

Wildfire smoke's economic damage lingers after the flames

Brian P. D. Hannon, Associated Press

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The damage caused by wildfires can be devastating, gutting structures and driving out people who live and work nearby. And researchers say the smoke from the annually recurring blazes also delivers economic damage to areas that were never touched by the flames.

Beyond the toll wildfire smoke can have on the health of those in affected areas, there are infrastructure and business costs, experts said.

Expenses paid by homeowners to improve or increase measures to protect their properties and the impact of smoke on livelihoods and budgets can be significant.

Wildfires that burned thousands of square miles throughout the U.S. West last year knocked out power, destroyed homes and buildings and forced evacuations.

Oregon and Colorado fires damaged or destroyed more than 10,000 buildings. Five of the six largest wildfires in California's history occurred in 2020.

Accompanying the fires was smoke that left Western communities immersed in gray and orange haze that blotted the sky and caused normally hot midday temperatures to remain at cool nighttime levels in some areas.

Wildfire smoke plumes – and their economic impact – can travel far beyond the blazes, said Eric Zou, assistant professor of economics at the University of Oregon.

“When we think about health and labor market effects of wildfire, it is important to think beyond the areas in the immediate vicinity of the fires,” Zou said.

The European Union's Copernicus Atmosphere Monitoring Service reported in September that smoke from western U.S. wildfires traveled nearly 5,000 miles (8,000 kilometers) to Britain and other parts of northern Europe.

Zou coauthored a paper with University of Illinois economists Mark Borgschulte and David Molitor on the economic effects of wildfires that was presented to an American Economic Association conference in January 2020. Molitor said there is a quantifiable economic relationship to the amount of smoke reaching communities.

“We estimate that an additional day of smoke exposure reduces earnings by about 0.04% over two years,” Molitor said. “The effect is largest in the year of smoke exposure, but the effects may linger for up to two years post-exposure.”

Benjamin Jones, assistant professor of economics at the University of New Mexico, said researchers are only beginning to understand the extent to which wildfire smoke impacts local economies.

“It is certainly possible, perhaps even likely, that the economic effects of wildfire smoke exposure may persist for months or even years after a large smoke event,” he said.

Jones said smoke exposure damaging the health of workers can “affect job performance, labor market productivity and perhaps even wage earnings and retirement savings,” Jones said.

Prolonged and intense fires like those in the Pacific Northwest last year may affect people's health “in such a significant way that there are longer-term impacts to local economies well after the wildfire that caused the smoke has been extinguished,” Jones said.

Two of the most visible industries impacted by wildfire smoke are tourism and outdoor recreation. Jones cited U.S. Bureau of Economic Analysis calculations that found the outdoor recreation economy accounted for \$459.8 billion in 2019, or 2.1% of the national gross domestic product, which is the sum of all goods and services produced within a country's borders.

“People tend to avoid national and state parks when wildfire smoke is present, which can depress local accommodation, hospitality and outdoor recreation industries, especially in rural areas in the American West,” Jones said.

A study released last October by the Urban Land Institute, a global organization of real estate and land use experts, found that real estate development is increasing in areas already prone to wildfires, with the results for urban centers including displaced populations and smoke damage.

The research found developers, urban planners and public leaders “increasingly are coordinating site, district, and regional scale resilience efforts,” Elizabeth Foster, manager of the institute’s Urban Resilience program, said in an email.

Developers face particular economic risks including electricity outages causing business interruptions and construction delays, hazardous air quality and added costs such as advanced air filtration technology.

“For many major markets, wildfire smoke is projected to be a more frequent concern as climate change increases the number of wildfire burn days,” Foster said.

Developers have incorporated building engineering and design as methods to fight wildfire smoke, Foster said.

“Strategies to preserve indoor air quality include high-performance air filters, passive-house design principles to reduce the infiltration of unfiltered air, running certified air cleaners, installing sensors to provide real-time feedback on air quality, and regular maintenance of ventilation and HVAC systems,” Foster said.

The potential benefits of wildfire resilient development and infrastructure management for the real estate industry include tenant protection, loss prevention, improved property values and reduced insurance premiums, Foster said.

“Structures built to wildfire-informed building codes survive at higher rates, depending on the characteristics and severity of the wildfire,” Foster said.

Some developers said homebuyers increasingly expect for wildfire risks to be taken into consideration for the houses they are considering buying, “so a wildfire resilient development can be a competitive advantage,” Foster said.

Jones said he could envision a growing market for “smoke avoidance investments” such as better insulated houses and improved air filtration and purification systems for new homes, or as investments by current owners.

“Economists know that people take actions to prevent and reduce their exposure to air pollution, such as wildfire smoke, and it therefore seems likely that housing developers and potential and current homeowners are not going to be immune to these trends for the specific case of wildfire smoke,” Jones said.

Calculations by Western communities and business owners will need to take into consideration not just fires but the ensuing smoke. As Jones said, the wildfire season is growing longer and “smoke is here to stay” in the West.

“The potential economic impacts here may be quite large,” Jones said.

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The future is electric, with California leading the way

By Gavin Newsom

California is creating and growing the markets of the future. It happens here first because our ambitious policies to protect the planet and public health have not only cleared the air but also fueled our economic growth — and developed pathways that the federal government can model nationally.

Our steadfast commitment to zero-emission vehicles takes into account that transportation is an integral part of our way of life and reduces harm to the air we breathe and the planet we leave for our kids’ future.

Last fall, I committed that only zero-emission vehicles would be sold in California by 2035. Today, zero-emission vehicles are California's fastest-growing export. It came as no surprise last week when another automobile manufacturer, General Motors, announced it would follow California's lead and commit to manufacturing only zero-emission vehicles by 2035. And then, seeing the handwriting on the wall, Toyota and Fiat Chrysler dropped their defense of Trump-era lawsuits challenging California's authority to set clean car standards. With the renewed energy and hope created by President Biden's leadership on climate change and equity, California is leading toward an electrifying future.

We've been leading the way for decades. Sixty years ago, the smog in Los Angeles was debilitating, and scientists determined it was emissions belching from the tailpipes of cars and trucks that were to blame. California, then as now, jumped into action and crafted our nation's first rules to reduce smog from vehicles. Then-California Gov. Ronald Reagan enacted what were, at the time, the strictest air quality standards in the nation. Shortly thereafter, those identical standards were adopted by the federal Environmental Protection Agency, taking California's laws governing the production of cleaner cars nationwide. The Golden State's role in setting stricter-than-federal auto rules was made formal in the Clean Air Act signed by another Californian, President Richard Nixon.

These cutting-edge policies were also smart for our economy. Our state is now home to more than 500,000 advanced-energy jobs, including those focused on manufacturing zero-emission cars, buses and trucks. Our state's gross domestic product growth has outpaced the nation, while we hit our 2020 climate target four years early. We are home to 34 zero-emission vehicle and equipment manufacturers who are driving economic growth across the state. Californians are behind the wheel of 45% of the country's zero-emission cars. And this is just the beginning. Going zero-emission is key to our economic recovery strategy.

This sustained focus on our climate must continue. Transportation is responsible for the majority of harmful greenhouse gas emissions in California, which puts it at the top of both our state and nation's climate to-do list. If we are going to keep moving with the urgency the climate crisis demands, we must accelerate the transition away from fossil fuels by drastically reducing demand for gas-powered vehicles. We have a huge economic opportunity to lead the world by prioritizing innovation and investments in zero-emission vehicle manufacturing and charging infrastructure.

But national vehicle emissions standards need to catch up to include trucks that emit toxic diesel emissions. Decades of environmental inequity have resulted in communities of color living next to freeways, warehouses, ports and rail yards, leading residents to suffer disproportionately from asthma and elevated cancer risks. Last summer, the California Air Resources Board adopted the world's first zero-emission commercial truck requirements — manufacturers must start selling zero-emission heavy-duty trucks in 2024, and by 2045, they can sell only clean trucks.

The transportation revolution needs to be inclusive. The barriers to purchasing electric cars are often greatest for low-income communities and communities of color. We need to make ZEVs work for those most in need. In California we've started by "operationalizing equity" through investing nearly 60% of our market-based cap-and-trade revenues to combat pollution in disadvantaged communities and establishing a low-carbon fuel standard that requires high-carbon intensity fuels and subsidizes zero-emission vehicles. Our policies must work to reverse disparities, promote justice and serve the most vulnerable populations.

Californians are being devastated by the impacts of climate change — fueling the biggest wildfires in a century, worsening our air quality and putting our health at risk. By taking swift, equitable action to reduce carbon emissions from vehicles, we can together deliver a climate-safe future for all.

During the last four years, the national clean car rules that President Obama put in place were undermined by the Trump administration with the support of big oil and car companies. This resulted in California's car rules, followed by 13 states and the District of Columbia, being stricter than the scientifically unjustifiable standards rushed through by the Trump EPA (these so-called SAFE II rules are currently being litigated, and many car companies are still on the wrong side). Luckily there is a solution at hand that can get us to 2026 when the current scheme expires (after which we will need a road map to a zero-emission 2035). California together with Ford, Honda, VW, BMW and Volvo last year brokered deals to cut emissions from the fleet, between now and 2026, and set us on a path to zero from there.

Now, just as in the past, by following California's leadership, we can continue to create jobs, improve health and advance equity. We can electrify our economy and our future.