

Inaction on climate change will have devastating consequences for the economy, families, and communities

Failure to address climate change will prove catastrophic. The economic and social costs are enormous. Climate change will increase the frequency and impact of natural disasters such as hurricanes and floods, and increase the likelihood of unbearable heat and droughts. From an economic point of view, a hotter planet will make [workers](#) and [agricultural land](#) less productive, slowing economic growth and lowering living standards over time. All Americans will bear the costs of climate change, and the [small fraction](#) of the global population that has not yet been affected shrinks every day. Unchecked, these costs—which disproportionately impact marginalized communities—will continue to compound, harming working families through reduced wages, property loss, and worse health outcomes.

According to numerous estimates, climate change will slow productivity growth across the entire economy. Even modest warming will shrink the economy by [hundreds of billions of dollars](#) with higher temperatures raising costs at an increasing rate. Economists estimate 2 degrees of warming would lower [GDP by 0.5%](#) per year, and 4 degrees would cut GDP by 2.0% annually. The most sophisticated economic methods show [still greater](#) costs of carbon emissions to the US economy. These costs are not isolated to a single sector or region and will affect families, businesses, [local governments](#) and the [financial system](#). New government provisions are required to help ensure that the United States can continue to economic well-being, generate more clean energy and make progress towards eliminating carbon emissions.

Climate change will decrease productivity and reduce economic potential

Economists have demonstrated numerous linkages between extreme weather and lower economic output. In outdoor industries, like construction, utilities and agriculture—nearly all of which were deemed essential during the pandemic—extreme heat weakens the economy through two channels. First, workers [supply less labor](#) on hot days—at temperatures over 100°, labor supply drops by as much as one hour per day—second, workers are [less productive](#) during the hours they work in the heat.

These effects are not limited to outdoor work or less developed countries. Studies of the [Auto industry](#) find that factory output declined by 8 percent in weeks with six or more above-90-degree-days, even with air conditioning. Because these effects slow economic growth, even small changes compound into very large costs over time. Looking at just the wages of workers in a small number of temperature-exposed industries, researchers find as much as \$80 billion per year in [lost wages](#) due just to time spent avoiding extreme heat.

The risks of climate change to property are well known, including trillions in home values exposed to the threat of rising seas, more severe storms and inland flooding. There are also

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knock-on effects of these risks to property that are gaining wider attention. Credit [rating agencies](#) are increasingly recognizing the risks to local governments' revenue from climate-exposed properties and businesses. The bonds these governments issue are widely held by savers and retirees, who may live far from areas most physically threatened by climate change but stand a short step away from the financial risks. A growing recognition that climate change poses poorly understood, potentially large risks to the financial system by the [Federal Reserve](#), the [Bank of England](#), and [numerous](#) other central banks, financial institutions and regulators has led to extensive international efforts to identify these risks before they create an existential threat to financial markets.

A recent Joint Economic Committee [report](#) showed that extreme weather events have a devastating human cost and significant economic impact, [costing nearly \\$100 billion](#) in 2020. The bipartisan Infrastructure Investment and Jobs Act takes an important step towards protecting communities from climate-related damages by making infrastructure safer and more resilient. This includes investing \$50 billion to protect against droughts and floods. This represents crucial progress, but given the costs of climate change, much more substantial investment is still needed.

Climate change will reduce health and increase mortality, alongside broader social consequences

While many of the largest and best-measured costs of inaction are in pure economic terms, the human costs of inaction are dramatically higher. Although these are more difficult to accurately measure, the [health and mortality](#) costs of inaction drive the economics of urgent climate action. Extreme weather is tied to increased [direct mortality](#), along with decreases in [outdoor activity](#) that are connected to higher rates of [obesity](#) and hypertension, among other health conditions. There is also broad consensus that the burning of fossil fuels that contributes to climate change is inextricable from [particulate pollution](#) that causes thousands of deaths and other respiratory health conditions each year.

Additional societal costs of extreme temperatures continue to be identified as more researchers confront the impacts of climate change on their fields, raising the costs of inaction. Higher temperatures increase [violent crime](#). And just as labor productivity is negatively impacted by hotter temperatures, so, too, is [children's learning](#). Investments in U.S. schools can make them more resilient to extreme weather, but there is clear evidence that classrooms are not adequately outfitted to mitigate the effects of climate change, that inequities in school resources will be amplified by these needs, and learning is [already suffering](#).

The existential threat posed by climate change is not the only reason to act. There are significant economic benefits of transitioning to carbon-free energy—a race [other nations](#) have already joined. To avoid profound disruptions from climate change, the United States must accelerate and expand the rapid decarbonization of the electricity sector over the next decade. Proposals in the Build Back Better Act would put the economy on a path to sustainable carbon reduction by investing in industries, jobs, and workers to facilitate and capitalize on a clean energy transition in the US and abroad. In addition, this legislation will help lower household energy bills and

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dramatically cut the cost of driving by making the latest technologies more affordable to more U.S. workers and families.

Climate change disproportionately impacts marginalized and low-income communities

Low-income and marginalized communities will bear a [disproportionate](#) share of the impact of climate change. In addition to being on the front lines of the climate crisis, these communities have fewer resources to adapt to a changing climate, and absorb the economic and social costs that come with it.

Hispanic and Latino Americans face disproportionate [earnings risk](#) from climate change. These Americans are more exposed to increased traffic delays due to a rise in sea levels and because they are more likely to work in weather exposed industries, they face higher earnings losses due extreme weather. [African Americans](#) are 40% more likely to live in areas with the greatest expected increases in mortality due to climate change and 34% more likely to live in areas with the highest predicted increases in childhood asthma. Of the six impacts of climate change on vulnerable communities [examined by the EPA](#), low-income Americans were at higher risk for at least 5 of them.

Exposure to pollution is one of the main driving forces behind economic, regional and racial disparities in health and climate change will [only amplify](#) these disparities.

The cost of inaction on climate change continues to grow

Much of the opposition to climate policy stems from the false belief that doing nothing is a cost-saving and viable alternative. As recent experiences have powerfully illustrated, extreme weather is becoming the new normal and is overwhelming infrastructure built for a [cooler planet](#). In California, a single utility company is spending at [least \\$15 billion](#) to secure power lines to prevent them from sparking wildfires made increasingly deadly, and costly, by extreme weather. In Texas, extreme cold last winter led to widespread blackouts and shutdown natural gas infrastructure that was supposed to provide energy resilience, leaving millions in the cold. The [Dallas Federal Reserve estimated](#) that the crisis may have cost the Texas economy as much as \$80-\$130 billion in economic losses, and that the state of Texas alone should spend as much as [\\$430 million every year](#) to prevent similar issues in the future.

In addition to its effects on climate change, the overreliance on fossil fuels in the energy system also exposes the U.S. economy to other systemic risks. For example, spiking energy prices this winter, driven in part by [extreme weather](#) over the last year, are [stoking inflationary fears](#) and hurting family budgets. The fossil-fuel driven energy system causes energy [price volatility](#) and [geopolitical conflict](#). Historically, oil dependence combined with volatile prices was a key [driver of multiple U.S. recessions](#), which are [extremely costly](#), especially to [American workers](#).

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The social cost of carbon has risen dramatically in the past decade

The social cost of carbon—the best estimate of all economic damages from emitting one ton of carbon—has risen dramatically over the past decade. In 2010, the [federal estimate](#) of the social cost of carbon was \$27.27/ton (using a 3% discount rate, adjusted to 2020 dollars). Today the most sophisticated [corresponding estimate](#) is between \$61.40 and \$194, an increase of 125%-611% in just over a decade. This is largely the result of a better understanding of the effects of a warmer [climate on the economy](#) and a more complete modeling of future economic and population growth. [Attribution Science](#), which identifies the contribution of climate change to individual extreme weather events, has advanced dramatically in the last decade. Experts now know climate change is [more responsible](#) for extreme weather than previously understood, and that [damage](#) from carbon emissions is also more severe.

New efforts to understand the costs of climate change have been made possible by the real-time impact it is having on communities today. For example, efforts like the University of Chicago's [Climate Impact Lab](#), which quantifies effects on individual locations and specific parts of the economy, were not possible when economists were [calling](#) for climate regulation 30 years ago. Today, extensive experience with the economic damages resulting from climate change has made this work challenging in a new way, not due a paucity of data, but rather due to the sheer volume of climate-related damages to sift through.

New research, which has been made possible by the reality of living on a warming planet, has also led to striking conclusions about the far-reaching effects of climate change in people's lives. Much of what is known about the effects of extreme weather on productivity, health, crime and education results from researchers studying the seemingly indirect effects of climate change and establishing that the [causal linkages](#) are significantly stronger than experts initially predicted.

The cost of action on climate change is falling dramatically

While the total damage from emissions keeps rising, the cost of preventing emissions has plummeted over the last [two decades](#). Over the last decade the market has responded, with [solar generation capacity](#) growing an average of [42%](#) each year. These gains have come as renewable electricity costs have continued to plummet, a trend that is [forecast to continue](#) through at least the next decade. This growth in renewable generation has created enough solar energy to power almost 20 million American homes, and further federal incentives are critical to scaling up renewable generation while lowering energy bills for families. The next phase of investments would modernize America's electric system, connecting all Americans to the low-cost renewable energy that is already at over 80% of the market share for new electricity generation capacity.

Technology has dramatically lowered the costs of eliminating emissions by storing electricity. Lithium batteries have become [97% cheaper](#) over last 30 years, and perhaps nowhere has the declining cost of batteries and storage had a greater effect than on electric vehicles. A decade ago, [electric vehicles](#) relied on cutting edge technology to minimize demands on electric drive systems. Today electric batteries and drive systems can power 5,000 lb supercars. Electric Vehicles for more everyday uses [can accelerate faster](#) than gas-powered vehicles, despite being heavier, and they provide more than enough range for the vast majority of American commutes.

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The result is an industry that offers consumers dozens of models, ranging from compact cars to a growing [set of large trucks](#) that out accelerate all but the fastest legacy-powered vehicles--and at much lower operating and lifetime costs than gas-powered vehicles. Electric vehicle technology has advanced over the last decade, and because automakers have committed to [record introductions](#) of electric models over the next decade, the broader adoption of electric vehicles is expected to continue.

Families and communities are already paying a high cost for inaction on climate change

Many of the most tangible economic costs of climate change are apparent when major crises happen—homes destroyed in forest fires, flooding from hurricanes along the Gulf Coast, droughts across formerly fertile farmland. Other, widespread economic costs are also becoming clearer.

For example, the International Energy Agency points to [extreme weather](#) as one of the primary causes of a natural gas supply crunch that has caused energy price shocks and increased the cost of heating homes this winter around the world. Economists at the Federal Reserve have pointed to increased difficulty measuring the health of the economy as increasingly variable weather has led to [more volatility](#) in measured economic data. The environmental economics think tank Resources For the Future lays out the [costs of climate change for Florida](#) over the next two decades, including rising sea levels as well as myriad complications from rising temperatures. Even a small increase in average temperatures—just one to two degrees—could triple the number of days in which average temperatures statewide peak above 95 degrees. These extremely hot days reduce labor supply and productivity, slowing the state’s growth rate considerably.

Conclusion

The costs of inaction on climate are striking and widespread. Perhaps more alarming, the costs are rising rapidly and are disproportionately borne by the marginalized communities least able to bear them. There is cause for hope: the costs of addressing climate change are declining precipitously, making investments to address the climate crisis more affordable and productive than ever before. Moreover, these costs are projected to continue to fall, paving the way for bold climate investments to create jobs, reduce household costs, improve health outcomes and ensure a healthy planet for current and future generations.