

## OPINION



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# AIR POLLUTION WEAKENS COVID-19 RESISTANCE

AS WE surpass 35 000 Covid-19 deaths amid a terrifying second wave of the pandemic we need to begin an honest discussion to define and reflect on the bigger picture that puts our society's health at risk.

Poor air quality from industrial pollution makes us more vulnerable to a variety of health problems including pandemics such as Covid-19. Air pollution in our industrial economy drives climate change which interacts with pandemics to worsen the impact of each. That is why improving air pollution must be central to a just post-corona transition.

The satellite imagery showing massive declines in air pollution across Europe, China and the Highveld in South Africa during our national lockdowns was testament to just how unsustainable to health our "normal economies" really are.

Similarly, they also demonstrated to us how quickly it is possible to achieve massive global reductions in air pollution (and, by association, climate-change gases) if there is a political will to do so. Sadly, more recent satellite imagery shows us how quickly we can bounce back to a dirty reality if air pollution emissions are not meaningfully addressed.

As more research investigating the link between air pollution and the spread of Covid-19 becomes available there appears to be growing evidence that people living in polluted cities are more at risk from the coronavirus. There are good reasons to suspect that air pollution worsens Covid-19.

Many health studies investigating the impacts of air pollution on health conclusively find that air pollution is known to cause and exacerbate long-term health conditions affecting the respiratory system (the lungs) – impairing our capacity to fight off lung infections, the cardiovascular systems (the heart and blood systems) and also many other cancer health outcomes.

A recent study hot off the press, published in the health science journal *Cardiovascular Research*, takes a step further and estimates the proportion of Covid-19 deaths due to air pollution. The authors estimate that long-term exposure to air pollution generated by human activity is linked to about 27% of Covid-19-related deaths in East Asia and 15% mortality worldwide. They state that the deaths could largely have been prevented if better air quality regulations were in place.

One of the study co-authors, Professor Thomas Münzel from Johannes Gutenberg University and the German Centre for Cardiovascular Research, said: "When people inhale polluted air, the very small polluting particles, the PM 2.5, migrate from the lungs to the blood and blood vessels, causing inflammation and severe oxidative stress, which is an imbalance between free radicals and oxidants in the body that normally repair damage to cells. This causes damage to the inner lining of arteries, the endothelium, and leads to the narrowing and stiffening of the arteries.

"The Covid-19 virus also enters the body via the lungs, causing similar damage to blood vessels, and it is now considered to be an endothelial disease.

"However, there are no vaccines against poor air quality and climate change. The remedy is to mitigate emissions. The transition to a green economy with clean, renewable energy sources will further both environmental and public health locally through improved air quality and globally by limiting climate change," Münzel said.

What is the relevance for us here in South Africa?

Eskom is our biggest industrial polluter. Other mega polluting industries are Sasol and the oil refineries.

We must choose an unprecedented set of opportunities to forge a just transition to equitable, resilient societies that provide decent work for all, universal healthcare and contribute to a sustainable and clean energy system and ultimately a healthy climate.

As many across the world rise up against systemic racism and discrimination, we must also forge a broad, interconnected agenda for change that fosters health equity, ecological sustainability, and social justice.

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