

POLICY BRIEF

**RECOMMENDATIONS
FOR THE NEW
ADMINISTRATION**

Pandemics, the Economy, Nature, and the Energy Sector

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This brief is part of a series of policy recommendations for the administration of President Joe Biden. Focusing on a range of important issues facing the country, the briefs are intended to provide decision-makers with relevant and effective ideas for addressing domestic and foreign policy priorities. View the entire series at www.bakerinstitute.org/recommendations-2021.

This brief discusses the connections between pandemics, the economy, and energy, with an emphasis on how pandemic prevention can benefit the energy sector. Energy and the economy are intertwined. Economic growth requires reliable access to a vast amount of energy, and the 1970s recession stands witness to how the world economy can suffer when energy supply is disrupted. At the same time, a downturn in economic activity affects energy markets. With the U.S. increasingly becoming a net energy producer, declining economic activity can have strong adverse effects on the energy sector. Currently, the world economy is experiencing a severe “adverse shock” due to COVID-19. Pandemics begin as health crises, but soon affect the entire economy, including the energy sector. An energy sector that lacks resilience or is otherwise unhealthy is not able to support robust economic activity. Thus, economic recovery from the COVID-19 pandemic would need to consider energy sector resilience.

COVID-19 has been a major event, estimated to result in close to 500,000 fatalities over a period of almost a year in the U.S. alone. While the impact of this tragic loss in human life cannot be understated, it

is also important to note that the pandemic is likely to cost the global economy well over \$1 trillion in 2020 alone. Such a large reduction in economic activity will inevitably lead to less capital available for important investments, including those necessary to ensure resilience in the energy sector. The infrastructure investments needed to expand and scale up renewable, energy storage, and carbon-negative technologies are immense. As a result, the transition toward a green energy economy cannot realistically take place before the world economy fully recovers from the pandemic.

It is virtually impossible to prevent a pandemic from reaching our shores once it occurs. How then can we make a pandemic-capable virus less likely to emerge? And in the event that a pandemic does emerge, what is the best way to facilitate recovery after the pandemic?

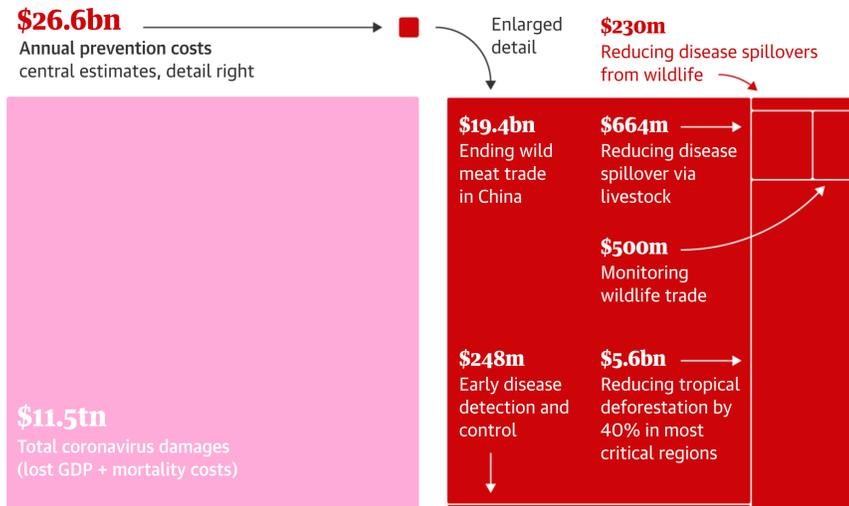
PANDEMIC PREVENTION

COVID-19 is far from an isolated event; for the last century, two new viruses per year have spilled from their natural hosts into humans. Tropical forests around the world



Policies that reduce the probability of future pandemic emergence involve some costs, but constitute a most profitable investment.

FIGURE 1 — ANNUAL COSTS OF PREVENTING FUTURE PANDEMICS FROM WILDLIFE ARE TINY COMPARED WITH COSTS OF THE COVID-19 CRISIS



SOURCE Dobson et al, Science 2020. Guardian graphic.

are breeding grounds for a large number of viruses. Viruses can infect people directly when handling live wildlife or their meat (as in wildlife food markets), or indirectly from exposure to farm animals. Several studies have documented that the costs of pandemic prevention through planning and the reduction of deforestation and trade in wildlife are only a small fraction of the costs from dealing with a global pandemic like COVID-19 (see Figure 1).¹ Institutional reforms are needed to deliver a sustainable growth that would reduce the chances of a similar health-driven economic breakdown in the future. The risks today are higher than ever, as increasing interactions between humans and wildlife and advances in mobility accelerate the potential for viruses to spread globally. Figure 1 identifies several factors that would contribute to a reduced pandemic frequency at a tiny fraction of the cost of a pandemic of the magnitude of COVID-19.

Tropical forest edges have been shown to be critical for pandemic emergence. They arise as humans build roads or clear forests for timber production or agriculture, reducing the natural environment and bringing humans into closer contact with

previously isolated wildlife.² The largest-scale example of successful deforestation reduction came from Brazil between 2005–2012 when deforestation in the Amazon dropped by 70%. This was partly the result of international contributions to an Amazon Fund of about \$1 billion supporting land-use zoning. Such actions contribute to preserving biodiversity and mitigating climate change.³

Establishing policies and making investments to prevent tropical deforestation and to limit wildlife trade would unequivocally help to delay the next outbreak. Most of the proposed measures have other environmental and climate-related co-benefits. For example, reduced deforestation would also lead to additional carbon absorption from the atmosphere, contributing to the fight against climate change. A global agency to promote prevention, conduct surveillance, and, if all else fails, sound the alarm, would almost certainly reduce disease emergence risk and save lives.

While imperfect and in need of reform, the World Health Organization (WHO) would be the natural fit for this role. By their very nature pandemics constitute global threats, requiring a coordinated, multilateral response. A nativist approach is likely to harm countries like the U.S. in their interests as well as in the physical toll of lost lives. Pandemic prevention is an area where the world is likely to welcome engagement from the Biden administration.

There are strong parallels between a coordinated U.S.-led action against pandemics and the role the U.S. can play in leading multilateral engagement on climate and energy issues. The return of the U.S. to the Paris accord serves as a strong signal to other nations about America's commitment to a viable energy transition. A U.S. policy that includes a price on carbon, and is mindful of market incentives, is likely to prove credible and effective, making it more likely to result in global coordinated action. This is especially true in terms of inducing powerful major carbon-emitters, such as India and China, to join meaningful multilateral climate action.

POLICY DURING THE RECOVERY

The United Nations (UNCTAD) March 2020 report forecasted that the COVID-19 shock would trigger a deceleration of global annual growth, with a loss to global income around \$1 trillion–\$2 trillion.⁴ If the extraordinary economic stimulus measures coupled with the upcoming vaccines are successful, we could witness a swift recovery, as in the aftermath of the SARS virus in 2003. If, however, the crisis is prolonged, the recovery could lag, as in the period following the oil shocks of the 1970s. When the crisis begins to subside, fundamentals point to a global economic situation more closely resembling a post-World War II recovery than that of a financial crisis. Here again we turn to one of the largest lessons of the pandemic: the necessity of international coordination.

An important aspect of this recovery involves assistance for non-OECD countries that lack the infrastructure or resources to handle a health/economic crisis on their own. As a response to the pandemic, special provisions for fast-track financing are currently allowing World Bank projects totaling \$1.9 billion to get underway in 25 countries. There are also plans for a broader medium-term economic response that will provide up to \$160 billion over the next 15 months. What will likely prove necessary is a combination of monetary transfers to developing countries (in a Marshall-like plan) and technology transfers and debt relief until economic growth returns. These transfers are best targeted toward projects that improve infrastructure, including projects that ensure sustainable energy supplies. Over 1.3 billion people, mainly in rural areas in Asia and sub-Saharan Africa, still lack reliable access to electricity. This has direct implications for living standards and life expectancy in these regions, due to the resulting difficulties in purifying water, storing food and essential medicines, and accessing basic-level health care. Population trends are likely to make energy poverty an even more pressing issue in the future. Electrification in these areas is a major undertaking that requires coordinated engagement.

Financing stimulus policies similar to those applied in OECD countries will be especially challenging for Africa.⁵ Here too the new administration has the opportunity to play a strategic role that could increase for decades the geopolitical influence of the U.S. in some of the world's most critical regions. This strategic opening will not remain for long as other countries, most notably China, stand ready to step in.

CONCLUSION

Pandemics are detrimental to public health, as well as to the health of the economy and the energy sector. The realization that pandemics are not black swan events ought to lead to better responses in the future. It is clear that coordinated, multilateral engagement by the U.S. is critical to both prevention and recovery. No country alone is immune or singlehandedly capable of solving the problem. Even within the U.S., interstate coordination and a federal government approach better place states to focus on relief rather than competition for resources. Policies that reduce the probability of future pandemic emergence involve some costs, but constitute a most profitable investment. Some of these policies, such as reducing deforestation, also have auxiliary benefits, including in the fight against climate change.

ENDNOTES

1. Andrew P. Dobson, et al., “Ecology and Economics for Pandemic Prevention,” *Science*, July 24, 2020. DOI: 10.1126/science.abc3189. A related follow-up study appears in Aaron Bernstein, et al., “Investments in the Primary Prevention of Viral Zoonoses,” *Manuscript*, 2020. See also “Cost of preventing next pandemic 'equal to just 2% of Covid-19 economic damage,’” *The Guardian*, July 23, 2020, <https://www.theguardian.com/world/2020/jul/23/preventing-next-pandemic-fraction-cost-covid-19-economic-fallout>.

2. See M.C. Castro, et al., “Development, environmental degradation, and disease spread in the Brazilian Amazon,” *PLoS Biology* 17(11): e3000526.

3. See T. Vilela, et. al, “A better Amazon road network for people and the environment. Proceedings of the National Academy of Sciences,” 2020, <https://doi.org/10.1073/pnas.1910853117>.

4. See UNCTAD, “The coronavirus shock: a story of another global crisis foretold and what policymakers should be doing about it,” United Nations Conference on Trade and Development Report Update, March 2020.

5. See Norman V. Loayza and Steven Michael Pennings, “Macroeconomic Policy in the Time of COVID-19: A Primer for Developing Countries,” *Research and Policy Briefs*, no. 28 (Washington, D.C.: World Bank Group, Spring 2020).

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Cite as:

Temzelides, Ted. 2021. *Pandemics, the Economy, Nature, and the Energy Sector*. Policy brief: Recommendations for the New Administration. 02.18.21. Rice University's Baker Institute for Public Policy, Houston, Texas.

<https://doi.org/10.25613/89CH-H611>