an 1100 pound cow, and this has already happened. Jim and Peggy Janson of Sauk Rapids, Minnesota had their dairy herd of 18 Holstein cows die after breaking down a neighbors' fence and eating salty CCA ash. State investigators determined that the cows found a pile of CCA wood ash which had been illegally dumped and they died from arsenic poisoning four days after ingestion of the ash: *This Old House Magazine*, Issue 17, March/April 1998, Page 118-125.

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EPA Document **Strategies for Reducing Residential Wood Smoke**

http://www.epa.gov/ttn/oarpg/t1/memoranda/strategies-doc-8-11-09.pdf

This document was written for state, local and tribal air pollution control officials to have a comprehensive list of strategies to help communities reduce wood smoke from residential heating. It provides education and outreach tools, information on regulatory approaches to reduce wood smoke, as well as voluntary programs to change out old, inefficient wood stoves and fireplaces. It includes EPA federal actions like rule making that are being considered and/or implemented to help communities address residential wood smoke throughout the United States. In addition, this document includes possible approaches for funding change out programs, methods for calculating potential emission reductions, and the basic components of a wood smoke reduction plan for fine particles in areas where wood smoke is of concern.