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Smog is seen in downtown Salt Lake City, Utah, on Dec. 12, 2017.

Smog is seen in downtown Salt Lake City, Utah, on Dec. 12, 2017. A new EPA rule decreases by 25% the limit for fine particulate matter, known as PM 2.5 and commonly referred to as soot. The change is expected to save thousands of lives each year. (CNS/Reuters/George Frey)



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The first update to national air quality standards in a decade represents an important step for public health and environmental justice, one that will save thousands of lives each year, said Catholic and religious leaders who welcomed this week's move by the Biden administration.

The U.S. Environmental Protection Agency issued on Feb. 7 a final rule updating limits under the Clean Air Act for fine particulate matter, known as PM 2.5 and commonly referred to as soot. The toxic microscopic particles — smaller than one-thirtieth the width of human hair — are produced mainly from burning fossil fuels.

They are easily inhaled and are connected to a wide swath of health maladies and as many as 100,000 deaths each year, especially in low-income communities that often face higher exposure to pollution.

The new rule requires PM 2.5 levels not to exceed 9 micrograms per cubic meter, a 25% reduction from the 12 micrograms per cubic meter limit under 2012 rules issued by the Obama administration. In 2020 President Donald Trump declined to update the air quality standards, which under the Clean Air Act must be reassessed every five years.

From 2000 to 2022, PM 2.5 levels in the U.S. have dropped 42%, though that decline was interrupted by a 5.5% increase from 2016 to 2018. The 2023 State of the Air report from the American Lung Association estimated that 36% of Americans, or 119.6 million people, live with unhealthy levels of pollution, with communities of color and Western states most exposed to unhealthy air.

The EPA estimates that the new standard by 2032 will prevent annually as many as 4,500 premature deaths and 800,000 asthma cases, and yield $77 in human health benefits for every dollar spent on the rule, totaling $46 billion in net health benefits. The rule will also modify EPA's PM 2.5 monitoring to ensure greater data collection from communities overburdened by air pollution.

"Cleaner air means that our children have brighter futures, and people can live more productive and active lives, improving our ability to grow and develop as a nation," EPA Administrator Michael Regan said in a statement.

> 'There is no pollutant I know that does not result in disproportionately heavy exposure to poor, minority and marginalized people.'
> —Philip Landrigan
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Philip Landrigan, a pediatrician and epidemiologist who directs the Program for Global Public Health and the Common Good at Boston College, told EarthBeat the new soot limit is "a very important step forward, and it will have the beneficial effect of reducing air pollution, preventing disease, saving lives."

While he hoped for an even more stringent limit, citing the World Health Organization's guidelines of 5 micrograms per cubic meter, Landrigan said every environmental standard is a compromise between the status quo and the perfect.

"I don't want to diminish the importance of this step. It will prevent disease, it will save lives. It's a good thing," he said.

Faith groups largely welcomed the stronger limits on soot pollution, but also shared a desire that the EPA had gone further.

"These new EPA limits are progress," said Bishop Joseph Tyson of Yakima, Washington, who was one of five Catholic leaders who discussed soot pollution regulations with White House officials in November.

But he pointed to a 2023 air quality report that found lowering the allowable level of PM 2.5 to 8 micrograms per cubic meter was estimated to prevent 16,000 deaths each year — well over the 4,500 prevented deaths estimated with the new guideline.

"Those extra 12,000 lives must matter to us," Tyson, the episcopal moderator for Catholic Climate Covenant, said in an email.

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"These new EPA limits are progress," said Bishop Joseph Tyson of Yakima, Washington. (CNS screen grab)

The U.S. Conference of Catholic Bishops joined a March letter from 17 religious organizations urging the EPA to set the limit at 8 micrograms per cubic meter. Signatories included Interfaith Power & Light, the Sisters of Mercy of the Americas and Franciscan Action Network. A separate letter from 4,500 Black church leaders also backed a strong EPA soot limit.

Charity Sr. Louise Lears, head of creation care advocacy with Franciscan Action Network, said that President Joe Biden's administration has "done well" in strengthening air quality through the new rule.

"Everyone should be able to simply breathe clean air," she told EarthBeat.

Soot is seen as a widely prevalent threat to human health, particularly in urban environments and low-income communities that live near freeways and industrial facilities. It is produced primarily through combustion from vehicles, power plants, industrial and construction sites, and fires.

The miniscule size of fine particulate matter makes it easy for it to penetrate deep into the lungs and enter the bloodstream.



Smoke from the American Electric Power's coal-fired Mountaineer Power Plant, along the banks of the Ohio River in New Haven, W.Va., is seen in this file photo. (OSV News/Jim West)

In adults, high levels of PM 2.5 have been linked to heart disease, stroke, lung cancer and diabetes, and emerging evidence has connected it to dementia. In babies, it can contribute to premature birth, increased stillbirths and low birth weight. For children, high levels of PM 2.5 can lead to asthma, behavioral

dysfunction and intellectual impairments like lower IQ.

"We can expect to see a reduction in incidence and prevalence of all those diseases as this [soot] standard takes effect," with unborn children among the biggest beneficiaries, Landrigan said.

"We know that exposure in the womb to all these pollutants to the human fetus can cause damage," he added. "So we'll be protecting fetal health."

Other Catholic and faith leaders applauded the more stringent standard on soot pollution.

Adrian Dominican Sr. Ellen Burkhardt called addressing air quality "a moral issue." Her home of Detroit ranks 12th worst in the nation for year-round soot pollution.

"We need to protect all people, young and old, kids with asthma and seniors with respiratory issues. A healthier, safer world awaits us if we have the courage to pull together and create a cleaner economy," Burkhardt said.

Rev. Susan Hendershot, president of Interfaith Power & Light, said in a statement that with the new soot rules "we have a moral opportunity to advance environmental justice, ensure that our neighbors have clean air to breathe, and care for those most vulnerable to these pollutants."

"No one should be forced to live in a community where it is hazardous to simply breathe the air," she said.

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Cassandra Carmichael, executive director of the National Religious Partnership for the Environment, said the finalized rule "will save lives and enable us to be better stewards of God's creation."

Ricardo Simmonds, USCCB environmental policy adviser, said the new regulation, while not as stringent as hoped, "significantly improves" on the prior version and will improve lives, particularly for pregnant mothers, children, the unborn, communities of color and low-income communities disproportionately harmed by soot pollution.

Tyson, whose diocese in Yakima is the country's 11th worst for year-round soot exposure, framed air pollution as "not an abstract policy issue, it’s a faith issue," where humanity's treatment of creation reflects its relationship with God.

"More has to be done to protect lives from pollution and to restore our relationship with God and with each other," Tyson said.

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He said that all Catholics working for the church's social mission must avoid getting stuck in tunnel vision with their preferred issue — whether abortion, immigration, poverty or the environment — and recognize how each presents a threat to life at different steps of the human journey.

"As Catholics, we should be aligned together for saving lives," the Yakima bishop said.

The new air quality standard on soot is one of several rules the EPA is expected to finalize this year. Others seek to address emissions from passenger vehicles and heavy-duty trucks, power plant emissions, "forever chemicals" and toxic substances from chemical plants. A final rule on methane was issued in December.

Faith leaders have widely backed each environmental regulation, and have urged the Biden administration to adopt them by spring to shield them from repeal under the Congressional Review Act, which allows a new Congress to undo some executive rules issued in the final 60 days of an administration.

Taken together, the proposed EPA rules are steps toward protecting human health and advancing social justice, Landrigan said.

"There is no pollutant I know that does not result in disproportionately heavy exposure to poor, minority and marginalized people," he said. "So anything that reduces pollution … is going to produce a benefit for the poorest people in American society."

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