



# BIOMASS FACILITIES IMPACT AIR QUALITY IN SURROUNDING NEIGHBORHOODS

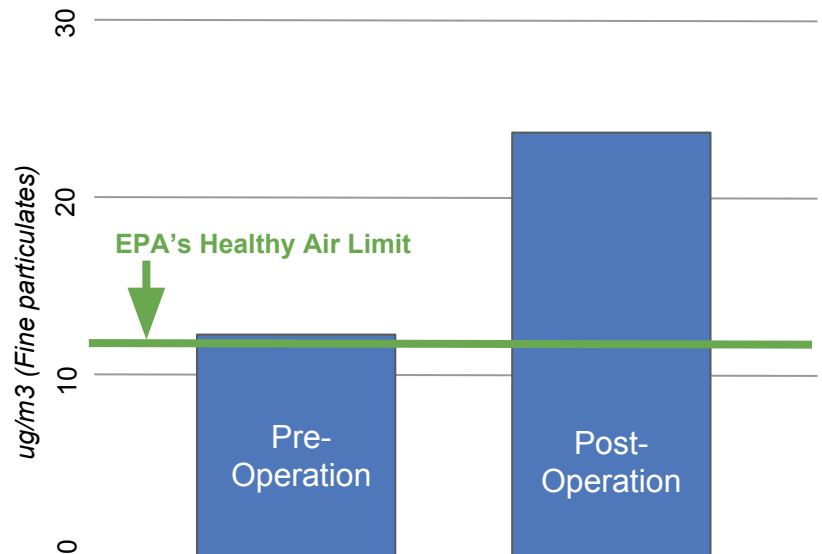
Wood pellet manufacturing facilities are springing up across the south, usually in poor, rural communities. Until now, it has been unclear how a pellet plant affects air quality.

Jane, a Sampson County resident, measured air quality before and after operation started at the Sampson County pellet plant. She lives within a mile of the plant, and measured daily from August 20, 2016 to Feb 22, 2017. We analyzed her measurements and found that there was a 75% increase in fine particulates in the air after the plant was in operation.

- Both the American Lung Association and the American Heart Association have come out against these facilities because of their impact on air quality in a community. [1]
- The EPA has set 12 ug/m3 as the yearly annual average limit for healthy particulate levels, yet our preliminary data (left) show that the air quality after the Enviva plant began operation is well over that limit. [2]
- Inhaling fine particulate matter like the pollution recorded in Sampson County can lead to an increase in emergency room visits for asthma problems, especially by children and the elderly. [3]

Don't let Enviva fool you -- they're as dirty as coal.

## Air Quality Before And After Plant Operation



There was a 75% increase in particulates after the Enviva plant began operation.

Below: Jane Thornton holds an air filter that demonstrates the dust produced by the nearby Enviva plant.



**Jane Thornton**  
Sampson County Resident

## References

1. American Lung Association. Public Policy Position - Energy. American Lung Association (2015). Available at: <http://bit.ly/ALA2015a>. (Accessed: 27th March 2017); Brook, R. D. et al. Particulate matter air pollution and cardiovascular disease: An update to the scientific statement from the American Heart Association. *Circulation* 121, 2331–2378 (2010).
2. EPA. NAAQS Table. (2014). Available at: <https://www.epa.gov/criteria-air-pollutants/naaqs-table%20>. (Accessed: 28th March 2017)
3. Schwartz, J., Slater, D., Larson, T. V., Pierson, W. E. & Koenig, J. O. Particulate Air Pollution and Hospital Emergency Room. *Am. Rev. Respir. Dis.* 147, 826–831 (1993).



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## A Letter To Politicians From Health Organizations About Biomass

The undersigned public health, medical and nursing organizations urge you to oppose policies that would encourage or expand the use of biomass for electricity production. Biomass is far from “clean” – burning biomass creates air pollution that causes a sweeping array of health harms, from asthma attacks to cancer to heart attacks, resulting in emergency room visits, hospitalizations, and premature deaths.

Biomass uses fuel sources, or feedstocks, whose combustion harms human health, including wood products, agricultural residues or forest wastes, and highly toxic construction and demolition waste. Burning biomass from any source generates immediate dangerous air pollution that puts health at risk. Among the most dangerous of these emissions is particulate matter, also known as soot. These particles are so small that they can enter and lodge deep in the lungs, triggering asthma attacks, cardiovascular disease, and even death. Particulate matter can also cause lung cancer.

Biomass combustion also creates nitrogen oxide emissions, which are harmful in their own right and also contribute to the formation of ozone smog and particulate matter downwind. Ground-level ozone pollution can trigger asthma attacks and cause premature death, and newer research shows possible links to reproductive and central nervous system harm.

Burning biomass also creates carbon monoxide, which leads to headaches, nausea, dizziness, and in high concentrations, premature death; and carcinogens, including benzene and formaldehyde. The dangerous air pollution from burning biomass endangers some people more than others. Millions of infants and children, older adults, individuals with respiratory or cardiovascular disease or diabetes, and individuals with lower incomes face a higher risk of suffering serious health effects from these pollutants.

In addition to emitting harmful conventional pollutants, some biomass processes also increase carbon emissions that contribute to climate change. The U.S. Environmental Protection Agency’s Science Advisory Board is currently evaluating available research to answer questions about the net carbon emissions that result from burning biomass. In their 2012 letter to EPA from an earlier review, the Science Advisory Board noted that “[c]arbon neutrality cannot be assumed for all biomass energy a priori” and described the processes that can make biomass increase carbon emissions.

Scientists must be allowed to continue to review these impacts. The United States is already experiencing health harms as a result of climate change. Increased temperatures lead to heat-related illnesses and deaths and help make the formation of ground-level ozone more likely. More droughts lead to elevated particulate matter levels. More frequent and severe extreme weather events harm both physical and mental health. These trends are projected to continue, along with increased health threats from vector-borne diseases; food insecurity; food- and water-borne diseases; worsened allergy seasons; and many more.

Burning biomass creates proven harm to human health through direct air pollution impacts, as well as the potential for increasing climate change. Because of those threats, the undersigned public health, medical and nursing organizations ask that you oppose policies that would encourage or expand the use of biomass for electricity production. We urge you to protect human health by supporting the development of truly clean, carbon-free sources of energy such as solar energy and wind power.

