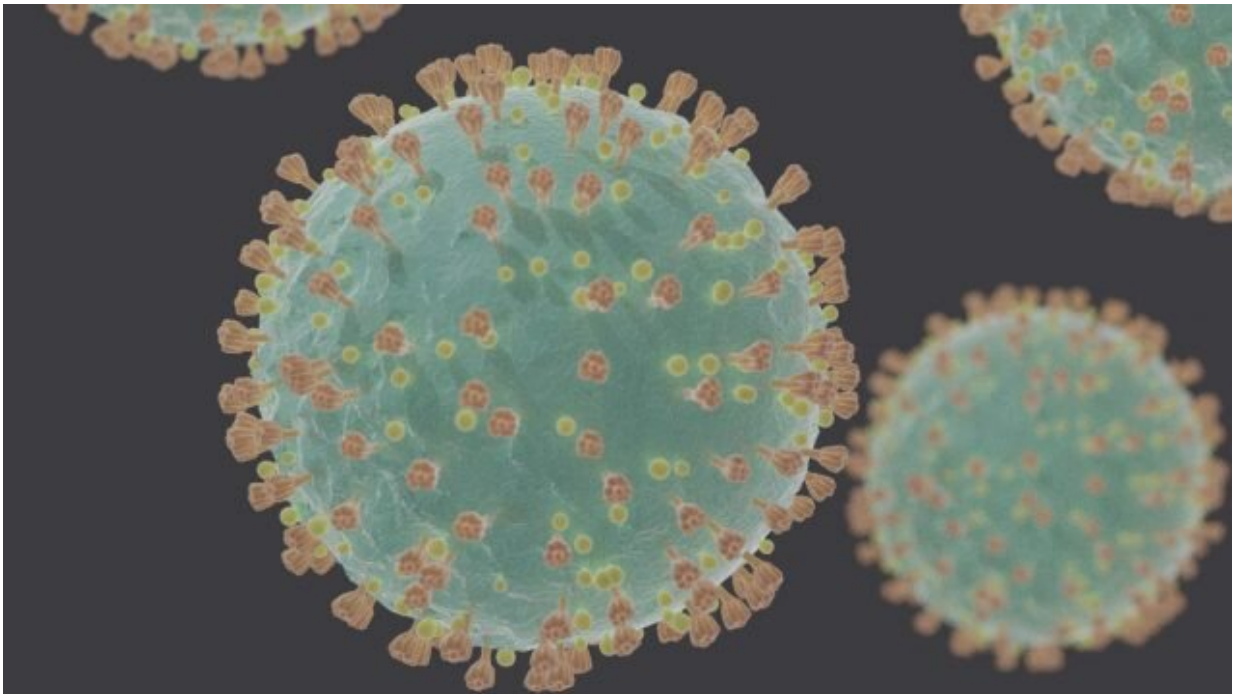# What can we learn from COVID-19 to help with climate change?

March 27 2020, by Renee Cho

Credit: Felipe Esquivel Reed

Today, the Covid-19 pandemic is all anyone can talk about. Societies around the world are coming to a standstill, and concern for most matters other than the coronavirus have been pushed aside. But as we confront the current crisis, can we learn anything that could help us as a country deal with another crisis that is slowly but inexorably coming down the pike—climate change?

We asked three Earth Institute experts for their insights. Michael Gerrard is a law professor and director of the Sabin Center for Climate Change Law. Jeffrey Shaman studies climate and health at Columbia University's International Research Institute for Climate and Society and the Mailman School of Public Health. Scott Barrett is vice dean of Columbia's School of International and Public Affairs, and Lenfest-Earth Institute professor of natural resources economics.

How do the impacts of Covid-19 and climate change differ?

Both the coronavirus and [climate change](#) have the potential to be catastrophic for humanity—but they operate on different timescales. Covid-19 has upended almost every aspect of societies around the world in just a few weeks. "Climate change is much slower acting, but ultimately could be at least as disruptive," said Michael Gerrard.

Jeffrey Shaman concurred. "Both climate change and the coronavirus as disrupters have lots of downstream consequences. With climate change, it's not just the climate system that changes—it affects human health, food security, agricultural security, political and economic stability, and governance. It has all these ripple effects that affect all components of society in a very slow way that's maybe hard to quantify at times. Coronavirus is more immediate, but it's doing the same thing. It has completely disrupted our society in a way that we haven't seen since World War II."

With both Covid-19 and climate change, people run the risk of not taking action until it's too late, said Shaman. "Climate change suffers because we're not going to really recognize it until it's too late. Are we going to get enough people to understand the gravity of the problem before it's devastating in its impacts and possibly not reversible? That's

the same thing that's happening with [Covid-19]—the people who will be confirmed in seven to 10 days are getting infected today and yesterday and the day before. They're already infected but they don't know it yet…. That delay masks the problem we have, because [the cases are] exponentially growing as it happens."

As with climate change, Shaman added, "The less we do early enough to nip it in the bud, the more problematic and overwhelming it will be later."

Responses to Covid-19 and climate change

At the individual level, most people acknowledge the importance of addressing both Covid-19 and climate change, but Scott Barrett explained that the incentives for dealing with each differs. "If you maintain social distancing, you help to break the chain of transmission, offering a measure of protection to others," he said. "But you also protect yourself from infection—a powerful incentive. If you reduce your greenhouse gas emissions, you help to limit climate change, but the benefit you get from that reduction in climate change is negligible—giving you a weak incentive to reduce emissions." This is one reason why people have acted swiftly to limit the spread of Covid-19, but have not acted with the same urgency to prevent climate change.

Societies and governments around the world are responding in different ways to Covid-19. Some deny that it exists, while others are proactive and still more are in between. "We're going to have all these natural experiments that show what worked and what didn't that we'll be able to evaluate as it's going on," said Shaman. "And when the dust settles, we will know whether or not one strategy versus another was more or less effective."

He questions, as some others have as well, the price of locking down a city or state. He says that doing nothing would be disastrous; the exponentially growing number of cases would cause healthcare services to collapse. Medical supplies would run out, there wouldn't be enough doctors and nurses, and the quality of care would plummet. Shaman is equally concerned, however, that imposing the strict control measures that China has and that are being considered in the U.S. could be a huge disruption to our economy.

"The psychological, emotional and economic costs to individuals could be enormous," he said. "It could, if not managed well, spawn years of unemployment. It would kill small businesses, and many people don't even have three months of savings to live on. How are they going to recover from this? Are we going to be locked into a decade of depression afterwards? Are we going to lose an entire generation in their 20s and their opportunities? That's the cost you're looking at, and that cost may be greater than anything that we're talking about from this disease. We don't know."

While the impacts of climate change could potentially be equally disruptive, Shaman said their severity will depend on how quickly they occur, and how well we adapt to them, both socially and technologically.

Innovation may be critical to dealing with both Covid-19 and climate change. The ultimate solution to the coronavirus is vaccination. "Once a vaccine is available, demand for it will be high," Barrett said. "People have a powerful incentive to avoid getting infected. When a lot of people get vaccinated, society is also protected, thanks to 'herd immunity.' This makes the incentives for every country to deploy vaccination very strong."

He added that innovation is also needed to address climate change, but demand for innovative technologies may be limited as long as fossil fuels

remain relatively cheap. So, unfortunately, even at the societal level, "the benefit of reducing emissions is low for an individual country relative to the global benefit," he said. "And because the threshold for climate catastrophe is very uncertain, each country has reason to believe that its own emissions won't be pivotal. The cause of 'catastrophic climate change' would be a failure by all countries to limit emissions."

Covid-19 effects on the climate

Research by scientists at Columbia's Lamont-Doherty Earth Observatory has shown that coronavirus-related shut downs are causing air pollution and carbon emissions to plummet in New York. Similar trends are being observed in other cities. It is likely these effects will be short-lived, however.

Meanwhile, Gerrard is concerned that the buildup in attention and momentum for global action on climate change over the last few years is being dissipated by the coronavirus crisis. The economic impacts of both the virus and plunging oil prices might also slow the fight against climate change.

"This simultaneous oil price crisis interacts with the virus in complex ways and can also have a real impact on climate change in both directions," he said. "If oil is cheaper, it's more difficult for renewables to compete—though we don't have head-to-head competition because oil is mostly used for transport, while most renewables are used to make electricity. Cheap oil prices may encourage people to buy larger vehicles, but it may also drive a lot of smaller oil and gas producers out of business."

Lessons from the Covid-19 crisis to help us deal with the impacts of climate change

Air travel is a significant and growing portion of greenhouse gas emissions, and one that is difficult to curb. In addition, transportation is the single largest source of greenhouse gas emissions in the U.S. Gerrard sees one positive outcome of the necessity of sheltering in place and working and socializing remotely: "We're learning more about how much face-to-face interaction is and is not essential," he said. "We're all struggling to communicate virtually, and we'll learn a lot more about the contexts in which travel can be avoided without great loss from face-to-face interaction. This could ultimately help us deal with climate change because we will see what chunk of [our interactions] can be reduced by electronic communication."

Another important lesson to take from this crisis was stressed by both Gerrard and Shaman: Societies around the world must learn to value science and the warnings of scientists when they make projections about terrible but plausible scenarios. Societies and countries need to respect objective facts and not be in denial of things they simply don't want to face. In addition, "We need to value pro-active actions and planning," said Shaman. "We need to invest in doing things about climate change now and we need to invest in doing things about pandemics of the future now…after this is over."

Barrett emphasized the importance of global cooperation for dealing with both a pandemic like Covid-19 and climate change. "The world has achieved great things in the past by working together—an example from the realm of infectious diseases being the eradication of smallpox," he said. "This effort succeeded because, when each country was assured that other countries would play their part, each had a strong incentive to play its part."

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