Diesel Exhaust and Health

Diesel engines operate all around us. They transport our children to and from school, construct buildings, move equipment and supplies and are an everyday sight in our communities. While diesel engines are integral to Minnesota's economy, they contribute to more that 50% of all traffic related air pollution in the state. Pollutants found in diesel exhaust contain components that can be harmful to human health.

What is diesel exhaust?

- Diesel exhaust is produced when a diesel engine burns diesel fuel
- Diesel exhaust is a complex mixture of over 450 components
- Forty of these chemicals are known toxic air contaminants, including many known or suspected cancer causing elements
- Diesel exhaust also contains nitrous oxides and sulfur oxides, which form smog
- One of the most problematic elements found in diesel exhaust is fine particulate matter (PM), also known as soot

What happens when we breathe diesel exhaust?

Humans are exposed to diesel exhaust by breathing particles and gases suspended in the air. Because diesel engines operate in both rural and urban areas, it is nearly impossible to avoid exposure. Pollutants enter the lungs and in some cases can also enter the bloodstream. Impacts of exposure include irritation of the eyes, nose and throat, aggravated asthma as well as more serious conditions including heart and lung disease.

Who is most impacted?

Those who are most impacted by exposure to diesel exhaust include children, the elderly and those working around diesel engines.

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- Children have developing lungs as well as a higher breathing rate than adults making them more vulnerable to pollutants found in diesel exhaust
- The elderly or those with asthma or chronic heart and lung disease are especially sensitive to pollutants found in diesel exhaust. Exposure can trigger aggravated asthma attacks and increased hospital visits among these populations.
- People working around diesel engines including equipment operators or bus drivers have a have a higher risk of experiencing adverse health impacts because they are exposed to pollutants for longer periods of time.

What is being done?

Project Green Fleet is a collaborative effort among business, government and non-profits to improve air quality and protect public health by reducing emissions from Minnesota's diesel vehicles. Project Green Fleet installs pollution control equipment, implements idle reduction technologies and replaces older engines with new, cleaner running engines. Diesel emission reduction technologies are provided to participating fleets at little to no cost.

Want to Learn More? Contact Jordan Hansen at 612-334-3388 x104 or jhansen@mn-ei.org with questions or visit www.projectgreenfleet.org.

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