

Quilt Narrative: Air Pollution

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Air pollution is the leading contributor to global warming that continues to harm human, animal, and environmental health (Center for Science Education n.d.). This issue is destroying the Earth faster than our environment can adapt (Center for Science Education n.d.). Air pollution consists of gas and particle contaminants. The most common gas pollutants—also called greenhouse gases—include Sulfur Dioxide, Nitrogen Dioxide, Carbon Monoxide, and Carbon Dioxide (SO₂, NO₂, CO, and CO₂) (Deepak Pinakana, Sai 2024). The second form of air pollution is particle pollution, which is often in the form of carbon. While some pollutants are released directly into the air, such as smoke or ash, others are formed in the air through chemical reactions (EPA 2025).

Greenhouse gases and pollutants that linger in the air, also known as particulate matter or smog, eventually rise into the atmosphere. As these gases rise, they also rise in temperature and form a heat bubble. The accumulation of toxic gases and particulate matter in the atmosphere further damages the ozone layer by burning through its layers. This process is also known as ozone layer depletion (EPA 2025). Additionally, smog and particulate matter inhalation can damage health, cause disease, and lead to death in both humans and animals (EPA 2025).

According to the EPA, the combined emissions of the six most common air pollutants from industrial emissions have decreased by 78% from 1970 to 2023 (Our Nation's Air 2024). While industrial emissions have decreased, vehicle emissions have increased 194% and gross domestic product emissions have increased 321% (total greenhouse gas emissions produced by a country's economy) (Our Nation's Air 2024). The constant release of greenhouse gases continues to damage the environment and pose health risks.

As of April 2025, nearly half of US Americans were living in areas with dangerous levels of ozone or particle pollution (American Lung Association 2025). About 156 million Americans

live in areas that failed at least one measure of air pollution safety and 42.5 million people live in areas failing all three measures of air pollution safety standards (American Lung Association 2025).

The Environmental Protection Agency has worked for decades to protect our air, for quality that is safe to live and breathe in. This agency has successfully provided trustworthy forecasts of air quality, statistics of emissions amount, and emission locations (American Lung Association 2025). Unfortunately, the EPA has been dealing with efforts against them, including reducing funds, which reduces program connections, staff numbers, and overall help for the environment (American Lung Association 2025).

Air pollution is an ongoing problem that needs to be addressed on a larger scale. Large industries, large equipment users, and those of the agricultural industry are the greatest contributors to air pollution (Robinson, Deena 2025). In our daily lives, we also contribute to air pollution on a small scale that quickly adds up. This means that we need to find different alternatives or cleaner energy, and consider how we use our resources and energy. Consider not only ourselves or our families, but also the environment and the living things around us that live and breathe in dangerously polluted areas.

I chose the topic of air pollution because I believe that having clean air is important for human health, as well as for protecting our environment, as we face the effects of global warming. I wanted to incorporate a topic that is related to my Environmental Science Major because I believe this topic could be an important aspect that I focus on in my future career. Specific images I have included in my quilt are—trash burning, a farming tractor, industrial buildings, smoke, and lungs. I chose each of these images specifically to represent a significant aspect of air pollution.

My quilt specifically focuses on a few of the main contributors to air pollution. The three focus points I chose to display are open burning of solid waste, agricultural emissions, and industrial emissions. I chose to use regular fabric materials as well as unconventional materials that were sewn onto my quilt. This was to further connect my message to what was displayed on my quilt, as well as to add distinguishing features.

On the bottom left corner of my quilt is the trash pile. I specifically chose these materials to include dimension, layers, and unconventional art. For the layers of fire, I chose to use a red quilt, an orange satin material, and a yellow felt material. The way I sewed them together was to give more volume and to display the movement of fire. On top of the fire, I decided to make a 3-D trash bag with some stuffing and plastic inside. This was to give it a realistic trash bag look, and also a similar sound with the plastic inside. Alongside the trash, I sewed on a wrapper and a RedBull can. I specifically chose these materials because they are trash, which directly relates to the specific topic of waste burning. The RedBull can is technically recyclable; however, I still added it because almost everything is thrown away as trash and burned to get “rid” of it. In the bottom center area, I sewed a tractor with smoke coming out of it, which is another leading contributor to air pollution. I used green cotton material to match the popular tractors used in the agricultural industry. I also stitched smoke to display where and how the smoke enters the environment. Next to the tractor on the right, I sewed two industrial towers with smoke stacks coming out of the top of them. The towers are made of cotton fabric with basic stitching. The smoke stacks, however, are made of sewn-on poly fill, bunched up in a way to look similar to how smoke stacks appear in the air. Even though industrial smoke stacks are not dark grey or black, the white smoke they produce is still dangerous to inhale and harmful to the environment. Lastly, the addition in the center of my quilt is the black lungs with red embroidery stitching. I

chose to make these lungs black to share the message that breathing in the polluted air is unhealthy and harmful. This part is significant because people do not always address issues that harm the environment, unless something harms their health first. So, although the health part of air pollution is not my main message, I believe that if people are reminded that it also harms their health, then they will start to focus on the other effects of air pollution and global warming. I hope people can see that air pollution is something to be concerned about and how this issue can be addressed in both big and small ways.

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