

# A COVID-19 recovery for climate

In response to the coronavirus disease 2019 (COVID-19) pandemic, countries are launching economic recovery programs to mitigate unemployment and stabilize core industries. Although it is understandably difficult to contemplate other hazards in the midst of this outbreak, it is important to remember that we face another major crisis that threatens human prosperity—climate change. Leveraging COVID-19 recovery programs to simultaneously advance the climate agenda presents a strategic opportunity to transition toward a more sustainable post-COVID-19 world.

The climate and COVID-19 crises are global and unprecedented in their level of disruption, and require coordinated responses by policy-makers, businesses, and broader society. But they are also different. The pandemic directly threatens individuals and health systems, whereas climate change undermines broader natural and human systems. COVID-19 requires responses within days and weeks, whereas reactions to the climate crisis appear less acute. Nevertheless, science suggests that climate impacts will worsen the longer we wait. So, we are faced with overlapping crises that require immediate societal mobilization.

Yet, as nations marshal massive resources to mitigate the economic and social impacts of COVID-19, they may be missing the chance to address climate change. Indeed, earlier experiences show that policy responses to major calamities, such as the 2008 global financial crisis and the Millennium drought in Australia, tend to focus on stabilizing incumbent industries, technologies, and practices rather than seizing the opportunity for sustainable transformation.

At this early stage of the pandemic, we are witnessing how worldwide lockdowns have decreased air pollution and greenhouse gas emissions because of reduced transportation, electricity generation, and industrial production. This shows how intertwined modern economic life and fossil fuels have become, and suggests consideration of climate implications in economic recovery plans.

However, there is variation in political responses to COVID-19. The United States has rolled back certain environmental regulations and appears poised to direct stimulus funds toward reinvigorating the fossil fuel industry. The German Council of Economic Experts submit-

ted a 110-page report on the coronavirus crisis without mentioning climate change or sustainability. By contrast, 17 European climate and environment ministers called on the European Commission to make the Green Deal central to the recovery following the pandemic.

Where, then, should we begin to focus in building back jobs and the economy while also transitioning toward a more sustainable future? One strategy would be to use recovery funds to stimulate innovation for the low-carbon energy transition. This might involve promoting new infrastructure, business models, and industrial capacity in renewable energy technology, energy storage, electric vehicles, and charging stations through tax credits and other measures. An example would be supporting the diffusion

of electric delivery vehicles, given the rise in e-commerce. But transitioning entire sectors is a long-term endeavor that requires continuous adaptation and attention to context. There may also be opportunities to build on social changes catalyzed by COVID-19 such as remote working, video conferencing, e-commerce, and reduced air travel. Science must explore how such changes can be made durable and contribute to low-carbon pathways.

A complementary strategy is to harness disruption to accelerate the decline of carbon-intensive industries, technologies, and practices. COVID-19 has temporarily destabilized businesses, economic activity, and consumption. This can be leveraged to accelerate the phase-out of coal-fired power, which is already part of the climate action plans of several countries, including Canada, the United King-

dom, Finland, and Germany. Destabilization has also affected the oil and gas industry, with the price of U.S. oil futures turning negative for the first time in history and global demand for oil estimated to reach a 25-year low. These circumstances can be harnessed to transition away from fossil fuels toward clean alternatives. To drive this change, it is important not to bail out fossil fuel companies and industries. Support must instead flow to affected workers and communities in the form of temporary relief, retraining, and retirement benefits.

COVID-19 recovery programs can lay the foundation for a more sustainable and prosperous future. Nations should not squander this opportunity.

—Daniel Rosenbloom and Jochen Markard

“...COVID-19 recovery... presents a strategic opportunity to transition toward a more sustainable... world.”

**Daniel Rosenbloom** is a Social Sciences and Humanities Research Council Postdoctoral Fellow in the Department of Political Science, University of Toronto, Toronto, Ontario, Canada. [daniel.rosenbloom@utoronto.ca](mailto:daniel.rosenbloom@utoronto.ca)

**Jochen Markard** is a senior researcher in the Group of Sustainability and Technology, Department of Management, Technology and Economics, ETH Zurich, Zurich, Switzerland. [jmarkard@ethz.ch](mailto:jmarkard@ethz.ch)

# Science

## A COVID-19 recovery for climate

Daniel Rosenbloom and Jochen Markard

*Science* **368** (6490), 447.

DOI: 10.1126/science.abc4887

### ARTICLE TOOLS

<http://science.sciencemag.org/content/368/6490/447>

### PERMISSIONS

<http://www.sciencemag.org/help/reprints-and-permissions>

Use of this article is subject to the [Terms of Service](#)

---

*Science* (print ISSN 0036-8075; online ISSN 1095-9203) is published by the American Association for the Advancement of Science, 1200 New York Avenue NW, Washington, DC 20005. The title *Science* is a registered trademark of AAAS.

Copyright © 2020 The Authors, some rights reserved; exclusive licensee American Association for the Advancement of Science. No claim to original U.S. Government Works