1.21.26 Full Committee Markup – Documents for the Record

**Minority**

1. An article from the New York Times titled "The Environmental Protection Agency has stopped estimating the dollar value of lives saved in the cost-benefit analyses for new pollution rules," submitted by Rep. Castor
2. An article from The Conversation titled "What air pollution does to the human body," submitted by Rep. Castor.
3. A report titled "Fueling Sickness: The Hidden Health Costs of Fossil Fuel Pollution," submitted by the minority.

**Majority**

4. A January 20, 2026, letter from INGAA to Committee leadership.
5. A January 20, 2026, letter from NMA to Committee leadership.
6. A January 21, 2026, letter from American Fuel & Petrochemical Manufacturers to Committee leadership.
7. A January 21, 2026, letter from police stakeholders to Chairman Guthrie.
8. A January 21, 2026, letter from the U.S. Chamber of Commerce to Committee leadership.
9. A January 21, 2026, letter from American Forest & Paper Association to Committee leadership.
10. A January 21, 2026, letter from AFPA in support of the legislation at the full committee markup.
11. A January 21, 2026, letter from API to Chairman Guthrie.
12. A January 15, 2026, letter from American Wood Council to Committee leadership.
13. A January 20, 2026, letter from APPA to Committee leadership.
14. A January 21, 2026, letter from National Association of Manufacturers to Committee leadership.

The New York Times https://www.nytimes.com/2026/01/21/climate/epa-human-life-value.html

# The Environmental Protection Agency has stopped estimating the dollar value of lives saved in the cost-benefit analyses for new pollution rules.



By Maxine Joselow
Reporting from Washington

Jan. 21, 2026

Government officials have long grappled with a question that seems like the purview of philosophers: What is the value of a human life?

Under both Democratic and Republican administrations, the answer has been in the millions of dollars. The higher the value, the more the government has required businesses to spend on their operations to prevent a single death.

But for the first time ever, at the Environmental Protection Agency the answer is effectively zero dollars.

Last week, the E.P.A. stopped estimating the monetary value of lives saved when setting limits on two of the most widespread deadly air pollutants, fine particulate matter and ozone. Instead, the agency is calculating only the costs to companies of complying with pollution regulations.

“The Trump administration is saying, literally, that they put zero value on human life,” Marshall Burke, an environmental economist at Stanford University, said in an email. “If your kid breathes in air pollution from a power plant or industrial source, E.P.A. is saying that they care only insofar as cleaning up that pollution would cost the emitter.”

It’s a drastic change to the way the government weighs the costs of curbing air pollution against the benefits to public health and the environment. It could lead to looser controls on pollutants from coal-burning power plants, oil refineries, steel mills and other industrial sites across the country, resulting in dirtier air.

And it appears to shelve a powerful tool, known as the value of a statistical life, that agencies have used for decades in the cost-benefit analyses that justify new regulations.

The E.P.A. has used the tool to assign a dollar value to the lives saved by clean-air rules, causing the benefits of these rules to dwarf the costs by at least a 30-to-1 ratio. That has allowed it to defend pollution controls that companies would otherwise challenge as too costly.

Other federal agencies have used the metric to justify regulations affecting everything from safety features on cars to cancer warning labels on cigarette packs.

Brigit Hirsch, an E.P.A. spokeswoman, said in an email that the agency was still considering the health effects of fine particulate matter and ozone, but was no longer assigning them a dollar value in cost-benefit analyses. “We’re not putting a dollar value on those impacts right now,” she said. “That does not mean E.P.A. is ignoring or undervaluing them.”

Ms. Hirsch did not comment on whether the agency would stop using the value of a statistical life for all regulations beyond clean-air rules. But in general, she said, “saying we aren’t attaching a dollar figure to health effects is like saying we aren’t putting a price tag on clean air or safe drinking water. Dollars and cents don’t define their worth.”

For the past 30 years, the E.P.A. has pegged the value of a statistical life at around $11.7 million. Although experts have recommended increasing the value, the agency has updated the metric only to account for inflation and wage growth.

The value of a statistical life is a sensitive subject in Washington. Lower values have led to outcry from public interest groups, while higher values have drawn complaints from a range of industries, including oil and gas drillers, truck drivers and toy manufacturers.

Some critics have raised moral objections to using the tool at all, saying a human life is priceless. But supporters say its use has helped prevent hundreds of thousands of premature deaths from air pollution, which kills more Americans each year than vehicle crashes.

THE CONVERSATION

Academic rigor, journalistic flair

Denver was barely visible through the smog on Feb. 9, 1986. Pollution like this is why the Clean Air Act was created. Denver Post via Getty Images

# What air pollution does to the human body

Published: January 20, 2026 8:36am EST

**Jenni Shearston**

Assistant Professor of Integrative Physiology, University of Colorado Boulder

## DOI

https://doi.org/10.64628/AAI.a6uahswww

https://theconversation.com/what-air-pollution-does-to-the-human-body-273456

I grew up in rural Colorado, deep in the mountains, and I can still remember the first time I visited Denver in the early 2000s. The city sits on the plain, skyscrapers rising and buildings extending far into the distance. Except, as we drove out of the mountains, I could barely see the city – the entire plain was covered in a brown, hazy cloud.

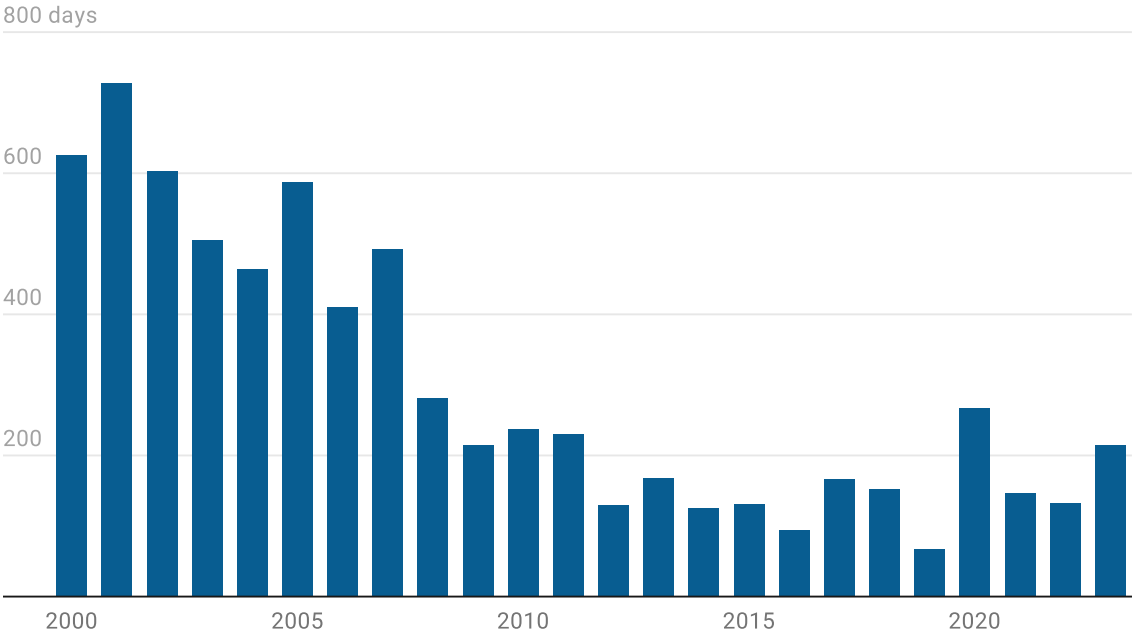
That brown, hazy cloud was mostly made of ozone, a lung-irritating gas that causes decreases in lung function, inflammation, respiratory symptoms like coughing, and can trigger asthma attacks.

Denver still has air pollution problems, due in part to its geography, which creates temperature inversions that can hold pollution near the ground. But since 1990, ozone has decreased 18% across the U.S., reducing the smog that choked many cities in the 1960s and 1970s. The concentration of tiny dustlike particles of air pollution called PM2.5 has also decreased, by 37% since 2000.

These decreases occurred largely because of one of the most successful public health policies ever implemented by the United States: the Clean Air Act, first passed in 1970. The Clean Air Act regulates air pollution emissions and authorizes the Environmental Protection Agency to set air quality standards for the nation.

## Number of unhealthy air days has fallen

Looking at 35 major U.S. cities, the combined number of days with PM2.5 levels considered unhealthy for sensitive groups has fallen. The spikes in 2020 and 2023 reflect wildfire smoke.




*Sensitive groups include people with heart or lung disease, older adults and children*

Chart: The Conversation, CC-BY-ND • Source: EPA • Get the data • Embed • Download image • Created with Datawrapper

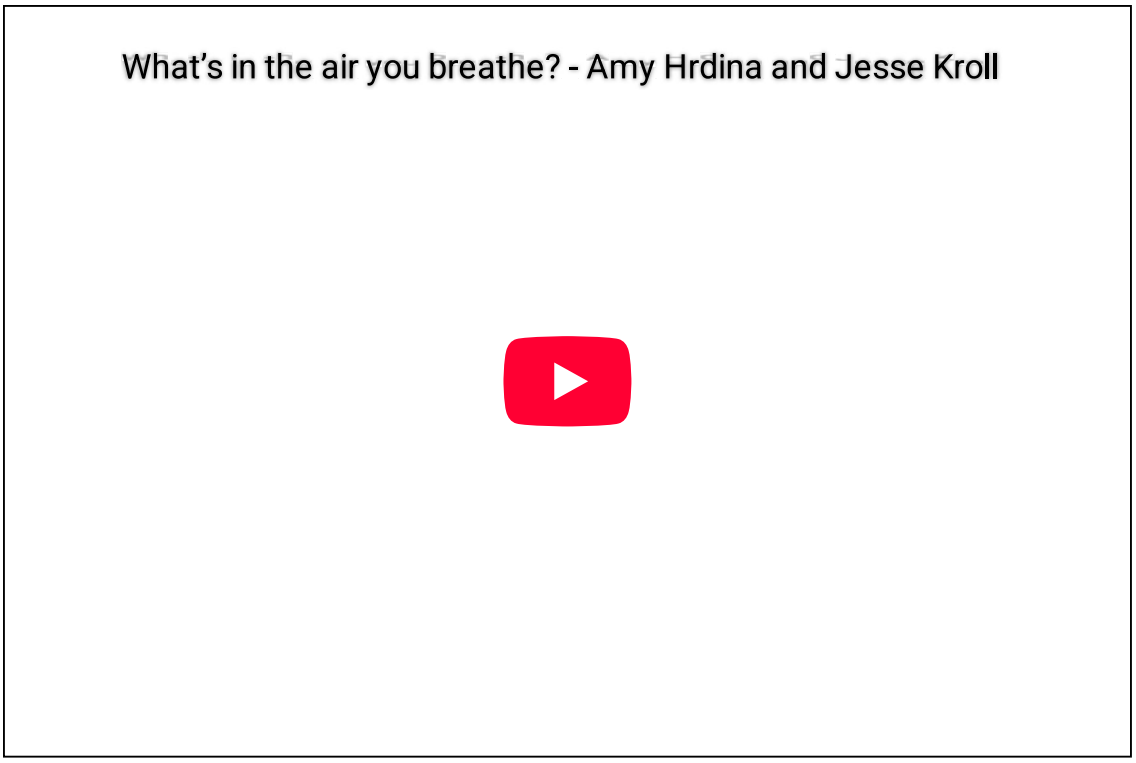
For years, when the Environmental Protection Agency assessed the economic impact of new regulations, it weighed both the health costs for Americans and the compliance costs for businesses. The Trump administration is now planning to drop half of that calculation – the monetary health benefits of reducing both ozone and PM2.5 – when weighing the economic impact of regulating sources of air pollution.

I am an environmental epidemiologist, and one of the things I study is people's exposure to air pollution and how it affects health. Measuring the impact of air quality policies – including quantifying how much money is saved in health care costs when people are exposed to less air pollution – is important because it helps policymakers determine if the benefits of a regulation are worth the costs.

### What air pollution does to your body

Breathing in air pollution like ozone and PM2.5 harms nearly every major system in the human body.

It is particularly hard on the cardiovascular, respiratory and neurological systems. Numerous studies have found that PM2.5 exposure is associated with increased death from cardiovascular diseases like coronary heart disease. Even short-term exposure to either PM2.5 or ozone can increase hospitalizations for heart attacks and strokes.




What's in the air you breathe?

In the respiratory system, PM2.5 exposure is associated with a 10% increased risk for respiratory diseases and symptoms such as wheezing and bronchitis in children. More recent evidence suggests that PM2.5 exposure can increase the risk of Alzheimer's disease and other cognitive disorders. In addition, the International Agency for Research on Cancer has designated PM2.5 as a carcinogen, or cancer-causing agent.

Reducing air pollution has been proven to save lives, reduce health care costs and improve quality of life.

For example, a study led by scientists at the EPA estimated that a 39% nationwide decrease in airborne PM2.5 from 1990 to 2010 corresponded to a 54% drop in deaths from ischemic heart disease, chronic obstructive pulmonary disease, lung cancer and stroke.

In the same period, the study found that a 9% decline in ozone corresponded to a 13% drop in deaths from chronic respiratory disease. All of these illnesses are costly for the patients and the public, both in the treatment costs that raise insurance prices and the economic losses when people are too ill to work.

Smog defined Los Angeles for years, including in December 1956. The photo was taken looking down Grand Avenue. Bettmann via Getty Images

Yet another study found that nationally, an increase of 1 microgram per square meter in weekly PM2.5 exposure was associated with a 0.82% increase in asthma inhaler use. The authors calculated that decreasing PM2.5 by that amount would mean US$350 million in annual economic benefits.

Especially for people with lung diseases like asthma or sarcoidosis, increased PM2.5 concentrations can reduce quality of life by worsening lung function.

### Uncertainty doesn't mean ignore it

The process of calculating precisely how much money is saved by a policy has uncertainty. That was a reason the Trump administration stated for not including health costs in its cost-benefit analyses in 2026 for a plan to change air pollution standards for power plant combustion turbines.

Uncertainty is something we all deal with on a daily basis. Think of the weather. Forecasts have varying degrees of accuracy. The high temperature might not get quite as high as the prediction, or might be a bit hotter. That is uncertainty.

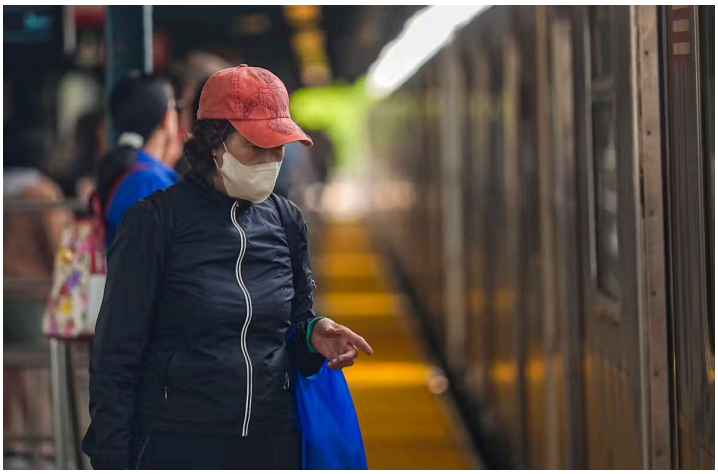
Smog often obscured views of the New York skyline in the 1930s and 1940s. PhotoQuest/Getty Images

The EPA wrote in a notice dated Jan. 9, 2026, that its historical practice of providing estimates of the monetized impact of reducing pollution leads the public to believe that the EPA has a clearer understanding of these monetary benefits than it actually does.

Therefore, the EPA wrote, the agency will stop estimating monetary benefits from reducing pollution until it is "confident enough in the modeling to properly monetize those impacts."

This is like ignoring weather forecasts because they might not be perfect. Even though there is uncertainty, the estimate is still useful.

Estimates of the monetary costs and benefits of regulating pollution sources are used to understand if the regulation is worth its cost. Without considering the health costs and benefits, it may be easier for infrastructure that emits high levels of air pollution to be built and operated.



On days with poor air quality, like this one in New York in June 2025, more cities are issuing alerts, and more people are wearing face masks to reduce their exposure to harmful particles. Selcuk Acar/Anadolu via Getty Images

## What the evidence shows

Several studies have shown the impact of pollution sources like power plants on health.

For example, the retirement of coal and oil power plants has been connected with a reduction in preterm birth to mothers living near the power plants. Scientists studied 57,000 births in California and found the percentage of babies born preterm to mothers living within 3.1 miles (5 kilometers) of a coal- or oil-fueled power plant fell from 7% to 5.1% after the power plant was retired.

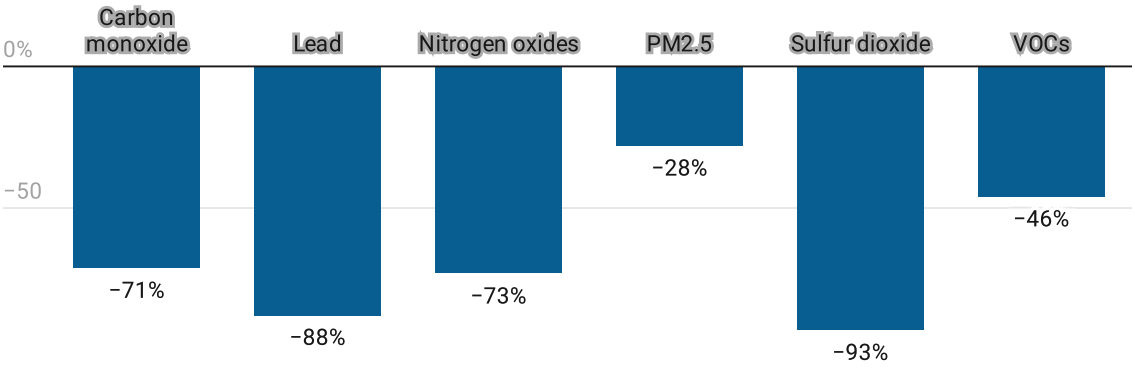
Another study in the Louisville, Kentucky, area found that four coal-fired power plants either retiring or installing pollution-reduction technologies such as flue-gas desulfurization systems coincided with a drop in hospitalizations and emergency department visits for asthma and reduced asthma-medication use.

Reducing preterm birth, hospitalizations, emergency department visits and medication use saves money by preventing expensive health care for treatment, hospital stays and medications. For example, researchers estimated that for children born in 2016, the lifetime cost of preterm birth, including medical and delivery care, special education interventions and lost productivity due to disability in adulthood, was in excess of $25.2 billion.

## Emissions of major pollutants have dropped significantly

Since 1990, emissions of many of the major air pollutants have dropped significantly as federal regulations required power plants and other sources to clean up their emissions.

**2023 compared to 1990**




*VOCs are volatile organic compounds*

Chart: The. Conversation, CC-BY-ND • Source: EPA • Get the data • Embed • Download image • Created with Datawrapper

Circling back to Denver: The region is a fast-growing data center hub, and utilities are expecting power demand to skyrocket over the next 15 years. That means more power plants will be needed, and with the EPA's changes, they may be held to lower pollution standards.

# Fueling Sickness:
## The Hidden Health Costs of Fossil Fuel Pollution

## Endorsed By:

Alliance of Nurses for Healthy Environments

APHA
AMERICAN PUBLIC HEALTH ASSOCIATION

Children's Environmental Health Network

climate psychiatry alliance

Climate Psychology Alliance
NORTH AMERICA

ISEE
North America Chapter

The Medical Society Consortium on
CLIMATE & HEALTH

Medical Students for a Sustainable Future

NMA
Since 1895

OUCH
INTERNATIONAL
ONCOLOGY ADVOCATES UNITED FOR CLIMATE AND HEALTH

PSR
PHYSICIANS FOR SOCIAL RESPONSIBILITY

PUBLIC HEALTH INSTITUTE

## Acknowledgements:

Thank you to the following individuals for their help in drafting and reviewing various sections of this document: Scott Barstow, MSc, Laura Kate Bender, Robert Brook, MD, Robert Byron, MD, MPH, Paige Knappenberger, Shyamala Rajan, Linda Rudolph, MD, MPH, Mona Sarfaty, MD, MPH, FAAFP, Joan Schiller, MD, Liz Scott, Caren Solomon, MD, MPH, Emily Thompson, George Thurston, ScD, Ernesto Villasensor, Diana van Vleet, Skye Wheeler

## Table of Contents



## Introduction

Fossil fuels - including coal, oil and gas - have shaped the modern world, powering advances in industry, mobility and daily life, including in medicine and public health. Yet the human health costs of fossil fuel use are enormous. From extraction to end use, pollution from fossil fuels contaminates the air we breathe, the water we drink and the food we eat, driving illness and premature death across every stage of life and every system of the body.

Air pollution from fossil fuels kills hundreds of thousands of people in the U.S. and millions worldwide every year. Fossil fuel combustion also causes climate change, another profound threat to human health. They also pollute our water and food through their use in making plastics and other petrochemicals.

This brief is not a comprehensive technical report. Instead, it offers a summary of how fossil fuels directly damage health: across the human life span and body systems and across the fossil fuel life cycle, from extraction to end use. It also highlights populations at heightened risk and points to key steps for protecting health. The extensive health impacts of climate change, driven by fossil fuel usage, are addressed after the direct health impacts.

Health and medical professionals see these harms in patients and communities every day. Our aim is to elevate the often-overlooked health costs of fossil fuels in conversations about our energy future. Too often, debates about the energy transition focus on economics, security or consumer choice. But we cannot ignore the devastating health burden of fossil fuels, especially when cleaner, more affordable alternatives are available. As health and medical professionals and organizations, we believe a transition to non-polluting energy is not only possible, but essential - for a healthier future.

## Key Health Impacts

Fossil fuels are non-renewable resources. They formed millions of years ago when prehistoric plants and animals died and were gradually buried by layers of rock, then transformed by changing temperatures and pressure into coal, oil and gas. These fossil fuels are now extracted, processed, transported, burned and disposed of in ways that pollute air, water and land. At every stage of their life cycle, they harm human health and the environment.

Everyone in the U.S. is exposed to many toxic pollutants from fossil fuels. These exposures accumulate in our bodies over time and cause long-term health harms.[1] They affect every stage of human life, from before birth through old age. There is no safe threshold for fossil fuel pollution exposure – even very low levels of exposure may be harmful.[2]

While national and state air quality standards have led to significant improvements in air quality over several decades, air pollution remains a leading environmental health risk in the U.S. Globally, studies estimate that fossil fuel pollution is responsible for between 5 and 8 million deaths each year - including an estimated 350,000 premature deaths in the U.S. alone.[3,4]

Beyond deaths, fossil fuel pollution is making people sick, including through heart and lung disease, cancer, adverse reproductive outcomes, neurological disorders and other chronic conditions. The healthcare, economic and societal costs of illness and deaths attributable to fossil fuel pollution are immense. These illnesses and deaths are preventable, which is why strong, evidence-based policy action is essential. This report includes recommendations that policymakers can take to protect health and accelerate the transition to a cleaner, healthier future.

---

## Health Harms Across the Fossil Fuel Life Cycle

Each stage of the fossil fuel life cycle – extraction, processing, transportation, combustion and waste - creates significant health harms. Emissions from oil and gas use in the U.S. alone are estimated to cause more than 216,000 cases of childhood asthma and 10,000 preterm births each year. Communities of color and low-income populations bear a greater share of the health burden at nearly every stage of the fossil fuel supply chain.[5] The cumulative health harms of fossil fuels extend far beyond climate change, imposing an enormous and preventable toll on public health.

### Extraction:

Coal mining, oil drilling and hydraulic fracturing (fracking) for gas release harmful air pollutants that endanger workers and nearby communities. Coal extraction also scars the land, pollutes waterways and leaves behind toxic waste that threatens both ecosystems and human health. Fracking for methane gas (called “natural gas”) is linked to water contamination and health problems including childhood cancer, birth defects, kidney and respiratory disease. Gas leaks and flaring (the burning of excess gas) release hazardous pollutants such as volatile organic compounds (VOCs) and nitrogen oxides (NOx), which increase cancer risk and trigger asthma, respectively.



## Processing, Refining and Petrochemical Manufacturing:

After extraction, fossil fuels are processed and refined in industrial facilities called petrochemical plants, often located near residential neighborhoods. Workers and nearby residents are exposed to a complex mixture of hazardous air pollutants, including benzene, formaldehyde and other carcinogens, which heighten risks of cancer, respiratory illness and adverse birth outcomes. These facilities also emit particulate matter, nitrogen oxides and sulfur dioxide, worsening asthma and other chronic lung diseases in surrounding communities.

## Transportation and Distribution:

Pipelines, trains, ships and trucks each pose hazards throughout the transport of fossil fuels. Pipeline leaks and ruptures happen regularly and contaminate soil and water and can cause explosions. Transport by rail and truck increases risks of accidents, spills and community exposure to harmful pollutants. Port communities near shipping hubs also face high concentrations of diesel exhaust, which is classified as a known carcinogen and linked to asthma, heart disease and premature death.

## Combustion:

The greatest health damage arises from burning coal, oil and gas for electricity, transportation, heating and industrial use. Alongside greenhouse gases, combustion generates harmful air pollutants, including fine particulate matter (PM2.5), NOx, sulfur dioxide, ozone and toxic metals – pollutants strongly linked to cardiovascular disease, respiratory illness, adverse birth outcomes and premature death. Transportation is a major source of this pollution, as cars, trucks, trains, ships and other equipment powered by fossil fuels emit large volumes of exhaust that directly harm health, particularly in urban areas and those nearest traffic-related pollution sources.[6,7]

## Waste Products:

Even after combustion, fossil fuel waste continues to harm health. Coal-fired power plants generate coal ash, one of the nation's largest industrial waste streams, containing arsenic, cadmium, lead, mercury and radioactive elements. When stored in unlined ponds or landfills, these contaminants can leach into groundwater, pollute surface waters and contaminate drinking water supplies.[8] Oil and gas refining produces chemicals that are used to manufacture plastics, pesticides and fertilizers, extending fossil fuel harms into consumer products. Many of these byproducts, such as plastics and agricultural chemicals, are associated with additional health harms from endocrine disruption to cancer (see Plastics section).

## How Do Fossil Fuels Impact Our Health?

### Fossil Fuels and Respiratory Health

The extraction, processing and burning of fossil fuels releases air pollutants that can penetrate deep into the lungs to cause inflammation, cell and tissue damage, immune system disorders, changes in the structure of the airways and chronic respiratory damage. Long-term exposure causes asthma and asthma attacks, chronic obstructive pulmonary disease (COPD), reduced lung function and lung development in children, increased respiratory infections, premature deaths from COPD and lung cancer.[9,10]

Children are particularly vulnerable: they have greater exposure than adults as they spend more time outdoors, are more physically active and have faster respiratory rates. As children's lungs are still developing, they are more susceptible to damage from pollutants.[11,12]

People living and working near the extraction or processing of fossil fuels also face significant risk. Coal miners can develop black lung disease, COPD and lung cancer from breathing in coal dust.[13,14] Those living near coal-burning plants or coal ash storage facilities are at increased risk of respiratory symptoms (such as cough) and respiratory infections. Air pollution from oil and gas production (e.g. drilling and fracking) in one year alone resulted in 410,000 asthma flare-ups, 2,200 new cases of childhood asthma and 7,500 excess deaths.[15] Residents living near mountaintop removal mining are exposed to pollutants such as particulate matter, polycyclic aromatic hydrocarbons (PAHs), heavy metals and hydrogen sulfide, linked to higher rates of birth defects, cardiovascular disease and respiratory illness.[16]

Reducing air pollution from fossil fuel facilities can deliver immediate and measurable health benefits. For instance, when a coal coking plant in Pittsburgh, Pennsylvania shut down, nearby communities saw a rapid decline in emergency department visits - over 20% fewer for respiratory symptoms and more than 40% fewer for pediatric asthma.[17]

Methane ("natural") gas is used to generate electricity and to power home appliances such as dryers, furnaces, ovens, stoves and water heaters.[18] It is linked to an array of health problems including childhood cancer, birth defects and respiratory issues. Methane gas appliances (like gas stoves and furnaces) in our homes can emit carcinogenic benzene, carbon monoxide, nitrogen dioxide and fine particulate matter, increasing the risk of asthma and other respiratory symptoms, particularly in children and vulnerable populations.[19]

Burning fossil fuels releases air pollutants that lead to respiratory harm, such as particulate matter (PM2.5 and P10), ozone, nitrogen oxides (NO2) and sulfur dioxide (SO2).

### $PM_{2.5}$

Everyone in the U.S. is exposed to $PM_{2.5}$ and at risk of its harmful effects, which accumulate over time. There is no safe threshold of exposure, meaning even low levels of exposure are associated with health risks. People with higher exposures – most often found in urban and low-income communities and communities of color – are most impacted.[20,21] Short-term $PM_{2.5}$ exposure can cause coughing, wheezing, phlegm production, increased respiratory infections, asthma attacks, increased emergency department visits and hospitalizations for respiratory conditions and deaths from respiratory illness. Long-term exposure is associated with significantly escalated risks of asthma, chronic respiratory diseases like COPD and pneumonia, lung cancer and premature death, even at low exposure levels routinely experienced in the US.[22]

### Ozone

Short-term ozone exposure (up to 8 hours) causes injury and inflammation of the respiratory tract leading to airway constriction and coughing. This results in decreased lung function, increased respiratory symptoms (such as coughing, throat irritation, chest discomfort, increased sensitivity to asthma triggers), emergency department visits and hospital admissions from asthma exacerbations and respiratory infections. Even healthy individuals have experienced decreased lung function and respiratory symptoms after short-term ozone exposure.[23] Long-term ozone exposure causes new-onset asthma as well as worsening symptoms in individuals with asthma. It is also associated with altered lung development, COPD and respiratory mortality.[24]

### $NO_2$

Short-term exposure to nitrogen dioxide causes development of asthma in children, increases airway responsiveness (or sensitivity) in adults with asthma, decreases lung function and increases respiratory-related hospital admissions and emergency department visits.[25] Long-term exposure can also decrease lung development in children and increase asthma or chronic bronchitis in adults. [26]

### $SO_2$

Exposure to sulfur dioxide worsens asthma. $SO_2$ may increase the risk of lung disease and death, especially in the elderly and people with chronic lung disease or cardiovascular disease.[27]

## Fossil Fuels and Cardiovascular Disease

Fossil fuels significantly increase the risk for cardiovascular diseases – heart attacks, strokes and heart failure - which are leading causes of death both in the U.S. and globally. Of the millions of deaths attributable to fossil fuel pollution, the greatest proportion are due to cardiovascular diseases.[28]

Hundreds of studies have shown that short-term (hours to days) elevations in outdoor $PM_{2.5}$ levels increase the risks for heart attacks, strokes and deaths from cardiovascular disease. Short-term exposure to particulate matter has also been linked to higher risks of atrial fibrillation, other arrythmias and heart failure.[29] While brief exposures can be harmful, living in locations with poor air quality over the long term is related to much larger increases in cardiovascular risk. Fine particulate matter and NOx are consistently associated with hypertension, myocardial infarction, stroke and ischemic heart disease, while long-term exposures to $PM_{2.5}$ increase the risk of atherosclerosis, incident stroke and stroke mortality.[30]

### Fossil Fuel Use and Impacts on Brain Function

Air pollution from burning fossil fuels can harm the brain. Research shows that exposure to air pollutants - especially $PM_{2.5}$, $NO_2$ and ozone - can cause inflammation, stress and changes in brain chemistry. These changes can damage brain cells, interfere with how the brain communicates and increase the risk of neurological diseases such as Alzheimer's or Parkinson's.[31,32]

Both short-term and long-term exposures to $PM_{2.5}$ raise the risk of stroke.[33] Studies have found that people living in areas with higher levels of $PM_{2.5}$, $NO_2$ or ozone are more likely to experience strokes, hospitalization or premature death. A nationwide study of millions of Medicare enrollees found that reducing $NO_2$ levels by just 12.4 parts per billion - the difference between living in a large city like Los Angeles and a smaller one like Portland- was associated with a 6% reduction in stroke rates.[34]

Long-term exposure to polluted air has also been linked to dementia and cognitive decline.[35] Another large study of Medicare beneficiaries found that every small increase in annual $PM_{2.5}$ levels was associated with a higher risk of hospitalization for Alzheimer's, Parkinson's and other dementias, even at pollution levels below current air quality standards.[36]

Children's developing brains are especially sensitive to fossil fuel pollution. Studies show that when pregnant women are exposed to high levels of air pollution, their children are more likely to have behavioral and learning problems. In one study, children exposed to more $NO_2$ before birth and $PM_{2.5}$ in early childhood had more behavioral challenges and performed worse on cognitive tests at ages 4 to 6.[37] Other research has found that children exposed to polycyclic aromatic hydrocarbons (PAHs), compounds produced during incomplete fossil fuel combustion, have more difficulty with impulse control later in childhood.[38]

Exposure to higher levels of air pollution has also been linked to poor cognitive function in adults. Although specific findings vary, a recent review of research found general agreement across studies that $NO_2$ and $PM_{2.5}$ exposure is associated with lower cognitive performance in adults.[39]

The neurocognitive harms of fossil fuel pollution disproportionately impact children, older adults and communities already facing environmental and health inequities. People living near busy roadways, diesel truck routes or polluting industries are exposed to higher levels of $PM_{2.5}$ and other air pollutants. These communities are more likely to be low-income or communities of color, compounding the risks.

In children, exposure before and soon after birth can alter brain development, leading to smaller head circumference, reduced brain volumes and long-lasting neurologic effects.[40] Such exposures are associated with increased risks of autism spectrum disorder, attention deficit hyperactivity disorder (ADHD), behavioral problems, lower IQ and reduced academic performance.[41] Alarmingly, studies have even found early signs of brain changes linked to Alzheimer's and Parkinson's disease in children exposed to high levels of air pollution.[42]

## Fossil Fuels and Mental Health

A substantial and growing body of research demonstrates that fossil fuel pollution has adverse impacts on mental health. Exposure to pollutants such as $PM_{2.5}$ and $NO_2$, can cause inflammation, stress and neurotoxicity on the brain and nervous system, which are linked to higher risks of depression, anxiety and other mental health challenges.

Both short-term and long-term exposure to air pollution have been connected to depression.[44] Risks of depression grow even larger with long-term exposure to elevated levels of $PM_{2.5}$ and $NO_2$. Research has also found that long-term exposure to higher levels of $PM_{10}$ and $NO_2$ is associated with higher risk of anxiety.[45]

Air pollution has also been linked to suicide risk. In one study, short-term exposure to significant increases in particulate matter was found to be associated with a 1-2% increased risk of completing suicide[46], while a second found that increases in $NO_2$ were associated with a 3% increased risk.[47] Separate research has also found a connection between $PM_{10}$ exposure and increased suicide risk over the subsequent 24-48 hours.[48]

Children are especially vulnerable to the mental health effects of fossil fuel pollution.[49] Research has found that children who grow up breathing higher levels of air pollution are more likely to develop depression and behavioral disorders as teenagers. One study found that children experiencing the highest levels of air pollution at age 12 were up to 4 times more likely to be diagnosed with depression and up to 5 times more likely to be diagnosed with conduct disorder by age 18 - effects comparable to those seen from childhood abuse or trauma.[50]

Pollution exposure may also play a role in more severe mental health conditions. While schizophrenia is largely influenced by genetics, environmental factors also contribute. Research found that people exposed to higher levels of $NO_2$ from birth through age 10 were 62% more likely to develop schizophrenia by age 37 compared to those growing up with cleaner air.[51]

## Fossil Fuels and Reproductive Health

Exposure to fossil fuel pollution is linked to poor pregnancy health, pregnancy loss, fetal neurodevelopmental disruption and adverse birth outcomes such as preterm birth, low birth weight and birth defects.[52] Inequitable distribution of fossil fuel pollution in the US is driving and worsening social and racial inequities in reproductive health.[53,54,55]

Pregnant women and the developing fetus are especially vulnerable to the impacts of pollution because they experience many crucial and precisely timed physical and psychologic changes. When these processes are disrupted by pollutants, the impacts on pregnancy and the fetus can be profound and sometimes lifelong.[56] Due to pregnancy stress on the body, pregnant women are at additional risk of many serious diseases that can also be worsened by fossil fuel pollution, such as hypertension[57] and diabetes.[58] Pregnant women also breathe in more air than non-pregnant people, exposing them to more air pollution.[59]

Numerous studies find convincing evidence that exposure to $PM_{2.5}$ during pregnancy raises the risks of unfavorable birth outcomes and pregnancy complications, including low birth weight, preterm birth, stillbirth, small for gestational age and birth defects.

Pregnant women exposed to $PM_{2.5}$ had a significantly higher risk of developing hypertensive disorder of pregnancy, gestational diabetes, gestational hypertension and preeclampsia.

Exposure to oil and gas well sites during pregnancy is associated with increased risk of spontaneous preterm birth.[60] Babies born in Pennsylvania within 1 km of a fracking site were more likely to have low birthweight[61], and fracking has been associated with pre-term birth.[62] Pregnant women living close to an oil or gas extraction site during pregnancy have an increased risk of hypertensive conditions, such as preeclampsia.[63]

One of the strongest associations between air pollution and negative birth outcomes like low birth weight and preterm birth are with power plants and petrochemical industries.[64] Oil refineries produce a wide range of toxics, including benzene, which can harm fetal development and the male reproductive system; carbon monoxide, which during pregnancy can affect fetal brain development and cause pregnancy loss; and lead, a heavy metal that can adversely impact fetal brain developments, cause learning and behavioral problems in children and harm the reproductive systems of both men and women.[65]

A study of exposure to traffic-related pollutants near the end of pregnancy showed that greater exposure was associated with an increase in NICU admissions.[66] Air pollution can disrupt fetal brain development.[67] People who live closer to fossil fuel power plants are more likely to have preterm delivery, even if they live up to 20 km (12.4 miles) away.[68]

### Other Reproductive Health Harms

Many petrochemicals are endocrine-disrupting chemicals (EDCs), which means they interfere with normal hormonal activity and increase risk for adverse health risks, including infertility.[69] A growing body of evidence also suggests that EDCs, including from fossil fuel-derived products are associated in studies with female reproductive health diseases such as painful and underdiagnosed conditions like fibroids, breast cancer and girls getting their periods increasingly earlier in life.[70]

Exposure to endocrine disrupting chemicals is associated with reproductive harms (including reduced fertility in both women and men and adverse pregnancy outcomes).[71] Consistent with these observations, women living near fracking sites have increased risks of preterm birth.[72] Another report documented that women living near coal and oil power plants had a lower rate of preterm births after the plants were closed.[73]

## Fossil Fuels and Kidney Health

Fossil fuel pollution increases the risk of chronic kidney disease (CKD).[74] It has been estimated that the global burden of CKD attributable to $PM_{2.5}$ is 6.95 million new cases of CKD each year.[75] The burden is greatest in low- and middle-income countries, where air pollution levels are higher and health risk factors like diabetes and high blood pressure are also more common. Both of these conditions, which can be made worse by fossil fuel pollution, increase the risk of developing CKD.[76,77]

Both short- and longer-term exposure to $PM_{2.5}$ are associated with significantly increased risks for development of acute kidney injury, progression of CKD and increased mortality in those with end state kidney disease (ESKD).[78] Several studies

have demonstrated an association between short-term elevations in $PM_{2.5}$ and higher risk of death from kidney disease as well as emergency department visits.[79,80] Short-term exposure to $PM_{2.5}$ is also associated with an increased risk of hospital admissions and deaths in patients receiving dialysis for ESKD.[81] A meta-analysis showed a higher risk for CKD and lower kidney function among people living near petrochemical plants than those without such exposure.[82]

## Fossil Fuels and Endocrine (Hormonal) Disease

Fossil-fuel driven air pollution poses substantial risks to the endocrine system, which controls growth and development, metabolism and reproduction. Studies have consistently demonstrated significant associations between levels of $PM_{2.5}$ in the air and risks of obesity[83], Type 2 diabetes (and diabetes-associated mortality)[84] and high blood pressure.[85] Higher exposure to $PM_{2.5}$ is also associated with higher risk for preterm birth, low birthweight, stillbirth[86] and preeclampsia.[87] While most of the evidence linking air pollution to endocrine system dysfunction is observational, a randomized trial in healthy adults showed significantly lower blood pressure, and lower levels of markers of stress and inflammation in healthy adults given air purifiers to reduce $PM_{2.5}$ exposure.[88]

Fossil fuel extraction releases many chemicals that interfere with normal function of the endocrine system. For example, hormone-disrupting chemicals are used in fracking for gas and often contaminate surface water, groundwater and even drinking water. A study of water samples from a region in Colorado with a high density of gas drilling and reports of spills and discharges found significantly elevated endocrine-disrupting activity compared with water from areas without gas drilling.[89] In addition, coal mining releases toxic metals (including lead, arsenic and mercury) that also act as endocrine disrupters.

Endocrine disrupting chemicals are also produced from fossil fuel products, such as microplastics/nanoplastics and PFAS, which have been detected in a variety of human tissues, including placenta.[90] Additionally, other fossil-fuel derived chemicals including pesticides act as endocrine disrupters.

## Fossil Fuels and Cancer

Fossil fuel pollution is a contributor to the large burden of cancer in the U.S., affecting both the occurrence of cancer and its outcomes. About 2 million Americans will be diagnosed with cancer and more than 600,000 will die from cancer in 2025.[91]

Lung cancer is one of the most common cancers worldwide. It is estimated that approximately 15% of lung cancer worldwide is due to air pollution.[92] The International Agency on Research on Cancer (IARC) has found $PM_{2.5}$ and diesel exhaust are proven to cause cancer, damaging and mutating lung cells.

There is extensive evidence that people exposed to outdoor air pollution from car, truck and diesel exhaust have an increased risk for lung cancer and death.[93] Studies show that for each 10 mg/m3 increase in $PM_{2.5}$ in the air, there is about a 13% increase in the risk for death from lung cancer.[94] Individuals who have never smoked can also face as much as a 27% increase in lung cancer deaths due to $PM_{2.5}$.[95] People of color who are diagnosed with lung cancer face worse outcomes compared to white Americans, including: less likely to be diagnosed early, less likely to receive surgical treatment, more likely to receive no treatment and less likely to survive five years.[96]

A growing body of evidence also shows an association between air pollution and increased risk for breast, colorectal, brain, bladder and liver cancers, including many studies linking traffic pollution with increased adult cancer risk.[97] Similarly, many studies have found an increased risk of brain, kidney, bone cancers and leukemia in children living near heavy-traffic roads or near industrial sites.[98,99]

Workers and communities can be exposed to cancer-causing substances across the life cycle of fossil fuels. Fracking for oil and gas uses many chemicals - including benzene, 1,3-butadiene and formaldehyde - that are known human carcinogens. Children living near unconventional oil and gas development have shown an increased risk of leukemias and lymphomas and some studies suggest that it may be related to fracking. [100]

Refinery and other petroleum workers may have repeated exposures to cancer-causing substances - including asbestos - and have been found to have increased risks of mesothelioma, lung cancer, malignant skin melanoma, acute lymphoid leukemia, multiple myeloma and bladder cancer.[101] Residents in fence-line communities near petroleum industry sites and facilities also have elevated risks for leukemia.

## Plastics and Health

Plastics are manufactured chemical products, more than 98% of which are made from coal, oil and gas. They persist in the environment for years to decades, contributing to a rapidly growing global pollution burden that now totals an estimated 8 billion tons. Despite efforts to promote plastics as recyclable, fewer than 10% of plastic (and only 1-2% of single use plastics) is recycled globally, leaving the vast majority to accumulate in landfills, waterways and ecosystems.[102]

All plastics contain chemical additives, of which more than 10,000 are in use, and the vast majority have not been tested for toxicity. Of the chemicals that have been closely studied for health impacts, four major categories of chemicals are of particular concern: phthalates (used to soften plastic), bisphenols (BPA - used to produce linings), per- and polyfluoroalkyl substances (PFAS); and brominated flame-retardants.[103] These additives include known carcinogens (vinyl chloride, 1-3 butadiene and PFAS), neurotoxicants (lead and brominated and organophosphate flame retardants) and endocrine disruptors (phthalates and BPA). As these substances leach from plastics into the environment, they drive many of the health and ecological harms now associated with plastic pollution.

Plastics threaten human health across their entire life cycle – from fossil fuel extraction to production, use and disposal. Workers in fossil fuel extraction, plastic production, plastic textile workers and plastic recycling workers are all exposed to air pollutants and to multiple toxic chemicals. They suffer increased rates of cardiovascular, pulmonary, metabolic and neurologic diseases and cancer.[104]

Microplastics and nanoplastics, very tiny plastic particles, have been detected in human hearts, brains and blood vessels, where they are associated with cardiovascular disease. Everyday exposures from food packaging, bottled water, indoor air and dust contribute to infertility, obesity, kidney disease, cancers and other chronic conditions. These chemicals disrupt endocrine function and increase risk for premature births, neurodevelopmental disorders, male reproductive birth defects, obesity, cardiovascular disease, renal disease and cancer. These particles are pervasive in indoor air, household dust, bottled

water, tap water, meat, salt, fruits, vegetables, seafood, baby formula and breast milk.[105] When plastic is heated or damaged, bisphenol A (BPA) and phthalates can leach into food and beverages.[106]

Infants and young children are especially vulnerable to plastics. Fetuses in the womb are exposed to plastics chemicals absorbed by their mothers. Prenatal exposures are linked to miscarriages, premature births, stillbirth, low birth weight, birth defects of the reproductive organs, neurodevelopmental impairment, impaired lung growth and childhood cancer. Early-life exposures to plastic chemicals increases risk of heart disease, Type-2 diabetes and obesity in childhood and across the life span.

The harms caused by plastics are not fairly distributed. People of color, Indigenous populations, low-income communities and workers in production and waste facilities face disproportionate exposures and health burdens including have increased risks of premature birth, low birth weight, asthma, leukemia, cardiovascular disease, chronic obstructive pulmonary disease and lung cancer.

## People Disproportionately Impacted by the Health Harms of Fossil Fuels

While fossil fuel pollution harms everyone, its health impacts are not evenly distributed. Certain populations, including low-income communities, communities of color, children, older adults and people with preexisting health conditions, face disproportionate exposure and heightened vulnerability. These inequities reflect a combination of environmental, social and physiological factors that place greater health burdens on already at-risk groups.

### Vulnerability due to exposure:

#### Low-income and Communities of Color:

A complex array of interconnected factors (including but not limited to historical redlining, lending discrimination, exclusionary land use policies, disinvestment and urban renewal projects) have resulted in low income and communities of color disproportionally living in areas with a greater concentration of polluting sources, like highways and factories, and thus have greater exposure to multiple pollutants from multiple sources.[107;108] As a result, a higher percentage of racial minorities are exposed to particulate matter and ozone, contributing to a greater incidence of childhood asthma and other respiratory conditions. More than 1 in 5 African Americans live within a half-mile of an oil or gas production, processing or storage facility.[109] Low-income neighborhoods also tend to have older and less maintained housing that allow for greater penetration of outdoor air pollution into homes, making it difficult to escape the poor air quality.

#### Individuals Who are Unhoused

People experiencing homelessness are significantly more vulnerable to the adverse health impacts of fossil fuels due to increased exposure to air pollution. As many unhoused individuals seek shelter near highways[110], they face long-term exposure to harmful pollutants such as particle pollution coming from car tailpipes.[111] Additionally, individuals who are unhoused are disproportionately impacted by other chronic and pre-existing conditions and may be less able to access care, which further increases their vulnerability to adverse health risks.[112]

### Individuals Who Work Outdoors

People who work outdoors can face higher health risks due to their increased amount of time spent outside breathing in air pollution. Additionally, outdoor workers are often engaged in strenuous activity that increases their breathing rate and the amount of polluted air they inhale. Outdoor workers may also have limited options for reducing their exposure without jeopardizing their employment.

### Workers in the Fossil Fuel Industry

Individuals who work in the fossil fuel industry face severe occupational health risks and disparities in health outcomes. Miners other than coal workers face disparities in other health outcomes, such as increased mortality from cardiovascular disease and several types of cancer, including mesothelioma.[113] Workers in these industries also face substantial safety hazards, including but not limited to explosions and fires due to the ignition of flammable vapors or gases, falls from platforms or equipment and transportation issues. Highway vehicle crashes are the leading cause of death among oil and gas extraction worker fatalities.[114]

## Vulnerability due to physiology:

### Children

Children are uniquely vulnerable to the health harms of fossil fuels because their bodies, organs and immune systems are still developing. The impacts of pollution can exert multiple and cumulative adverse effects starting in utero and through childhood. Compared with adults, they spend more time outdoors, are more physically active and breathe more air in relation to their body size - factors that increase their uptake of pollutants that can penetrate deep into the lungs and bloodstream. Research has linked these exposures to a wide range of health effects in children, including low birth weight, asthma, reduced lung function, respiratory infections and allergies, as well as elevated risks for chronic disease later in life. Children living near fracking sites in Pennsylvania around their birth were two to three times more likely to be diagnosed with leukemia between the ages of 2-7 than children not living near these sites.[115] Studies show that children's disproportionate burden stems from both biological and social vulnerabilities. Their developing lungs, brains and immune systems, along with immature detoxification pathways, make them less able to process and recover from toxic exposures.[116] Disadvantaged and minority children are more likely to live in areas with higher concentrations of pollution, leaving them with elevated asthma rates and greater lifelong health challenges.[117,118]

### Older Adults

Older adults are more likely to have other pre-existing conditions, such as high blood pressure, that increase their risk of adverse impacts from air pollution. Air pollution can exacerbate COPD and increase the risk of heart attacks and strokes in older adults, especially those who are also obese and/or have diabetes. In terms of fossil fuel extraction, elderly people living near or downwind from gas extraction sites have a higher risk of premature death than seniors who do not.[119]

### Individuals with Chronic Illness

People with asthma, COPD, cardiovascular disease, lung cancer, diabetes or obesity are at particularly high risk from particle pollution from fossil fuel combustion. Fossil fuel pollution causes cellular injury and inflammation that puts more stress on the lungs and heart and other systems already harmed by disease. People with chronic illness who are exposed to pollution may experience worse symptoms than those without, and have more emergency department visits, more hospitalizations and higher risk of premature death.[120]



### Pregnant Women and Fetuses

Pregnant women are especially vulnerable to air pollution because they breathe more often. Pregnant women who live in counties with higher levels of fracking in Texas have been found to be at much higher risk of giving birth to children with specific birth defects.[121] Additionally, another study found people living close to fracking sites in Pennsylvania had an increased risk of giving birth prematurely and of having high-risk pregnancies.[122] Fetal development and health after birth may also be harmed by environmental contaminants that have been shown to cross the placenta.

## Fossil Fuels, Climate Change and Health

Human activities are the cause of increased greenhouse gas emissions causing climate change, and burning fossil fuels is the single largest driver of climate change. Health professionals and scientists around the world agree that climate change is the biggest health threat of this century. Reducing fossil fuel pollution is the most effective way to protect current and future generations from the health harms of climate change.[123]

Climate change causes warmer temperatures, more frequent extreme weather events, changes in drought and rainfall patterns and sea level rise. These changes affect the air, food, water and land on which human life depends, with health impacts already evident in communities across the U.S. Every small rise in global temperatures increases the likelihood of catastrophic health consequences, raising concern that our capacity to adapt or build resilience will be overwhelmed.

### Climate Health Impacts

Heat-related deaths are increasing rapidly in the U.S. as extreme heat events become more frequent and severe. Extreme heat increases the risk of heart attack, worsens asthma and COPD, stresses the kidneys, increases the risk of complications from diabetes and worsens mental health. Scientists predict as many as tens of thousands of additional heat deaths in coming decades.[124]

Hotter temperatures also worsen air quality due to the formation of ground-level ozone (smog). Wildfires, driven by hotter, drier conditions, expose millions to $PM_{2.5}$ and toxic pollution that damages lungs, trigger cardiovascular disease, harm brain development and increase cancer risk. Warmer temperatures are even making allergy seasons longer.

Extreme weather events such as hurricanes, floods and severe storms cause injury and death, contaminate drinking water and overwhelm health systems. Power outages and facility closures disrupt medical care, including dialysis, insulin refrigeration and cancer treatment. Many patients - particularly older adults, people with disabilities and those without financial resources or transportation - face added risks because they may be unable to evacuate safely during floods, fires or smoke events.

Climate change also impacts food. Rising temperatures cause increased risk of food poisoning, while droughts and floods can destroy crops, increase prices and worsen food insecurity. Climate change alters the distribution of mosquitoes and ticks, expanding risks for diseases like West Nile virus, dengue and Lyme disease.

Mental health is also deeply impacted. Nearly a third of people who experience a natural disaster may subsequently experience stress, PTSD and depression related to property damage, home loss or loss of loved ones.[125]

### Climate Change and Chronic Disease

Climate change compounds existing chronic health burdens, with extreme heat, wildfires, storms and other disasters worsening health outcomes. Heat stress, for example, raises the likelihood of heart attack, stroke, heart failure and dangerous arrhythmias. Heat also can lead to hospitalization for endocrine and metabolic conditions as well as adverse pregnancy outcomes including preterm birth, low birthweight and stillbirth.[126] Wildfire smoke, extreme cold and hurricanes have also been linked to higher rates of heart disease, stroke and cardiovascular deaths. Cancer risks also rise with increased wildfire smoke exposure.[127] The increase in vector-borne diseases aggravates kidney disease and may cause endocrine disturbances such as hypoglycemia and hyponatremia. Kidney disease is also worsened by extreme heat and dehydration.

Extreme weather and disasters also disrupt access to critical healthcare, particularly for those who rely on steady, reliable treatments for their chronic condition. For example, after Hurricane Katrina, women with breast cancer and patients with lung cancer experienced worse long-term survival due to disruptions in care.[128] Similarly, both Hurricane Katrina and Superstorm Sandy were followed by increases in heart attack incidence and mortality. [129] Heat waves have also been shown to disrupt cancer care delivery, further highlighting how climate-related events can endanger patients who rely on timely medical treatment.[130]

### Climate Vulnerability

While climate change threatens everyone's health, some populations bear greater burdens, which exacerbates existing health inequities. Children, pregnant women, the elderly and people with chronic illness and disabilities are more vulnerable to climate health threats. Low-income communities and communities of color face higher exposures and fewer resources to adapt, compounded by historic disinvestment, less green space and higher baseline pollution. Outdoor workers, residents of hotter regions and fence line communities near industrial or transportation facilities are also disproportionately affected.

### Reducing Climate Health Impacts

The most powerful health protection strategy is to reduce climate pollution by transitioning away from fossil fuels. The recommendations listed below to reduce pollution from fossil fuels will also deliver long-term benefits of mitigating climate change. At the same time, communities can build climate resilience through cooling centers, greening neighborhoods and weatherizing homes as well as implementing early warning systems and stronger healthcare infrastructure. These measures reduce risk from current climate impacts while we work to prevent even greater harm.

## Conclusions and Recommendations

Fossil fuels harm nearly every system of the body across the human life cycle both in the U.S. and worldwide. Fossil fuels are also the leading driver of climate change, which the healthcare community recognizes as the greatest health challenge of this century.

Extensive medical and scientific evidence makes clear: to safeguard health today and for future generations, we must transition away from fossil fuels toward clean, non-polluting energy sources as quickly as possible. This transition is not only possible but increasingly practical thanks to affordable clean energy technologies. The health benefits of rapid action are immediate and profound. Each step away from fossil fuels reduces air pollution, prevents disease and saves lives, while also delivering cost savings through reduced healthcare burdens.

As health and medical professionals and organizations, it is our duty not only to treat those already harmed by fossil fuel pollution, but also to speak out about its dangers. We must inform the public and policymakers about the health risks, and advocate for policies that reduce exposure to fossil fuel pollution for our patients and communities.

Individuals can also play a vital role by engaging with local organizations that are advocating for clean air and a clean energy transition, talking to community members and policymakers about the health harms of fossil fuel pollution and reducing personal reliance on fossil fuels where possible.

But individuals and health professionals alone are not enough. Protecting communities from the health harms of fossil fuel pollution requires bold policy and systemic change.

### Recommendations for Policymakers

- Transition rapidly from fossil fuels to clean, non-polluting energy and transportation.
- Protect communities from exposure to fossil fuel pollution by protecting, enforcing and strengthening clean air and water standards.
- Implement a public health campaign to educate the public about the health harms of fossil fuel pollution, even at low, everyday levels of exposure.
- Hold the fossil fuel industry accountable for its health harms.
- Invest in public health systems, healthcare infrastructure, research and innovation to protect and promote health and accelerate clean technology progress.

The costs of inaction are measured in illness, lives lost and mounting healthcare burdens. The benefits of a clean energy transition are measured in healthier communities and a safer future for our children and grandchildren. Protecting health demands nothing less than urgent action.

## References:

Environmental Protection Agency. Integrated Science Assessment (ISA) for Particulate Matter. January 2025. Integrated Science Assessment (ISA) for Particulate Matter | US EPA

[2] Harvard Health Publishing. Harvard Medical School. Even low-level air pollution may harm health. February 2022. Even low-level air pollution may harm health - Harvard Health

[3] Harvard T.H. Chan School of Public Health. Fossil fuel air pollution responsible for 1 in 5 deaths worldwide. February 2021. Fossil fuel air pollution responsible for 1 in 5 deaths worldwide | Harvard T.H. Chan School of Public Health

[4] Lelieveld, J., Evans, J. S., Fnais, M., Giannadaki, D., & Pozzer, A. (2019). Effects of fossil fuel and total anthropogenic emission removal on public health and climate. Proceedings of the National Academy of Sciences, 116(15), 7192–7197. Effects of fossil fuel and total anthropogenic emission removal on public health and climate | PNAS

[5] Karn Vohra *et al.*, The health burden and racial-ethnic disparities of air pollution from the major oil and gas lifecycle stages in the United States.*Sci. Adv.***11**,eadu2241(2025).DOI:10.1126/sciadv.adu2241

[6] Vimercati L. Traffic related air pollution and respiratory morbidity. Lung India. 2011 Oct;28(4):238. doi: 10.4103/0970-2113.85682. PMID: 22084534; PMCID: PMC3213707.

[7] Health Effects Institute. Special Report 23. Systematic Review and Meta-analysis of Selected Health Effects of Long-Term Exposure to Traffic-Related Air Pollution. April 2023. https://www.healtheffects.org/publication/systematic-review-and-meta-analysis-selected-health-effects-long-term-exposure-traffic

[8] Sears CG, Zierold KM. Health of Children Living Near Coal Ash. Glob Pediatr Health. 2017 Jul 25;4:2333794X17720330. doi: 10.1177/2333794X17720330. PMID: 28804748; PMCID: PMC5533260. Health of Children Living Near Coal Ash - PMC

[9] Jiang XQ, Mei XD, Feng D. Air pollution and chronic airway diseases: what should people know and do? J Thorac Dis. 2016 Jan;8(1):E31-40. doi: 10.3978/j.issn.2072-1439.2015.11.50. PMID: 26904251; PMCID: PMC4740163. Air pollution and chronic airway diseases: what should people know and do? - PMC

[10] American Lung Association. State of the Air 2025. Health Impact of Air Pollution. Health Impact of Pollution | State of the Air | American Lung Association

[11] Su JG, Aslebagh S, Shahriary E, Barrett M, Balmes JR. Impacts from air pollution on respiratory disease outcomes: a meta-analysis. Front Public Health. 2024 Oct 9;12:1417450. doi: 10.3389/fpubh.2024.1417450. PMID: 39444957; PMCID: PMC11497638. Impacts from air pollution on respiratory disease outcomes: a meta-analysis - PMC

[12] Garcia E, Rice MB, Gold DR. Air pollution and lung function in children. J Allergy Clin Immunol. 2021 Jul;148(1):1-14. doi: 10.1016/j.jaci.2021.05.006. PMID: 34238501; PMCID: PMC8274324. Air pollution and lung function in children - PMC

[13] Laney AS, Weissman DN. Respiratory diseases caused by coal mine dust. J Occup Environ Med. 2014 Oct;56 Suppl 10(0 10):S18-22. doi: 10.1097/JOM.0000000000000260. PMID: 25285970; PMCID: PMC4556416. Respiratory Diseases Caused by Coal Mine Dust - PMC

[14] Centers for Disease Control and Prevention. Modern Coal Miners Have Higher Death Rates From Lung Diseases Than Their Predecessors. February 2023. Modern Coal Miners Have Higher Death Rates From Lung Diseases Than Their Predecessors | Blogs | CDC

[15] Jonathan J Buonocore *et al* 2023 *Environ. Res.: Health* **1** 021006 Air pollution and health impacts of oil & gas production in the United States - IOPscience

[16] Boyles AL, Blain RB, Rochester JR, Avanasi R, Goldhaber SB, McComb S, Holmgren SD, Masten SA, Thayer KA. Systematic review of community health impacts of mountaintop removal mining. Environ Int. 2017 Oct;107:163-172. doi: 10.1016/j.envint.2017.07.002. Epub 2017 Jul 21. PMID: 28738262; PMCID: PMC5562233. Systematic Review of Community Health Impacts of Mountaintop Removal Mining - PMC

[17] American Journal of Respiratory and Critical Care Medicine. Reductions in Respiratory Hospital Visits after a Coal Coking Plant Closure: A Natural Experiment. October 2024. Reductions in Respiratory Hospital Visits after a Coal Coking Plant Closure: A Natural Experiment | American Journal of Respiratory and Critical Care Medicine | Articles in Press

[18] US Energy Information Administration. Use of natural gas-fired generation differs in the United States by technology and region. February 2024. Use of natural gas-fired generation differs in the United States by technology and region - U.S. Energy Information Administration (EIA)

[19] Kashtan YS, Nicholson M, Finnegan C, Ouyang Z, Lebel ED, Michanowicz DR, Shonkoff SBC, Jackson RB. Gas and Propane Combustion from Stoves Emits Benzene and Increases Indoor Air Pollution. Environ Sci Technol. 2023 Jul 4;57(26):9653-9663. doi: 10.1021/acs.est.2c09289. Epub 2023 Jun 15. PMID: 37319002; PMCID: PMC10324305.

[20] Liu J, Clark LP, Bechle MJ, Hajat A, Kim S-Y, Robinson AL, Sheppard L, Szpiro AA, Marshall JD. Disparities in air pollution exposure in the United States by race/ethnicity and income, 1990–2010. Environ Health Perspect. 2021; 129(12). Disparities in Air Pollution Exposure in the United States by Race/Ethnicity and Income, 1990–2010 | Environmental Health Perspectives | Vol. 129, No. 12

[21] Martenies SE, Milando CW, Williams GO, Batterman SA. Disease and Health Inequalities Attributable to Air Pollutant Exposure in Detroit, Michigan. Int J Environ Res Public Health. 2017 Oct 19;14(10):1243. doi: 10.3390/ijerph14101243. PMID: 29048385; PMCID: PMC5664744. Disease and Health Inequalities Attributable to Air Pollutant Exposure in Detroit, Michigan - PMC

[22] US Environmental Protection Agency. Supplement to the 2019 Integrated Science Assessment for Particulate Matter (Final Report, 2022). May 2024. Supplement to the 2019 Integrated Science Assessment for Particulate Matter (Final Report, 2022) | Integrated Science Assessments | Environmental Assessment | US EPA

[23] US Environmental Protection Agency. Health Effects of Ozone in the General Population. March 2025. Health Effects of Ozone in the General Population | US EPA

[24] US Environmental Protection Agency. Integrated Science Assessment for Ozone and Related Photochemical Oxidants. April 2020. https://ordspub.epa.gov/ords/eims/eimscomm.getfile?p_download_id=540022;

[25] US Environmental Protection Agency. Integrated Science Assessment for Oxides of Nitrogen - Health Criteria. January 2016. https://ordspub.epa.gov/ords/eims/eimscomm.getfile?p_download_id=526855

[26] Anenberg, Susan C.; Mohegh, Arash; Goldberg, Daniel L.; Kerr, Gaige H.; Brauer, Michael; Burkart, Katrin; Hystad, Perry; Larkin, Andrew; Wozniak, Sarah; and Lamsal, Lok, "Long-term trends in urban NO2 concentrations and associated paediatric asthma incidence: estimates from global datasets" (2022). *GW Authored Works.* Paper 65. "Long-term trends in urban NO2 concentrations and associated paediatric" by Susan C. Anenberg, Arash Mohegh et al.

[27] California Air Resources Board. Sulfur Dioxide & Health. Sulfur Dioxide & Health | California Air Resources Board

[28] Murray, Christopher J L et al. The Lancet, Volume 396, Issue 10258, 1223 - 1249. Global burden of 87 risk factors in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. Global burden of 87 risk factors in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019 - The Lancet

[29] Orellano P, Reynoso J, Quaranta N, Bardach A, Ciapponi A. Short-term exposure to particulate matter ($PM_{10}$ and $PM_{2.5}$), nitrogen dioxide ($NO_2$), and ozone ($O_3$) and all-cause and cause-specific mortality: Systematic review and meta-analysis. Environ Int. 2020 Sep;142:105876. doi: 10.1016/j.envint.2020.105876. Epub 2020 Jun 23. PMID: 32590284.

[30] Alexeeff, Stacey E., Noelle S. Liao, Xi Liu, Stephen K. Van Den Eeden, and Stephen Sidney. 2021. "Long-Term $PM_{2.5}$ Exposure and Risks of Ischemic Heart Disease and Stroke Events: Review and Meta-Analysis." *Journal of the American Heart Association* 10 (1): e016890. https://doi.org/10.1161/JAHA.120.016890

[31] Block ML, Calderón-Garcidueñas L. Air pollution: mechanisms of neuroinflammation and CNS disease. Trends Neurosci. 2009 Sep;32(9):506-16. doi: 10.1016/j.tins.2009.05.009. Epub 2009 Aug 26. PMID: 19716187; PMCID: PMC2743793. Air pollution: mechanisms of neuroinflammation and CNS disease - PubMed

[32] Costa LG, Cole TB, Dao K, Chang YC, Coburn J, Garrick JM. Effects of air pollution on the nervous system and its possible role in neurodevelopmental and neurodegenerative disorders. Pharmacol Ther. 2020 Jun;210:107523. doi: 10.1016/j.pharmthera.2020.107523. Epub 2020 Mar 9. PMID: 32165138; PMCID: PMC7245732. Effects of air pollution on the nervous system and its possible role in neurodevelopmental and neurodegenerative disorders - PMC

[33] Kulick ER, Kaufman JD, Sack C. Ambient Air Pollution and Stroke: An Updated Review. Stroke. 2023 Mar;54(3):882-893. doi: 10.1161/STROKEAHA.122.035498. Epub 2022 Dec 29. PMID: 36579640; PMCID: PMC10421613. Ambient Air Pollution and Stroke – An Updated Review - PMC

[34] Ma T, Yazdi MD, Schwartz J, Réquia WJ, Di Q, Wei Y, Chang HH, Vaccarino V, Liu P, Shi L. Long-term air pollution exposure and incident stroke in American older adults: A national cohort study. Glob Epidemiol. 2022 Dec;4:100073. doi: 10.1016/j.gloepi.2022.100073. Epub 2022 Apr 16. PMID: 36644436; PMCID: PMC9838077.Long-term air pollution exposure and incident stroke in American older adults: A national cohort study - PMC

[35] Delgado-Saborit JM, Guercio V, Gowers AM, Shaddick G, Fox NC, Love S. A critical review of the epidemiological evidence of effects of air pollution on dementia, cognitive function and cognitive decline in adult population. Sci Total Environ. 2021 Feb 25;757:143734. doi: 10.1016/j.scitotenv.2020.143734. Epub 2020 Nov 25. PMID: 33340865. A critical review of the epidemiological evidence of effects of air pollution on dementia, cognitive function and cognitive decline in adult population - PubMed

[36] Shi L, Wu X, Danesh Yazdi M, Braun D, Abu Awad Y, Wei Y, Liu P, Di Q, Wang Y, Schwartz J, Dominici F, Kioumourtzoglou MA, Zanobetti A. Long-term effects of $PM_{2.5}$ on neurological disorders in the American Medicare population: a longitudinal cohort study. Lancet Planet Health. 2020 Dec;4(12):e557-e565. doi: 10.1016/S2542-5196(20)30227-8. Epub 2020 Oct 19. PMID: 33091388; PMCID: PMC7720425. Long-term effects of PM2·5 on neurological disorders in the American Medicare population: a longitudinal cohort study - PMC

[37] Ni Y, Loftus CT, Szpiro AA, Young MT, Hazlehurst MF, Murphy LE, Tylavsky FA, Mason WA, LeWinn KZ, Sathyanarayana S, Barrett ES, Bush NR, Karr CJ. Associations of Pre- and Postnatal Air Pollution Exposures with Child Behavioral Problems and Cognitive Performance: A U.S. Multi-Cohort Study. Environ Health Perspect. 2022 Jun;130(6):67008. doi: 10.1289/EHP10248. Epub 2022 Jun 23. PMID: 35737514; PMCID: PMC9222764. Associations of Pre- and Postnatal Air Pollution Exposures with Child Behavioral Problems and Cognitive Performance: A U.S. Multi-Cohort Study - PMC

[38] Amy E. Margolis, Bruce Ramphal, David Pagliaccio, Sarah Banker, Ena Selmanovic, Lauren V. Thomas, Pam Factor-Litvak, Frederica Perera, Bradley S. Peterson, Andrew Rundle, Julie B. Herbstman, Jeff Goldsmith, Virginia Rauh, Prenatal exposure to air pollution is associated with childhood inhibitory control and adolescent academic achievement, Environmental Research, Volume 202, 2021, 111570, ISSN 0013-9351, https://doi.org/10.1016/j.envres.2021.111570

[39] Thompson R, Smith RB, Karim YB, Shen C, Drummond K, Teng C, Toledano MB. Air pollution and human cognition: A systematic review and meta-analysis. Sci Total Environ. 2023 Feb 10;859(Pt 2):160234. doi: 10.1016/j.scitotenv.2022.160234. Epub 2022 Nov 23. PMID: 36427724. Air pollution and human cognition: A systematic review and meta-analysis - PubMed

[40] Peterson BS, Bansal R, Sawardekar S, Nati C, Elgabalawy ER, Hoepner LA, Garcia W, Hao X, Margolis A, Perera F, Rauh V. Prenatal exposure to air pollution is associated with altered brain structure, function, and metabolism in childhood. J Child Psychol Psychiatry. 2022 Nov;63(11):1316-1331. doi: 10.1111/jcpp.13578. Epub 2022 Feb 14. PMID: 35165899. Prenatal exposure to air pollution is associated with altered brain structure, function, and metabolism in childhood - PubMed

[41] Kaur S, Morales-Hidalgo P, Arija V, Canals J. Prenatal Exposure to Air Pollutants and Attentional Deficit Hyperactivity Disorder Development in Children: A Systematic Review. Int J Environ Res Public Health. 2023 Apr 7;20(8):5443. doi: 10.3390/ijerph20085443. PMID: 37107725; PMCID: PMC10138804.Prenatal Exposure to Air Pollutants and Attentional Deficit Hyperactivity Disorder Development in Children: A Systematic Review - PMC

[42] Lilian Calderón-Garcidueñas, Angélica González-Maciel, Rafael Reynoso-Robles, Jessica Hammond, Randy Kulesza, Ingolf Lachmann, Ricardo Torres-Jardón, Partha S. Mukherjee, Barbara A. Maher, Quadruple abnormal protein aggregates in brainstem pathology and exogenous metal-rich magnetic nanoparticles (and engineered Ti-rich nanorods). The substantia nigrae is a very early target in young urbanites and the gastrointestinal tract a key brainstem portal, Environmental Research, Volume 191, 2020, 110139, ISSN 0013-9351, https://doi.org/10.1016/j.envres.2020.110139.

[43] Fu, et al. The association between PM 2.5 exposure and neurological disorders: A systematic review and meta-analysis. Sci Total Environ 2019 Mar 10;655:1240-1248 The association between PM2.5 exposure and neurological disorders: A systematic review and meta-analysis - PubMed

[44] Borroni E, Pesatori AC, Bollati V, Buoli M, Carugno M. Air pollution exposure and depression: A comprehensive updated systematic review and meta-analysis. Environ Pollut. 2022 Jan 1;292(Pt A):118245. doi: 10.1016/j.envpol.2021.118245. Epub 2021 Sep 29. PMID: 34600062. Air pollution exposure and depression: A comprehensive updated systematic review and meta-analysis - PubMed

[45] Federica Nobile, Anna Forastiere, Paola Michelozzi, Francesco Forastiere, Massimo Stafoggia, Long-term exposure to air pollution and incidence of mental disorders. A large longitudinal cohort study of adults within an urban area, Environment International, Volume 181, 2023, 108302, ISSN 0160-4120, https://doi.org/10.1016/j.envint.2023.108302.

[46] Liu Q, Wang W, Gu X, Deng F, Wang X, Lin H, Guo X, Wu S. Association between particulate matter air pollution and risk of depression and suicide: a systematic review and meta-analysis. Environ Sci Pollut Res Int. 2021 Feb;28(8):9029-9049. doi: 10.1007/s11356-021-12357-3. Epub 2021 Jan 22. PMID: 33481201. Association between particulate matter air pollution and risk of depression and suicide: a systematic review and meta-analysis - PubMed

[47] Heo S, Lee W, Bell ML. Suicide and Associations with Air Pollution and Ambient Temperature: A Systematic Review and Meta-Analysis. Int J Environ Res Public Health. 2021 Jul 20;18(14):7699. doi: 10.3390/ijerph18147699. PMID: 34300149; PMCID: PMC8303705. Suicide and Associations with Air Pollution and Ambient Temperature: A Systematic Review and Meta-Analysis - PubMed

[48] Braithwaite I, Zhang S, Kirkbride JB, Osborn DPJ, Hayes JF. Air Pollution (Particulate Matter) Exposure and Associations with Depression, Anxiety, Bipolar, Psychosis and Suicide Risk: A Systematic Review and Meta-Analysis. Environ Health Perspect. 2019 Dec;127(12):126002. doi: 10.1289/EHP4595. Epub 2019 Dec 18. PMID: 31850801; PMCID: PMC6957283. Air Pollution (Particulate Matter) Exposure and Associations with Depression, Anxiety, Bipolar, Psychosis and Suicide Risk: A Systematic Review and Meta-Analysis - PubMed

[49] Zundel CG, Ryan P, Brokamp C, Heeter A, Huang Y, Strawn JR, Marusak HA. Air pollution, depressive and anxiety disorders, and brain effects: A systematic review. Neurotoxicology. 2022 Dec;93:272-300. doi: 10.1016/j.neuro.2022.10.011. Epub 2022 Oct 21. PMID: 36280190; PMCID: PMC10015654.Air Pollution, Depressive and Anxiety Disorders, and Brain Effects: A Systematic Review - PMC

[50] Roberts S, Arseneault L, Barratt B, Beevers S, Danese A, Odgers CL, Moffitt TE, Reuben A, Kelly FJ, Fisher HL. Exploration of $NO_2$ and $PM_{2.5}$ air pollution and mental health problems using high-resolution data in London-based children from a UK longitudinal cohort study. Psychiatry Res. 2019 Feb;272:8-17. doi: 10.1016/j.psychres.2018.12.050. Epub 2018 Dec 10. PMID: 30576995; PMCID: PMC6401205. Exploration of NO2 and PM2.5 air pollution and mental health problems using high-resolution data in London-based children from a UK longitudinal cohort study - PMC

[51] Antonsen S, Mok PLH, Webb RT, Mortensen PB, McGrath JJ, Agerbo E, Brandt J, Geels C, Christensen JH, Pedersen CB. Exposure to air pollution during childhood and risk of developing schizophrenia: a national cohort study. Lancet Planet Health. 2020 Feb;4(2):e64-e73. doi: 10.1016/S2542-5196(20)30004-8. Epub 2020 Feb 26. PMID: 32112749. Exposure to air pollution during childhood and risk of developing schizophrenia: a national cohort study - PubMed

[52] March of Dimes, "Healthy Environment for a Healthy Start: Promoting Environmental Justice for Equitable Birth Outcomes", especially, "Brief 1: Air pollution worsens inequities in maternal and newborn health" and "Brief 5: The fossil fuel cycle worsens maternal and infant health inequities" 2024. https://ignitingimpacttogether.marchofdimes.org/environmentaljustice (accessed July 30, 2025).

[53] Trowbridge, Jessica, Goin, Dana E, Sklar, Rachel et al. Fossil fuel is the common denominator between climate change and petrochemical exposures, and effects on women and children's health, https://doi.org/10.1002/ijgo.14408, September 7, 2022. International Journal of Gynecology and Obstetrics.

[54] Reducing Prenatal Exposure to Toxic Environmental Agents, ACOG Committee Opinion, Number 832, *Obstetrics & Gynecology* 138(1):p e40-e54, July 2021. DOI: 10.1097/AOG.0000000000004449

[55] Women's Earth and Climate Action Network (WECAN), "Gendered and Racial Impacts of the Fossil Fuel Industry in North America and Complicit Financial Institutions", 4th Edition, September 2024, https://www.wecaninternational.org/divestment-report, (accessed July 30, 2025).

[56] Animal studies suggest that even very low levels of toxics if administered at crucial moments in fetal development can change how an organism is constructed and functions throughout its life. See TedX, The Endocrine Disruption Exchange, "The Fossil Fuel Connection", fact sheet The fossil fuel connection 6-3-19.pdf. See also Guidance from the Western States Pediatric Environmental Health Specialty Unit, Climate Change and Pregnancy, undated, https://wspehsu.ucsf.edu/wp-content/uploads/2025/01/Climate-Change-and-Pregnancy-factsheet_04_08_25_II.pdf

[57] Hoimonty Mazumder, Fariha Hoque Rimu, Monir Hossain Shimul, Jyoti Das, Easter Protiva Gain, Winston Liaw, M. Mahbub Hossain, Maternal health outcomes associated with ambient air pollution: An umbrella review of systematic reviews and meta-analyses, Science of The Total Environment, Volume 914, 2024, 169792, ISSN 0048-9697, https://doi.org/10.1016/j.scitotenv.2023.169792.

[58] Nazarpour S, Ramezani Tehrani F, Valizadeh R, Amiri M. The relationship between air pollutants and gestational diabetes: an updated systematic review and meta-analysis. J Endocrinol Invest. 2023 Jul;46(7):1317-1332. doi: 10.1007/s40618-023-02037-z. Epub 2023 Feb 18. PMID: 36807891

[59] Guidance from the Western States Pediatric Environmental Health Specialty Unit, Climate Change and Pregnancy, undated, https://wspehsu.ucsf.edu/wp-content/uploads/2025/01/Climate-Change-and-Pregnancy-factsheet_04_08_25_II.pdf

[60] Gonzalez, David J. X.a; Sherris, Allison R.a; Yang, Weib; Stevenson, David K.b; Padula, Amy M.c; Baiocchi, Michaeld; Burke, Marshalle; Cullen, Mark R.f; Shaw, Gary M.b. Oil and gas production and spontaneous preterm birth in the San Joaquin Valley, CA: A case–control study. Environmental Epidemiology 4(4): p e099, August 2020. DOI: 10.1097/EE9.0000000000000099

[61] Liu J, Clark LP, Bechle MJ, Hajat A, Kim S-Y, Robinson AL, Sheppard L, Szpiro AA, Marshall JD. Disparities in Air Pollution Exposure in the United States by Race/ Ethnicity and Income, 1990–2010. 2021 Environmental Health Perspectives 129:12 CID: 127005 DOI:10.1289/EHP8584

[62] Deziel, N. C., Brokovich, E., Grotto, I., Clark, C. J., Barnett-Itzhaki, Z., Broday, D., & Agay-Shay, K. (2020). Unconventional oil and gas development and health outcomes: A scoping review of the epidemiological research. Environmental research, 182, 109124. https://doi.org/10.1016/j.envres.2020.109124

[63] Mary D Willis, Elaine L Hill, Molly L Kile, Susan Carozza, Perry Hystad, Associations between residential proximity to oil and gas extraction and hypertensive conditions during pregnancy: a difference-in-differences analysis in Texas, 1996–2009, *International Journal of Epidemiology*, Volume 51, Issue 2, April 2022, Pages 525–536, https://doi.org/10.1093/ije/dyab246

[64] Veber T, Dahal U, Lang K, Orru K, Orru H. Industrial Air Pollution Leads to Adverse Birth Outcomes: A Systematized Review of Different Exposure Metrics and Health Effects in Newborns. Public Health Rev. 2022 Aug 10;43:1604775. doi: 10.3389/phrs.2022.1604775. PMID: 36035982; PMCID: PMC9400407.

[65] Proposition 65 Warnings Office of Environmental Health Hazard Assessment, California, "Petroleum Products Environmental Exposure from Refineries" factsheet, https://www.p65warnings.ca.gov/sites/default/files/downloads/factsheets/petroleum_products_fs_-_refinery.pdf

[66] Phiri, Y.V.A., Canty, T., Nobles, C. *et al.* Neonatal intensive care admissions and exposure to satellite-derived air pollutants in the United States, 2018. *Sci Rep* **15**, 420 (2025). https://doi.org/10.1038/s41598-024-84755-9 SEE ALSO Indulaxmi Seeni, Andrew Williams, Carrie Nobles, Zhen Chen, Seth Sherman, Pauline Mendola, Acute air pollution exposure and NICU admission: a case-crossover analysis, Annals of Epidemiology, Volume 37, 2019, Pages 64-70.e2, ISSN 1047-2797, https://doi.org/10.1016/j.annepidem.2019.07.008.

[67] Air pollution and fetal brain morphological development: a prospective cohort study, Gómez-Herrera, Laura et al. The Lancet Planetary Health, Volume 9, Issue 6, e480 - e490. Air pollution and fetal brain morphological development: a prospective cohort study - The Lancet Planetary Health

[68] Sandie Ha and others, Associations Between Residential Proximity to Power Plants and Adverse Birth Outcomes, American Journal of Epidemiology, Volume 182, Issue 3, 1 August 2015, Pages 215–224, https://doi.org/10.1093/aje/kwv042

[69] Woodruff, Tracey J. Health Effects of Fossil Fuel–Derived Endocrine Disruptors, March 6, 2024, The New England Journal of Medicine, 2024;390:922-933 DOI: 10.1056/NEJMra2300476

[70] Gore, A.C., La Merrill, M.A., Patisaul, H.B., and Sargis, R. Endocrine Disrupting Chemicals: Threats to Human Health. The Endocrine Society and IPEN. February 2024. edc_report-2024-final-compressed.pdf

[71] Woodruff T. Health Effects of Fossil Fuel–Derived Endocrine Disruptors. N Engl J Med 2024;390:922-933. doi: 10.1056/NEJMra2300476. PMID: 38446677.

[72] Casey JA, Savitz DA, Rasmussen SG et al. Unconventional Natural Gas Development and Birth Outcomes in Pennsylvania, USA. Epidemiology 2016; 27: 163-72. Unconventional natural gas development and birth outcomes in Pennsylvania, USA - PMC

[73] Casey JA, Karasek D, Ogburn EL et al. Retirements of Coal and Oil Power Plants in California: Association With Reduced Preterm Birth Among Populations Nearby. Am J Epidemiol 2018; 187: 1586-1594. Retirements of Coal and Oil Power Plants in California: Association With Reduced Preterm Birth Among Populations Nearby - PMC

[74] Lao XQ, Bo Y, Chen D, Zhang K and Szeto CC. Environmental pollution to kidney disease: an updated review of current knowledge and future directions. *Kidney Int*. 2024;106:214-225. doi: 10.1016/j.kint.2024.04.021. Epub 2024 May 24. PMID: 38797324.

[75] Bowe B, Xie Y, Li T, Yan Y, Xian H and Al-Aly Z. Estimates of the 2016 global burden of kidney disease attributable to ambient fine particulate matter air pollution. *BMJ Open*. 2019;9:e022450. doi: 10.1136/bmjopen-2018-022450. PMID: 31072847; PMCID: PMC6528010.

[76] Rajagopalan S, Brook RD, Salerno P, Bourges-Sevenier B, Landrigan P, Nieuwenhuijsen MJ, Munzel T, Deo SV and Al-Kindi S. Air pollution exposure and cardiometabolic risk. *Lancet Diabetes Endocrinol*. 2024;12:196-208. doi: 10.1016/S2213-8587(23)00361-3. Epub 2024 Feb 1. PMID: 38310921; PMCID: PMC11264310.

[77] GBD 2019 Diabetes and Air Pollution Collaborators. Estimates, trends, and drivers of the global burden of type 2 diabetes attributable to PM(2.5) air pollution, 1990-2019: an analysis of data from the Global Burden of Disease Study 2019. *Lancet Planet Health*. 2022;6:e586-e600. doi: 10.1016/S2542-5196(22)00122-X. PMID: 35809588; PMCID: PMC9278144.

[78] Lao XQ, Bo Y, Chen D, Zhang K and Szeto CC. Environmental pollution to kidney disease: an updated review of current knowledge and future directions. *Kidney Int*. 2024;106:214-225. doi: 10.1016/j.kint.2024.04.021. Epub 2024 May 24. PMID: 38797324.

[79] Bowe B, Xie Y, Li T, Yan Y, Xian H and Al-Aly Z. Estimates of the 2016 global burden of kidney disease attributable to ambient fine particulate matter air pollution. *BMJ Open*. 2019;9:e022450. doi: 10.1136/bmjopen-2018-022450. PMID: 31072847; PMCID: PMC6528010.

[80] Rajagopalan S, Brook RD and Munzel T. Environmental Hypertensionology and the Mosaic Theory of Hypertension. *Hypertension*. 2025;82:561-572. doi: 10.1161/HYPERTENSIONAHA.124.18733. Epub 2025 Feb 19. PMID: 39968647; PMCID: PMC11975430.

[81] Bi J, Barry V, Weil EJ, Chang HH and Ebelt S. Short-term exposure to fine particulate air pollution and emergency department visits for kidney diseases in the Atlanta metropolitan area. *Environ Epidemiol*. 2021 Aug 6;5(4):e164. doi: 10.1097/EE9.0000000000000164. PMID: 34414347; PMCID: PMC8367053.

[82] Okoye OC, Carnegie E and Mora L. Air Pollution and Chronic Kidney Disease Risk in Oil and Gas- Situated Communities: A Systematic Review and Meta-Analysis. *Int J Public Health*. 2022 Apr 11;67:1604522. doi: 10.3389/ijph.2022.1604522. PMID: 35479765; PMCID: PMC9035494.

[83] Luo C, Wei T, Joang W et al. The association between air pollution and obesity: an umbrella review of meta-analyses and systematic reviews. *BMC Public Health* 24, 1856 (2024). https://doi.org/10.1186/s12889-024-19370-4

[84] Yang B-Y , Fan S, Thiering E et al. Ambient air pollution and diabetes: A systematic review and meta-analysis. Environ Res 2020 Jan:180:108817. doi: 10.1016/j.envres.2019.108817. Epub 2019 Oct 12. PMID: 31627156.

[85] Chen H, Burnett RT, Kwong JC, Villeneuve PJ, Goldberg MS, Brook RD, van Donkelaar A, Jerrett M, Martin RV, Kopp A, Brook JR, Copes R. Spatial association between ambient fine particulate matter and incident hypertension. *Circulation* . 2014;129:562-9.

[86] Bekkar B, Pacheco S, Basu R et al. Association of Air Pollution and Heat Exposure With Preterm Birth, Low Birth Weight, and Stillbirth in the USA Systematic Review. JAMA Network Open 2020; 3: e208243. doi:10.1001/jamanetworkopen.2020.8243

[87] Yu H, Yin Y, Zhang J, Zhou R. The impact of particulate matter 2.5 on the risk of preeclampsia: an updated systematic review and meta-analysis. Environ Sci Pollut Res Int 2020; 27: 37527-37539. doi: 10.1007/s11356-020-10112-8. Epub 2020 Aug 1. PMID: 32740838; PMCID: PMC7496023.

[88] Li H, Cai J, Chen R et al. Particulate Matter Exposure and Stress Hormone Levels: A Randomized, Double-Blind, Crossover Trial of Air Purification. Circ 2017: 136: https://doi.org/10.1161/CIRCULATIONAHA.116.026796

[89] Kassotis CD, Tillitt DE, Davis JW, Hormann AM, Nagel SC. 2014. Estrogen and androgen receptor activities of hydraulic fracturing chemicals and surface and ground water in a drilling-dense region. Endocrinology155:897 907 https://pubmed.ncbi.nlm.nih.gov/24424034/

[90] Ragusa A, Svelato A, Santacroce C et al. Plasticenta: First evidence of microplastics in human placenta. Environ Int 2021; 146: 10624. doi: 10.1016/j.envint.2020.106274.

[91] National Cancer Institute. Cancer Stat Facts: Common Cancer Sites. Common Cancer Sites — Cancer Stat Facts

[92] Hiatt, R.A. and Beyeler, N. (2023), Women's cancers and climate change. Int J Gynecol Obstet, 160: 374-377. https://doi.org/10.1002/ijgo.14407

[93] American Cancer Society. Diesel Exhaust and Cancer Risk. February 2024. Diesel Exhaust and Cancer Risk | American Cancer Society

[94] Hamra GB, Guha N, Cohen A, et al. Outdoor particulate matter exposure and lung cancer: a systematic review and meta-analysis. Environ Health Perspect. 2014;122:906–11. doi: 10.1289/ehp/1408092

[95] Turner MC, Andersen ZJ, Baccarelli A, et al: Outdoor air pollution and cancer: An overview of the current evidence and public health recommendations. CA Cancer J Clin, 2020. Aug 25:10.3322/caac.21632. doi: 10.3322/caac.21632. Epub ahead of print. PMID: 32964460; PMCID: PMC7904962.

[96] American Lung Association. State of Lung Cancer. Racial and Ethnic Disparities. 2024. State of Lung Cancer | Racial and Ethnic Disparities | American Lung Association

[97] White AJ, Fisher JA, Sweeney MR, et al: Ambient fine particulate matter and breast cancer incidence in a large prospective US cohort. J Natl Cancer Inst 116:53-60, 2024; Praud D, Deygas F, Amadou A, et al: Traffic-Related Air Pollution and Breast Cancer Risk: A Systematic Review and Meta-Analysis of Observational Studies. Cancers (Basel) 15, 2023;Ramamoorthy T, Nath A, Singh S, et al: Assessing the Global Impact of Ambient Air Pollution on Cancer Incidence and Mortality: A Comprehensive Meta-Analysis. JCO Glob Oncol 10:e2300427, 2024 Air pollution and its impact on cancer incidence, cancer care and cancer outcomes - PMC

[99] Boothe VL, Boehmer TK, Wendel AM, Yip FY. Residential traffic exposure and childhood leukemia: a systematic review and meta-analysis. Am J Prev Med. 2014 Apr;46(4):413-22. doi: 10.1016/j.amepre.2013.11.004. PMID: 24650845; PMCID: PMC5779082. Residential Traffic Exposure and Childhood Leukemia: A Systematic Review and Meta-analysis - PMC

[100] Clark CJ, Johnson NP, Soriano M, Jr., et al: Unconventional Oil and Gas Development Exposure and Risk of Childhood Acute Lymphoblastic Leukemia: A Case-Control Study in Pennsylvania, 2009-2017. Environ Health Perspect 130:87001, 2022. https://doi.org/10.1289/EHP11092

[101] De Guzman R, Schiller J. Air pollution and its impact on cancer incidence, cancer care and cancer outcomes. BMJ Oncol. 2025 Mar 25;4(1):e000535. doi: 10.1136/bmjonc-2024-000535. PMID: 40165831; PMCID: PMC11956401. Air pollution and its impact on cancer incidence, cancer care and cancer outcomes - PMC

[102] NPR. How Big Oil Misled the Public Into Believing Plastic Would be Recycled. September 2020. Is Plastic Recycling A Lie? Oil Companies Touted Recycling To Sell More Plastic : NPR

[103] Trasande L. The role of plastics in allergy, immunology, and human health: What the clinician needs to know and can do about it. Ann Allergy Asthma Immunol. 2025 Jan;134(1):46-52. doi: 10.1016/j.anai.2024.06.029. Epub 2024 Jun 28. PMID: 38945394. The role of plastics in allergy, immunology, and human health: What the clinician needs to know and can do about it - PubMed

[104] Landrigan PJ, Raps H, Cropper M, Bald C, Brunner M, Canonizado EM, Charles D, Chiles TC, Donohue MJ, Enck J, Fenichel P, Fleming LE, Ferrier-Pages C, Fordham R, Gozt A, Griffin C, Hahn ME, Haryanto B, Hixson R, Ianelli H, James BD, Kumar P, Laborde A, Law KL, Martin K, Mu J, Mulders Y, Mustapha A, Niu J, Pahl S, Park Y, Pedrotti ML, Pitt JA, Ruchirawat M, Seewoo BJ, Spring M, Stegeman JJ, Suk W, Symeonides C, Takada H, Thompson RC, Vicini A, Wang Z, Whitman E, Wirth D, Wolff M, Yousuf AK, Dunlop S. The Minderoo-Monaco Commission on Plastics and Human Health. Ann Glob Health. 2023 Mar 21;89(1):23. doi: 10.5334/aogh.4056. Erratum in: Ann Glob Health. 2023 Oct 11;89(1):71. doi: 10.5334/aogh.4331. PMID: 36969097; PMCID: PMC10038118. The Minderoo-Monaco Commission on Plastics and Human Health - PubMed

[105] Yale Climate Connections. What are the health impacts of plastic? May 2025. What are the health impacts of plastic? » Yale Climate Connections

[106] Baj J, Dring JC, Czeczelewski M, et al: Derivatives of Plastics as Potential Carcinogenic Factors: The Current State of Knowledge. Cancers (Basel) 14, 2022. doi: 10.3390/cancers14194637. PMID: 36230560; PMCID: PMC9562888.

[107] MorelloFrosch, R., & Obasogie, O. K. (2023). The climate gap and the color line — Racial health inequities and climate change. *New England Journal of Medicine, 388*(10), 943949. https://doi.org/10.1056/NEJMsb2213250

[108] Timothy Q. Donaghy, Noel Healy, Charles Y. Jiang, Colette Pichon Battle, Fossil fuel racism in the United States: How phasing out coal, oil, and gas can protect communities, Energy Research & Social Science, Volume 100, 2023, 103104, ISSN 2214-6296, https://doi.org/10.1016/j.erss.2023.103104

[109] NAACP and Clean Air Task Force. Fumes Across the Fence-Line. The Health Impacts of Air Pollution from Oil & Gas Facilities on African American Communities. Fumes Across the Fence-Line: The Health Impacts of Air Pollution from Oil & Gas Facilities on African American Communities | NAACP

[110] Jacob L. Wasserman, Anastasia Loukaitou-Sideris, Hao Ding, Claire Nelischer, The Road, Home: Challenges of and Responses to Homelessness in State Transportation Environments, Transportation Research Interdisciplinary Perspectives, Volume 21, 2023, 100890, ISSN 2590-1982, https://doi.org/10.1016/j.trip.2023.100890.

[111] American Lung Association. Who is Most Affected by Outdoor Air Pollution? September 2024. Who is Most Affected by Outdoor Air Pollution? | American Lung Association

[112] CDC. About Homelessness and Health. October 2024. About Homelessness and Health | Homelessness and Health | CDC

[113] Yeoman K, Sussell A, Retzer K, Poplin G. Health Risk Factors Among Miners, Oil and Gas Extraction Workers, Other Manual Labor Workers, and Nonmanual Labor Workers, BRFSS 2013-2017, 32 States. Workplace Health Saf. 2020 Aug;68(8):391-401. doi: 10.1177/2165079920909136. Epub 2020 Jun 2. PMID: 32484732; PMCID: PMC8340646. Health risk factors among miners, oil and gas extraction workers, other manual labor workers, and non-manual labor workers, BRFSS 2013–2017, 32 States - PMC

[114] Occupational Safety and Health Administration. Safety Hazards Associated with Oil and Gas Extraction Activities. Oil and Gas Extraction - Hazards | Occupational Safety and Health Administration

[115] Yale School of Medicine. Yale environmental health expert discusses concerns about fracking. November 2024. Yale environmental health expert discusses concerns about fracking < Yale School of Medicine

[116] Perera, Frederica & Nadeau, Kari. (2022). Climate Change, Fossil-Fuel Pollution, and Children's Health. New England Journal of Medicine. 386. 2303-2314. 10.1056/NEJMra2117706. Climate Change, Fossil-Fuel Pollution, and Children's Health

[117] Perera, Frederica, and Kari Nadeau. "Climate Change, Fossil-Fuel Pollution, and Children's Health." *New England Journal of Medicine*, vol. 386, no. 24, 16 June 2022, pp. 2303–2314. *New England Journal of Medicine*, doi:10.1056/NEJMra2117706. Climate Change, Fossil-Fuel Pollution, and Children's Health | New England Journal of Medicine

[118] Yale School of Medicine. Yale environmental health expert discusses concerns about fracking. November 2024. Yale environmental health expert discusses concerns about fracking < Yale School of Medicine

[119] Yale School of the Environment. YaleEnvironment360. As Evidence Mounts, New Concerns About Fracking and Health. November 2022. As Evidence Mounts, New Concerns About Fracking and Health - Yale E360

[120] American Lung Association. State of the Air. Health Impact of Air Pollution. April 2025. Health Impact of Pollution | State of the Air | American Lung Association

[121] JeongWon Han, Bangning Zhang, Xiao Zhang, Ke Huang, Vixey Fang, Xiaohui Xu, Associations between occurrence of birth defects and hydraulic fracturing activities in Barnett shale region, Texas, Heliyon, Volume 9, Issue 4, 2023, e15213, ISSN 2405-8440, https://doi.org/10.1016/j.heliyon.2023.e15213.

[122] Johns Hopkins Bloomberg School of Public Health. Study: Fracking Industry Wells Associated With Premature Birth. October 2015. Study: Fracking Industry Wells Associated With Premature Birth | Johns Hopkins | Bloomberg School of Public Health

[123] Lancet Countdown on Health and Climate Change. Policy Brief for the United States of America. 2024. 2024 Lancet Countdown U.S. Brief - LANCET COUNTDOWN:

[124] Khatana SAM, Szeto JJ, Eberly LA, Nathan AS, Puvvula J, Chen A. Projections of Extreme Temperature–Related Deaths in the US. *JAMA Netw Open.* 2024;7(9):e2434942. doi:10.1001/jamanetworkopen.2024.34942

[125] Heanoy EZ, Brown NR. Impact of Natural Disasters on Mental Health: Evidence and Implications. Healthcare (Basel). 2024 Sep 10;12(18):1812. doi: 10.3390/healthcare12181812. PMID: 39337153; PMCID: PMC11430943.

[126] White NJ, Warrell DA, Chanthavanich P et al. Severe Hypoglycemia and Hyperinsulinemia in Falciparum Malaria. N Engl J Med. 1983 Jul 14;309(2):61-6. doi: 10.1056/NEJM198307143090201. PMID: 6343877.

[127] Long-term exposure to wildfires and cancer incidence in Canada: a population-based observational cohort study. Korsiak, Jill et al. The Lancet Planetary Health, Volume 6, Issue 5, e400 – e409 Long-term exposure to wildfires and cancer incidence in Canada: a population-based observational cohort study - The Lancet Planetary Health

[128] Bell, S.A., Banerjee, M., Griggs, J.J. *et al.* The Effect of Exposure to Disaster on Cancer Survival. *J GEN INTERN MED* **35**, 380–382 (2020). https://doi.org/10.1007/s11606-019-05465-x

[129] Thomas Münzel, Haitham Khraishah, Alexandra Schneider, Jos Lelieveld, Andreas Daiber, Sanjay Rajagopalan, Challenges posed by climate hazards to cardiovascular health and cardiac intensive care: implications for mitigation and adaptation, *European Heart Journal. Acute Cardiovascular Care*, Volume 13, Issue 10, October 2024, Pages 731–744, https://doi.org/10.1093/ehjacc/zuae113

[130] Hassan AM, Nogueira L, Lin YL, Rogers JE, Nori-Sarma A, Offodile AC 2nd. Impact of Heatwaves on Cancer Care Delivery: Potential Mechanisms, Health Equity Concerns, and Adaptation Strategies. J Clin Oncol. 2023 Jun 10;41(17):3104-3109. doi: 10.1200/JCO.22.01951. Epub 2023 Apr 25. PMID: 37098249. Impact of Heatwaves on Cancer Care Delivery: Potential Mechanisms, Health Equity Concerns, and Adaptation Strategies - PubMed

PSR
PHYSICIANS FOR SOCIAL RESPONSIBILITY

1930 18th St NW Ste B2 PMB 2338, Washington, DC 20009 | psr.org

Published November 2025

Interstate Natural Gas Association of America

January 20, 2026

The Honorable Brett Guthrie
Chairman
Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515

The Honorable Frank Pallone
Ranking Member
Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Guthrie and Ranking Member Pallone,

On behalf of the Interstate Natural Gas Association of America (INGAA), I write to support the Committee's proposals to address mounting Clean Air Act (CAA) permitting challenges that increasingly delay or prevent approval of critical infrastructure projects. Without targeted reforms, these challenges will continue to stymie the timely development of natural gas pipeline infrastructure essential to economic growth, energy reliability and affordability, and environmental progress.

INGAA's members own and operate most of the interstate natural gas transmission and storage networks in the United States, transporting more than 95 percent of the nation's natural gas through approximately 200,000 miles of pipelines. For decades, a cooperative partnership among states, industry, and local officials has delivered significant air-quality improvements. According to Environmental Protection Agency (EPA) data, emissions of the six principal criteria air pollutants regulated under the CAA have declined by roughly 78 percent since 1970, even as U.S. gross domestic product has grown by more than 300 percent.

Despite decades of air-quality progress, the CAA permitting system is increasingly producing outcomes that do not reflect real-world emissions or actual air-quality conditions. In many areas that already meet national air standards, infrastructure projects with minimal or declining emissions still face long delays or are denied permits because of how permitting thresholds are applied and how emissions are modeled.

In practice, permitting decisions are often driven by conservative modeling assumptions and paper-based emission projections rather than measured operational performance. This can cause facilities that will not meaningfully affect local air quality to be treated as if they pose significant new risks, even when they are replacing older, higher-emitting equipment or improving system efficiency and reliability. The result is a permitting process that is less focused on actual environmental outcomes and more constrained by procedural triggers and modeling artifacts – creating avoidable delays for projects that would maintain or improve air quality while supporting energy reliability and economic growth.

If left unaddressed, these trends pose substantial risks as rising American electricity demand is outpacing the ability to develop the infrastructure needed to provide access to firm, dispatchable natural gas when it is most critical. Natural gas supplies nearly half of domestic electricity generation, provides critical ramping capability to balance variable resources, and delivers proven performance during extreme weather events. As natural gas demand rose by 49 percent between 2013 and 2024, pipeline capacity grew only 26 percent according to a recent National Petroleum Council report, and Energy Information Administration's latest projections show natural gas consumption in 2025 and 2026 will exceed the already record levels from last year. Absent corrective action, these trajectories will further undermine both domestic competitiveness and environmental objectives.

To that end, INGAA appreciates the Committee's focus on pragmatic CAA implementation and permitting reforms that preserve air-quality gains while restoring regulatory certainty, and supports the following legislative measures:

- **H.R. 161, New Source Review (NSR) Permitting Improvement Act** clarifies that a change to a stationary source triggers NSR permitting only if it increases the maximum hourly emission rate compared to the highest rate in the prior 10 years. This clarification reduces permitting uncertainty for compressor stations and other pipeline-related facilities by ensuring that routine modernization, reliability upgrades, and emissions-reduction projects are less likely to trigger lengthy NSR permits without increasing emissions.

- **H.R. 4218, Clean Air and Economic Advancement Reform Act** adjusts review timelines for air quality standards and facilitates state implementation of National Ambient Air Quality Standards (NAAQS), providing greater regulatory stability and permitting certainty. By lengthening NAAQS review cycles, giving states more time and flexibility to implement standards, the proposal lowers the likelihood that changing air quality requirements will delay permits or impose new obligations in nonattainment areas where pipeline facilities such as compressor stations are often located.

- **H.R. 6398, Reducing and Eliminating Duplicative Environmental Regulations Act** modifies how the EPA evaluates proposed legislative initiatives and related regulatory frameworks by reducing duplicative and overly broad agency oversight on infrastructure project air quality reviews. This streamlining lessens procedural hurdles and shortens regulatory timelines when federal actions intersect with air quality considerations.

- **H.R. 6409, Foreign Emissions and Nonattainment Clarification for Economic Stability Act** precludes states from being penalized with non-attainment designations if their air quality issues are caused primarily by international pollution (e.g., from Mexico, Canada) or uncontrollable emissions (wildfires). Preventing sanctions and fees for failure to attain ozone or particulate standards for certain emissions reduces nonattainment designation risks triggered by transboundary pollution and other factors.

Together, these needed permitting reforms will ensure that new and upgraded natural gas pipeline infrastructure continues to support a resilient, affordable, and environmentally sustainable energy system for American families and businesses. INGAA and the companies we represent stand ready to enact these proposals and other reasonable, balanced policies to achieve this essential goal.

Sincerely,

Amy Andryszak
President & CEO
Interstate Natural Gas Association of America

CC: The Honorable Morgan Griffith
The Honorable Earl "Buddy" Carter
The Honorable John Joyce
The Honorable August Pfluger

**Rich Nolan**
**President & CEO**

January 20, 2026

The Honorable Brett Guthrie
Chairman
Energy & Commerce Committee
U.S. House of Representatives
Washington, D.C. 20515

The Honorable Frank Pallone
Ranking Member
Energy & Commerce Committee
U.S. House of Representatives
Washington, D.C. 20515

Dear Chairman Guthrie and Ranking Member Pallone:

The National Mining Association (NMA) commends the House Committee on Energy and Commerce for scheduling a markup to move legislation to address permitting obstacles to retaining and expanding U.S. energy infrastructure, including reliable and affordable coal-fired electric generation. Specifically, the NMA urges prompt committee passage of:

- H.R. 161, the New Source Review (NSR) Permitting Improvement Act introduced by Congressman Morgan Griffith (R-Va.). The bill addresses long-standing issues in the Environmental Protection Agency's (EPA) outdated NSR-program framework, which discourages U.S. investment. Companies seeking to deploy modern technologies, reduce emissions or improve efficiency have faced regulatory uncertainty that delays projects, increases costs and undermines grid reliability.
- H.R. 4214, the Clean Air and Building Infrastructure Improvement Act introduced by Congressman Rick Allen (R-Ga.). The bill amends section 109 of the Clean Air Act (CAA) to require, among other measures, EPA to concurrently publish regulations and guidance for implementing a revised National Ambient Air Quality Standard (NAAQS) and prevent the new or revised standards from applying to pre-construction permit applications until the Administrator has published final regulations and guidance.
- Congressman Buddy Carter's (R-Ga.) H.R. 4218, the Clean Air and Economic Advancement Reform (CLEAR) Act. The bill amends the CAA

to, among other things, extend the current NAAQS review cycle from five to 10 years and provide states the opportunity to address concerns in a state implementation plan (SIP) submission before a federal implementation plan is issued.

- H.R. 6373, the Air Permitting Improvements to Protect National Security Act introduced by Congressman Gary Palmer (R-Ala.). Among other measures, the bill amends section 173 of the CAA to exempt advanced manufacturing facilities and critical mineral facilities from the requirement to offset emissions as part of the Nonattainment New Source Review (NNSR) permit process if the President issues a national security determination.
- Congressman Gabe Evan's (R-Colo.) H.R. 6387, the Fire Improvement and Reforming Exceptional Events (FIRE) Act. The bill limits how emissions from wildfires, prescribed burns and exceptional events from the air monitoring data can be used to determine whether an area is attaining a NAAQS and requires increased coordination between EPA and affected states regarding exceptional event determinations.
- H.R. 6398, the Reducing and Eliminating Duplicative Environmental Regulations (RED Tape) Act introduced by Congressman John Joyce (R-Pa.). The bill amends section 309 of the CAA to eliminate the requirement for EPA to review and provide written comments on federal construction projects or other actions by a federal agency that are already subject to environmental review under the National Environmental Policy Act.
- Congressman August Pfluger's (R-Texas) H.R. 6409, the Foreign Emissions and Nonattainment Clarification for Economic Stability (FENCES) Act. The bill amends the CAA to exclude emissions emanating from outside the United States from being used to determine whether an area is in attainment.

Taken together, these bills will protect air quality while preventing unnecessary burdens on our nation's economy and energy-generating infrastructure. NMA encourages the committee to favorably report these bills to the House floor for further consideration.

Sincerely,

Rich Nolan

101 Constitution Ave. NW / Suite 500 East / Washington, D.C. 20001 / Phone: 202. 463. 2600

Chet Thompson
President and CEO

American
Fuel & Petrochemical
Manufacturers

1800 M Street, NW
Suite 900 North
Washington, DC
20036

202.844.5505 direct
202.457.0480 office
cthompson@afpm.org
afpm.org

January 21, 2026

The Honorable Brett Guthrie
Chairman
U.S. House Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, D.C. 20515

The Honorable Frank Pallone
Ranking Member
U.S. House Committee on Energy and Commerce
2323 Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Guthrie and Ranking Member Pallone:

The American Fuel & Petrochemical Manufacturers (AFPM) applauds the House Energy and Commerce Committee for considering legislation that will improve the air quality standard setting process and modernize the broken permitting requirements under the Clean Air Act (CAA). AFPM is the leading trade association representing the petroleum refining and petrochemical industries. Our members produce virtually all the gasoline, diesel, jet fuel, and petrochemicals made in the United States that drive the economy and help make modern life possible.

As part of comprehensive permitting reform, we must modernize the Environmental Protection Agency's (EPA) process for setting National Ambient Air Quality Standards (NAAQS). The current NAAQS framework makes it very challenging for many facilities to get permits for new construction and upgrades, including projects aimed at improving safety and environmental performance. Lengthy and complex permitting timelines for these essential projects not only delay improvements but also increase costs, diverting capital from initiatives that safeguard workers, communities and the environment.

We offer our strong support for the passage of the following bills:

- **H.R.161, *The New Source Review Permitting Improvement Act*** - The bill narrows the scope of the definition of "modification." It excludes the program's requirements for changes at a stationary source that reduce emissions of any air pollutant or improve or maintain the reliability or safety of operations.

- **H.R.6409, *The Foreign Emissions and Nonattainment Clarification for Economic Stability (FENCES) Act* -** The bill clarifies that EPA must exclude all emissions from

outside the U.S., whether natural or man-made, to determine whether a state meets national air quality standards when reviewing new facility permits.

- **H.R.6387, *The Fire Improvement and Reforming Exceptional Events (FIRE) Act*** – The bill prohibits the EPA from penalizing states for emissions they cannot control, including wildfires and prescribed fires.

- ***H.R.4218, The Clean Air and Economic Advancement Reform Act (CLEAR Act) -*** The bill extends the NAAQS review cycle from five years to ten years and allows consideration of attainability when choosing among a range of air quality standards.

- **H.R.4214: *The Clean Air and Building Infrastructure Improvement Act*** – The bill requires the EPA to publish regulations and guidance for implementing a revised NAAQS concurrently and prevent the new or revised standards from applying to NSR permit applications until EPA has published such final regulations and guidance. It also limits applicability of the PM 2.5 standard to the permitting process.

- **H.R.6398, *The Reducing and Eliminating Duplicative Environmental Regulations (RED Tape) Act –*** The bill eliminates EPA's requirement to provide duplicative feedback on other agencies' environmental impact statements pursuant to the National Environmental Policy Act.

Without congressional action, regulatory hurdles under the CAA will continue to stall project approval needed to expand refinery and petrochemical facility operations. A weakened refining and petrochemical sector would reduce supply, create market scarcity, and ultimately raise costs - undermining affordability for American consumers. We urge you and your colleagues to vote yes and work to advance these vital pieces of legislation.

Sincerely,

Chet Thompson
President and CEO
American Fuel & Petrochemical Manufacturers

The Honorable Brett Guthrie, Chairman
The Honorable Frank Pallone, Ranking Member
House Energy and Commerce Committee
2125 Rayburn House Office Building
Washington, D.C. 20515

January 21, 2026

Dear Chairman and Ranking Member,

As your committee considers reauthorization legislation for the FirstNet Authority (FNA) prior to 2027, we urge you to consider critical updates that will improve the effectiveness of the program through enhanced oversight, accountability, competition, and transparency regarding the billions of dollars that it spends. To be clear, we strongly support the FirstNet concept and seek to improve its structure. Our primary objective in seeking these changes is to ensure that the FirstNet Authority is working to the benefit of *all* public-safety users.

Congress's original vision of FirstNet, a standalone, publicly-owned network exclusively for public safety use, was laudable. The reality of the effectiveness of this model is now apparent: it has not worked as envisioned. The reauthorization process represents an opportunity to improve this critical program.

First, it is imperative that any reauthorization measure does not permanently extend the FirstNet mandate. As we have seen over the past decade, technology and the needs of the public safety community have evolved dramatically. FirstNet should be revisited and updated over time, not put on a permanent autopilot. We urge that FirstNet's reauthorization remain on a Congressionally mandated cycle.

Second, we urge the Congress to ensure that the FirstNet program benefit all of public safety, not just the customers of a single commercial carrier. The fact that all of the FirstNet Authority's multi-billion-dollar spending has gone to only are a single carrier, AT&T, has been exposed as problematic in recent years. When the AT&T network went down in February of 2024, AT&T's FirstNet customers lost service. This is a risk our first responders simply cannot take. They need consistency and reliability for their communications networks. Many of our members now depend on multiple carriers to ensure reliability and resiliency. In the years since FirstNet's contract was awarded to AT&T, other carriers have developed their own public safety offerings. This competition has resulted in a better product for our public safety users. Congress should ensure that all infrastructure paid for with FNA funds is being used to the benefit of all public safety users, not just the customers of a single carrier.

Accountability must also be prioritized in the new reauthorization measure. In recent years, the Inspector General for the Department of Commerce has issued multiple reports highlighting a lack of transparency and accountability within FirstNet and particularly with regard to AT&T's compliance with the FirstNet contract, including accusations that requested data was altered or not provided. This is unacceptable. To this end, we urge policymakers to include enhanced reporting and accountability requirements in the reauthorization measure, including:

- Reporting on the use and capacity of Band 14.
- Providing a full range and categorization of FirstNet subscribers including public safety, fire, EMS, private companies, etc.
- Disallow the use of government funds to support contractors, events, and marketing for any carrier.

Finally, we urge that policymakers include a provision that repeals grant/procurement requirements that favors AT&T given its exclusive partnership with FirstNet. This practice is outdated given the advancement of public safety communications options, and ultimately benefits a single corporate entity, not the public safety community.

As previously stated, our goal in making these recommendations is developing a stronger, more resilient public safety communications network. We believe that the experience of the past decade makes clear that changes must be made.

**Sincerely,**

**Jeff Norman**
**Milwaukee Police Department**
**President, Major Cities Chiefs Association**

**Sheriff Chris West**
**Canadian County, OK**
**President, National Sheriffs' Association**

CC: The Honorable Richard Hudson, Chairman, House Energy and Commerce Subcommittee on Communications and Technology
The Honorable Doris Matsui, Ranking Member, House Energy and Commerce Subcommittee on Communications and Technology

U.S. Chamber of Commerce

1615 H Street, NW
Washington, DC 20062-2000
uschamber.com

January 21, 2026

The Honorable Brett Guthrie
Chairman
Energy & Commerce Committee
U.S. House of Representatives
Washington, DC 20515

The Honorable Frank Pallone
Ranking Member
Energy & Commerce Committee
U.S. House of Representatives
Washington, DC 20515

Dear Chair Guthrie and Ranking Member Frank Pallone,

In advance of your committee's markup on Wednesday, January 21st, the U.S. Chamber of Commerce expresses strong support for the following bills that will help modernize our permitting process while encouraging innovation and investment:

- H.R.161 – New Source Review Permitting Improvement Act
- H.R.4214 – Clean Air and Building Infrastructure Improvement Act
- H.R.4218 – Clean Air and Economic Advancement Reform Act (CLEAR Act)
- H.R.6373 – Air Permitting Improvements to Protect National Security Act
- H.R.6387 – Fire Improvement and Reforming Exceptional Events Act (FIRE Act)
- H.R.6398 – Reducing and Eliminating Duplicative Environmental Regulations Act (RED Tape Act)
- H.R.6409 – Foreign Emissions and Nonattainment Clarification for Economic Stability (FENCES Act)

By modernizing permitting and clarifying regulatory requirements, Congress can unlock private investment, accelerate job creation, and enhance national security. Importantly, these reforms will allow us to build the modern infrastructure needed to compete in the global race for innovation—supporting advancements in artificial intelligence, strengthening transportation networks, expanding affordable and reliable energy, and ensuring America remains a leader in technology and economic growth.

We urge the committee to advance these bills, and thank you for considering our views.

Sincerely,

Neil Bradley
Executive Vice President, Chief Policy Officer,
and Head of Strategic Advocacy
U.S. Chamber of Commerce

American Forest & Paper Association

January 21, 2026

The Honorable Brett Guthrie
Chairman, House Energy and Commerce Committee
2123 Rayburn House Office Building
Washington, D.C. 20515

The Honorable Frank Pallone, Jr.
Ranking Member, House Energy and Commerce Committee
2123 Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Guthrie and Ranking Member Pallone,

The American Forest & Paper Association supports the House Committee on Energy and Commerce's actions to modernize our air permitting system that is increasingly outdated and overly rigid. Unless addressed, these challenges will essentially block permitting approval for projects that support American manufacturing and family-wage jobs.

The American Forest & Paper Association (AF&PA) serves to advance public policies that foster economic growth, job creation and global competitiveness for a vital sector that makes the essential paper and packaging products Americans use every day. The U.S. forest products industry employs more than 925,000 people, largely in rural America, and is among the top 10 manufacturing sector employers in 44 states. Our industry accounts for approximately 4.7% of the total U.S. manufacturing GDP, manufacturing more than $435 billion in products annually. AF&PA member companies are significant producers and users of renewable biomass energy and are committed to making sustainable products for a sustainable future through the industry's decades-long initiative — *Better Practices, Better Planet 2030*.

For decades, the partnership between the states, business community and local public officials has achieved remarkable results in improving air quality. According to EPA data, total emissions of the six principal air pollutants regulated under the Clean Air Act have fallen by 78% since 1970, even as the U.S. gross domestic product climbed by 321%. The air is getting cleaner and will continue to do so. Yet it is becoming increasingly more difficult for companies to secure air permits to build projects that grow their businesses, keep workers employed, and fund tax bases for critical public services.

For example, getting approval for a paper mill boiler modernization project is very challenging. Typical projects using current EPA models that exaggerate impacts often require at least 2 ug/$m^3$ of $PM_{2.5}$ of headroom. So, if the background air quality is more than 7 ug/$m^3$ (a value that can be overstated due to atypical events like wildfires or international transport), it is hard to get permit approvals. EPA and Congress should work to bring sound, realistic modeling tools to the air permitting program.

Even in areas with air deemed healthy, stringent air quality rules over the past fifteen years have shrunk the margin between background pollutant concentrations and air quality standards – leaving little headroom for businesses to demonstrate that their projects can be permitted. Moreover, EPA permitting models significantly over-predict a planned facility's actual emissions.

American Forest & Paper Association

EPA's failure to address these critical issues creates a permitting "gridlock" effectively blocking even new, state-of-art facilities

Left unchecked, these trends could leave businesses across America with no reasonable choice but to grow elsewhere, or not at all. This would forego local economic expansion, new product development, or even more efficient and cleaner projects – a loss for both the economy and the environment. Instead, needed business development and well-paying jobs will move offshore to countries with weaker environmental standards and lax worker safety laws.

Accordingly, we support the Committee's attention to these critical Clean Air Act implementation and permitting issues. These efforts will foster ongoing air quality improvements while preventing unnecessary burdens that reduce economic growth and tax revenues vital to local communities. Specifically, we support the Committee's continued efforts on the following implementation and permitting legislation:

- H.R.6373 : To amend the Clean Air Act to establish authority for the President to waive the requirement for an advanced manufacturing facility or a critical mineral facility to offset increased emissions of any air pollutant, and for other purposes.
- H.R.6387: To amend the Clean Air Act to require revisions to regulations governing the review and handling of air quality monitoring data influenced by exceptional events or actions to mitigate wildfire risk.
- H.R.6398: To amend the Clean Air Act relating to review by the Environmental Protection Agency of proposed legislation.
- H.R.6409: To amend the Clean Air Act to clarify standards for emissions emanating from outside of the United States, and for other purposes.
- H.R.161: To amend sections 111, 169, and 171 of the Clean Air Act to clarify when a physical change in, or change in the method of operation of, a stationary source constitutes a modification or construction, and for other purposes.
- H.R.4218: To amend the Clean Air Act to facilitate State implementation of national ambient air quality standards, and for other purposes.
- H.R.4214: To require the Administrator of the Environmental Protection Agency to publish, concurrently with any final rule establishing or revising a national ambient air quality standard, regulations and guidance for implementing the standard, including information relating to submission and consideration of a preconstruction permit application under the new or revised standard, and for other purposes.

We believe these important reforms will improve permitting of new projects, fostering economic growth and new American jobs along with tax revenue vital to local communities. AF&PA supports these bills and their swift passage through the full Committee and the House of Representatives.

Best regards,

Paul Noe
Vice President Public Policy
American Forest & Paper Association

American Forest & Paper Association

January 21, 2026

The Honorable Brett Guthrie
Chairman, House Energy and Commerce Committee
2123 Rayburn House Office Building
Washington, D.C. 20515

The Honorable Frank Pallone, Jr.
Ranking Member, House Energy and Commerce Committee
2123 Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Guthrie and Ranking Member Pallone,

The American Forest & Paper Association (AF&PA) deeply appreciates the work that this Congress has undertaken to support American manufacturers and the family-wage jobs they provide through their commitment to smart, streamlined regulations. AF&PA is writing in support of H.R.161, the "New Source Review Permitting Improvement Act", which we believe is a critical opportunity to continue the Committee's work to improve the EPA's New Source Review Program (NSR). AF&PA also supports the other bills that will be considered during this markup, including H.R.4218, H.R.4214, H.R.6373, H.R.6387, H.R.6398, H.R.6409.

AF&PA serves to advance public policies that foster economic growth, job creation, and global competitiveness for a vital sector that makes the essential paper and packaging products Americans use every day. The U.S. forest products industry employs more than 925,000 people, largely in rural America, and is among the top 10 manufacturing sector employers in 44 states. Our industry accounts for approximately 4.7% of the total U.S. manufacturing GDP, manufacturing more than $435 billion in products annually. AF&PA member companies are significant producers and users of renewable biomass energy and are committed to making sustainable products for a sustainable future through the industry's decades-long initiative — *Better Practices, Better Planet 2030*.

EPA's complex NSR air permitting program affects practically every major manufacturing facility in the United States, and under previous Administrations, it has become a significant impediment to the modernization and growth of the U.S. manufacturing sector. U.S. air permitting and regulatory requirements are out of date, overly conservative, rigid, and time-consuming. The air quality permitting process for new and modified facilities is slow and cumbersome and relies on unrealistic modeling and assumptions, resulting in unnecessary delays, costs and impediments for projects that would benefit both our economy and our environment.

Recently, this problem has become more acute with the substantial tightening of EPA's National Ambient Air Quality Standards for particulate matter (PM NAAQS) closer to (or in some cases, at) ambient background levels under President Biden. Simply put, when stringent NAAQS are combined with unrealistic air quality modeling and assumptions, there is little or no "headroom" for new or modified facilities in many areas to show that their residual emissions will not contribute to a violation of the NAAQS, even after the installation of the best available pollution control technology.

We are deeply appreciative of the Trump Administration's thoughtful approach to regulation and the EPA's decision to review the PM NAAQS standard so that it protects public health while allowing our facilities to operate. However, if the standard is lowered again in the future, manufacturers across the country could face the same problems with NSR and a variety of other permitting programs. That's why we believe that H.R. 161 and the other bills being considered today are so important because they allow American manufacturers to continue to provide well-paying jobs in communities across the country.

It doesn't make sense to discourage upgrading plants already subject to a myriad of other regulatory requirements, or to block beneficial projects using best controls simply due to unrealistic air quality modeling and assumptions. The reality is that energy efficiency and modernization projects for existing sources are delayed, modified or thwarted by complex NSR interpretations that have accumulated and evolved over time. The program requires expensive but unrealistic air modeling that frequently delays projects many months or more and can cost $100,000 or more to complete. Unreasonable permitting delays tie up investment capital and undermine the economic benefits from expansion projects.

AF&PA supports H.R.161 as it makes important strides in reforms to the NSR program that can ultimately result in more efficient manufacturing while still achieving the goals of the NSR program. Among other things, the draft legislation overrides past adverse Court decisions including one invalidating an NSR exclusion for installing new pollution control equipment.

For example, if a mill wants to upgrade its control system on a bark boiler from a wet scrubber to an electrostatic precipitator (ESP) to get greater particulate reductions, the pollution control project could result in increases in other emissions from the fuel used to operate the ESP. This results in the project being subject to NSR. In many cases, the inflexible and overly conservative nature of the NSR process forces such beneficial projects to trigger PSD review. In this way, the current NSR permitting program creates a disincentive for companies to pursue a Pollution Control Project Exclusion and/or energy efficiency improvement projects because the process results in delay and increased costs in implementing the project and could result in an environmentally beneficial project not moving forward at all.

By specifying in 42 U.S.C. 7411(a), through the edits in H.R. 161, that the term "modification" does not include a change at an emission source that is designed to reduce the amount of any air pollutant emitted by the source, would allow the mill in the example to upgrade its wet scrubber to an ESP to reduce the particulate emissions from the bark boiler without undue delays and increased costs. Providing an exclusion for Pollution Control Projects from NSR would benefit the environment because it would encourage facilities to invest in environmentally beneficial projects. The exclusion will create incentives to reduce emissions. Overall, the bill provides NSR protection for any "efficiency," "reliability" or pollution control project that may be projected to increase hours of operation but will not increase the maximum achievable hourly rate.

The NSR permitting program is broken and must be updated to allow for growth and innovation while promoting the best available technologies to protect our environment. The forest products industry is one of the largest manufacturing sectors in the nation, has invested billions of dollars on environmental stewardship and remains committed to innovative and sustainable business practices. Yet, an inflexible NSR permitting program impedes beneficial projects and job creation and undermines paper and wood product manufacturers' ability to effectively plan for our future. Thank you for examining this important issue, and our industry looks forward to working with you and the Committee as the legislative process moves forward.

Best regards,

Paul Noe
Vice President Public Policy
American Forest & Paper Association

January 21, 2026

The Honorable Brett Guthrie
Chairman
House Committee on Energy & Commerce
2125 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Guthrie,

The American Petroleum Institute writes in support and appreciation for House Committee on Energy and Commerce actions to address the mounting permitting challenges facing American businesses under increasingly stringent air quality standards. API members are involved in all aspects of the oil and natural gas industry and are committed to policy priorities that promote our nation's abundant oil and natural gas resources for a more secure energy future while protecting clean air and clean water. Unless the Clean Air Act is modernized, these challenges will essentially block permitting approval for projects critical to our nation's and our industry's growth.

According to EPA data, total emissions of the six principal air pollutants and their precursors regulated under the Clean Air Act have fallen by 78 percent since 1970, even as U.S. gross domestic product climbed by 321 percent. The air has gotten cleaner and will continue to do so.

For years, EPA programs have created unnecessary delays that slow down or even derail critical energy projects. Inconsistent agency application, legal challenges, and shifting priorities from administration to administration have resulted in a permitting process that is anything but predictable. Even in areas with air deemed healthy, stringent air quality rules over the past fifteen years have shrunk the margin between background pollutant concentrations and air quality standards—leaving little headroom for businesses to demonstrate that their projects can be permitted. Increased costs associated with restrictive and expensive permit requirements could deter companies from siting new facilities and/or expansion, making the United States a less attractive place to do business and risks shipping jobs overseas.

It's time to move from gridlock to greenlight. That means requiring air quality standards to be attainable and feasible while modernizing the permitting process to be more timely, efficient, and consistent across federal and state agencies. API supports legislation that will amend the Clean Air Act to require EPA and states to correct monitoring biases, develop and use modern probabilistic modeling tools, and focus regulatory efforts on cost effective emissions sources that states and industries can control.

Accordingly, we support the Committee's attention to these critical Clean Air Act implementation and permitting issues. These efforts will foster ongoing air quality improvements while preventing unnecessary burdens that reduce economic growth and tax revenues vital to local communities. API supports legislative efforts that will modify the Clean Air Act to:

- Extend the review cycle of national air quality standards to every 10 years and include feasibility provisions as part of the setting and implementation of the standards;
- Require EPA and states to improve air quality monitors to reduce biases;
- Improve provisions addressing exceptional events in EPA (broader definition) and state implementation of air standards;
- Require EPA to modernize air quality modeling systems and improve their accuracy;
- Modify the requirements for EPA's clean air science advisory committee to include more state representation; and
- Improve the definition of modification of stationary sources to limit those considered significant increases in emissions.

API stands ready to share additional insights regarding the need for these improvements. These improvements to the Clean Air Act were included in legislation introduced in 2025, including H.R. 161, H.R. 4214, H.R. 4218, H.R. 6387, H.R. 6398, and H.R. 6409.

API supports efforts to bring these bills to the House floor for votes and appreciates your leadership on these important issues

Sincerely,

Will Hupman
Vice President – Downstream Policy

AMERICAN WOOD COUNCIL

January 15, 2026

**Submitted Electronically**

The Honorable Brett Guthrie
House Energy and Commerce Committee
2125 Rayburn House Office Building
Washington, D.C. 20515

The Honorable Frank Pallone Jr
House Energy and Commerce Committee
2125 Rayburn House Office Building
Washington, D.C. 20515

**Re: *NAAQS Implementation***

Dear Chaiman Guthrie and Ranking Member Pallone:

The American Wood Council (AWC) expresses support and appreciation for the House Committee on Energy and Commerce's actions to address the mounting permitting challenges facing American businesses such as the wood products industry under increasingly stringent air quality standards. Unless addressed, these challenges will essentially block permitting approval for projects critical to economic growth and more efficient manufacturing infrastructure.

AWC represents 87.5 percent of the structural wood products industry. From dimension lumber to engineered wood products, we champion the development of data, technology, and standards to ensure the best use of wood products and recognition of their unique sustainability and carbon-reduction benefits. The wood products industry directly employs almost 465,000 people with family-wage jobs in mills across the country. Along with direct jobs, the U.S. wood products industry supports jobs adjacent to the industry amounting to 1.63 million total jobs across mills, suppliers and in local communities, many of which are in rural America.

For decades, the partnership between the states, business community and local public officials has achieved remarkable results in improving air quality. According to EPA data, total emissions of the six principal air pollutants regulated under the Clean Air Act have fallen by 78% since 1970, even as the U.S. gross domestic product climbed by 321%. These reductions are a result of billions of dollars spent by manufacturers on pollutant controls that are in place and will continue to operate regardless of changes in legislation.

And the air is getting cleaner and will continue to do so especially if new efficiency investments can move forward that reduces the amount of pollution per ton of production. Yet it is becoming increasingly more difficult for companies to secure air permits to build projects that grow their

businesses, keep workers employed, and fund tax bases for critical public services – even in areas that meet the current air quality standards.

Even in areas with air deemed healthy, stringent air quality rules over the past fifteen years have shrunk the margin between background pollutant concentrations and air quality standards – leaving little headroom for businesses to demonstrate that their projects can be permitted. Moreover, EPA permitting models significantly over-predict a planned facility's actual emissions. EPA's failure to address these critical issues creates a permitting "gridlock" effectively blocking even new, state-of-art facilities.

For example, getting approval to build a new sawmill or adding onto an existing lumber mill to meet affordable housing needs is very challenging. Typical projects using current EPA models that exaggerate impacts often require at least 2 ug/$m^3$ of $PM_{2.5}$ of headroom. So, if the background air quality is more than 7 ug/$m^3$ (a value that can be overstated due to atypical events like wildfires or international transport), it is hard to get permit approvals. EPA and Congress should work to bring sound, realistic modeling tools to the air permitting program.

Left unchecked, these trends could leave businesses across America with no reasonable choice but to grow elsewhere, or not at all. This would forego local economic expansion, new product development, or even more efficient and cleaner projects – a loss for both the economy and the environment. Instead, needed business development and well-paying jobs will move offshore to countries with weaker environmental standards and lax worker safety laws.

Accordingly, we support the Committee's attention to these critical Clean Air Act implementation and permitting issues. These efforts will foster ongoing air quality improvements while preventing unnecessary burdens that reduce economic growth and tax revenues vital to local communities. Specifically, we support the Committee's continued efforts on the following implementation and permitting legislation:

- H.R.6373: To amend the Clean Air Act to establish authority for the President to waive the requirement for an advanced manufacturing facility or a critical mineral facility to offset increased emissions of any air pollutant, and for other purposes.
- H.R.6387: To amend the Clean Air Act to require revisions to regulations governing the review and handling of air quality monitoring data influenced by exceptional events or actions to mitigate wildfire risk.
- H.R.6398: To amend the Clean Air Act relating to review by the Environmental Protection Agency of proposed legislation.
- H.R.6409: To amend the Clean Air Act to clarify standards for emissions emanating from outside of the United States, and for other purposes.

AMERICAN WOOD COUNCIL

- H.R.161: To amend sections 111, 169, and 171 of the Clean Air Act to clarify when a physical change in, or change in the method of operation of, a stationary source constitutes a modification or construction, and for other purposes.
- H.R.4218: To amend the Clean Air Act to facilitate State implementation of national ambient air quality standards, and for other purposes.
- H.R.4214: To require the Administrator of the Environmental Protection Agency to publish, concurrently with any final rule establishing or revising a national ambient air quality standard, regulations and guidance for implementing the standard, including information relating to submission and consideration of a preconstruction permit application under the new or revised standard, and for other purposes.

We believe these important reforms will improve permitting of new projects, fostering economic growth and new American jobs along with tax revenue vital to local communities while still protecting public health. AWC supports these bills and their swift passage through the full Committee and the House of Representatives.

Sincerely,

Jackson Morrill
President and CEO

50 Catoctin Circle NE, Suite 201, Leesburg, VA 20176 | 1101 K Street, Suite 700, Washington, DC 20005
202-463-2766 | www.awc.org

AMERICAN PUBLIC POWER ASSOCIATION
Powering Strong Communities

January 20, 2026

The Honorable Brett Guthrie
Committee on Energy & Commerce
2125 Rayburn House Office Building
Washington, D.C. 20515

The Honorable Frank Pallone
Committee on Energy & Commerce
2323 Rayburn House Office Building
Washington, D.C. 20515

The Honorable Gary Palmer
Subcommittee on Environment
Committee on Energy & Commerce
2125 Rayburn House Office Building
Washington, D.C. 20515

The Honorable Paul Tonko
Subcommittee on Environment
Committee on Energy & Commerce
2323 Rayburn House Office Building
Washington, D.C. 20515

Dear Chairmen Guthrie & Palmer and Ranking Members Pallone & Tonko:

The American Public Power Association (APPA) appreciates the Energy & Commerce Committee's efforts to address New Source Review (NSR) permitting procedures under the Clean Air Act (CAA) and hydropower licensing. Policies to reduce regulatory barriers to the construction of electric generation assets will help public power utilities meet increasing electricity demand and keep electricity affordable and reliable for their customers. APPA supports efforts by the committee to help get needed energy infrastructure built in a timely manner while complying with important environmental and human health protection standards.

APPA is the national trade organization representing the nation's 2,000 not-for-profit, community-owned electric utilities. Public power utilities are in every state except Hawaii. They collectively serve over 55 million people in 49 states and five U.S. territories. Public power utilities are load-serving entities, with the primary goal of providing their communities with safe, reliable electric service at the lowest reasonable costs, consistent with sound environmental stewardship. While public power utilities serve some of the nation's largest cities, nearly 1,600 of the 2,000 in operation serve rural communities.

APPA supports the goals of H.R. 161, the New Source Review Permitting Improvement Act, as this legislation would narrow the scope of what counts as a modification under the CAA's New Source Review (NSR) program while maintaining statutory emissions requirements. The legislation would also exempt certain efficiency, safety, and reliability projects for new and existing sources, unless they result in a significantly increased emissions level, thereby improving regulatory certainty as utilities work to modernize facilities and install the best available emissions control technology.

APPA also supports H.R. 2702, which would require the Federal Energy Regulatory Commission (FERC) to extend the period during which licensees are required to commence construction of certain hydropower projects. The extension of time to commence construction would not exceed

three consecutive two-year periods and would apply only to projects licensed by FERC prior to March 13, 2020. APPA supports extending the time to commence construction as it provides greater regulatory certainty for member utilities responsible for maintaining and operating hydropower facilities.

APPA thanks you for considering legislation that will enable public power utilities to continue to provide affordable and reliable power to their communities. Streamlining NSR requirements and extending the time to commence construction for hydropower projects will help meet these goals and ensure that public power utilities can meet the rising demand for electricity.

Sincerely,

Desmarie M. Waterhouse
Senior Vice President of Advocacy and Communications & General Counsel

NATIONAL ASSOCIATION OF Manufacturers

**Michael Davin**
*Director, Energy and Resources Policy*

**Christopher Phalen**
*Vice President, Domestic Policy*

Jan. 21, 2026

The Honorable Brett Guthrie
Chairman
House Committee on Energy & Commerce
2125 Rayburn House Office Building
Washington, DC 20515

The Honorable Frank Pallone
Ranking Member
House Committee on Energy & Commerce
2322 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Guthrie and Ranking Member Pallone,

On behalf of the National Association of Manufacturers, the largest manufacturing trade association in the United States, representing manufacturers in every industrial sector and in all 50 states, we write in strong support of several bills that will be considered during today's full committee mark up to improve the permitting process under the Clean Air Act.

Manufacturers support Clean Air Act reforms as part of critically needed comprehensive permitting reform. The NAM appreciates the Committee's actions to address the mounting permitting challenges facing American businesses under increasingly unattainable air quality standards. Unless addressed, these challenges will essentially block permitting approvals for projects critical to economic growth, manufacturing infrastructure, and jobs. The Committee's efforts will foster our industry's ongoing efforts to improve air quality while preventing unnecessary burdens that reduce economic growth and tax revenues that are vital to local communities.

Specifically, we encourage Committee members to favorably report to the House floor the following bills:

- **H.R. 161, the New Source Review Permitting Improvement Act,** introduced by Rep. Morgan Griffith (R-VA), would reform how the NSR program works for existing sources by clarifying which types of facility modifications require an owner to obtain an NSR permit. By reforming the NSR process, the bill will provide more certainty to companies seeking to invest in and improve existing facilities. The bill also includes provisions that make it easier for facility owners to carry out emissions control projects, as well as projects designed to improve, restore, or maintain the safety or reliability of a facility. The NAM supports streamlining air quality control regulations that are focused on the manufacturing sector. Manufacturers are leading efforts to improve air emissions resulting from manufacturing operations, and we need policies that support this private-sector innovation while also driving a sustainable environment and a strong economy. H.R. 161 would make commonsense reforms that will support economic growth, job creation, technological innovation, and the nation's ability to modernize infrastructure.

- **H.R. 4218, the Clean Air and Economic Advancement Reform Act,** introduced by Rep. Buddy Carter (R-GA), would amend the Clean Air Act to facilitate State implementation of the National Ambient Air Quality Standards (NAAQS) program. This legislation makes several reforms to the NAAQS process that would enhance program

implementation for manufacturers while maintaining the regulatory guardrails that protect the health and welfare of our local communities.

- **H.R. 4214, the Clean Air and Building Infrastructure Improvement Act,** introduced by Rep. Rick Allen (R-GA), would require the Administrator of the Environmental Protection Agency (EPA) to publish, concurrent with any final rule establishing or revising a NAAQS, regulations and guidance for implementing the standard, including information relating to submission and consideration of a preconstruction permit application under the new or revised standard. This legislation would inject clearer guidance into the process for obtaining preconstruction permits and meeting compliance requirements under a revised NAAQS; it also would protect manufacturers from future attempts to abuse the NAAQS.

- **H.R. 6373, the Air Permitting Improvements to Protect National Security Act,** introduced by Rep. Gary Palmer (R-AL), would establish authority for the President under the Clean Air Act to waive the requirement for an advanced manufacturing facility or a critical mineral facility to offset increased emissions of any air pollutant. Given increasing competition with adversarial nations like China over access to materials like semiconductors, rare earth elements, and manufacturing inputs, this legislation will streamline the process for manufacturers to stand up operations that are critical to the United States' national security.

- **H.R. 6387, the Fire Improvement and Reforming Exceptional Events Act,** introduced by Rep. Gabe Evans (R-CO), would amend the Clean Air Act to require revisions to regulations governing the review and handling of air quality monitoring data influenced by exceptional events or actions to mitigate wildfire risk.

- **H.R. 6398, the Reducing and Eliminating Duplicative Environmental Regulations Act,** introduced by Rep. John Joyce (R-PA), would amend the Clean Air Act to eliminate the requirement for EPA review and provide written comment on federal construction projects or other actions by a federal agency that are already subject to environmental review under the National Environmental Policy Act (NEPA).

- **H.R. 6409, the Foreign Emissions and Nonattainment Clarification for Economic Stability Act,** introduced by Rep. August Pfluger (R-TX), would amend the Clean Air Act to clarify standards for emissions emanating from outside of the United States, a phenomenon that is hindering manufacturing investments across the nation.

* * * *

Manufacturers in America create family-supporting jobs in communities across the country, drive innovation, power economic growth, and develop and deploy technologies to make our environment cleaner. This Congress has made it clear that new policies are needed to ensure the United States becomes the destination of choice for new manufacturing investment so that our nation can maintain our leadership in creating new technologies and products that make lives better for people around the world.

Manufacturers strongly support the Committee's efforts to address policy challenges with the Clean Air Act and to explore solutions that will pave the way for greater investment in the infrastructure that will allow America to compete in the 21st century.

Thank you for your consideration.

Sincerely,

Mike Davin

Director, Energy and Resources Policy

Christopher Phalen

Vice President, Domestic Policy