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## The Impact of Global warming on the American economy

### **Introduction**

As science continues to offer new insights on the current and future changes in global warming, policymakers and other stakeholders are starting to react in earnest and advancing policies aimed at limiting greenhouse gas discharges to help American society adapt to the impending impacts from previous activities. Though such policies are gaining momentum, their significance is poorly understood by the media, public, and the government. Furthermore, long-term inaction has been driven by the perceived cost of limiting greenhouse gas emissions, among other global-warming practices. The costs of not dealing with the challenges of global warming have resulted in significant economic encounters, as discussed in this paper.

The scope of climatic changes anticipated in America, ranging from the rising sea levels, the melting of ice in the Polar Regions to stronger and extreme storms, impact the natural ecosystems, infrastructure, quality of life, and more importantly, the country's economy. These impacts vary across different sectors and regions in the country, leaving the federal government, the private sector, and the public to experience the full spectrum of the economic consequences of the increase in damage and disruption of the environment. Notably, the economic effects of climate change are felt across the United States, where sectors like energy, agriculture, and transportation have suffered significant effects. Specifically, essential infrastructure like water supply and treatment that offers the citizens better lives are impacted by global warming.

Besides, in the Northwest and Western parts of the country, global warming has changed the precipitation patterns and snow composition, increasing forest fires. The cost of suppressing forest fires runs into billions of dollars while also leading to the loss of valuable property (Kramer et al. 335). For instance, In 1991, Oakland, California, experienced one of the worst fires in the country. The same was also witnessed in San Bernardino and San Diego counties in 2003, where the cost of suppressing each fire was \$2 billion. In the last four years, more than seven million acres of forest land have been decimated due to these fires, with the total cost of suppressing the fires estimated to be more than one billion dollars.

The Midwest and the Great Plains suffer from perennial droughts and flooding, resulting in billions of dollars in property and crop damage. For instance, the 1997 North Dakota River floods led to agricultural losses estimated to be one billion dollars. In addition to that, the Mid Atlantic and Northeastern parts of the country are vulnerable to storms and rising sea levels due to Global Warming. Depending on the level of the occurrence, the cost of evacuating citizens from these areas ranges between \$2 billion and \$6.5 billion. Furthermore, since the 1980s, more than seventy cases of weather-related disasters have resulted in significant damages to the coastal infrastructure. Collectively, the combined effect of these cases exceeded \$560 billion in costs. For example, global warming has led to the scarcity of water in areas in the South and Southwest (Daher et al. 449). Water is an important resource for agricultural activities, households, and the industrial sector in these locations. In the Central Valley alone, the drought arising from climate change results in a loss of around 46 billion annually (Daher et al. 451). Surprisingly, by 2030, the total agricultural income for the San Antonio, Texas region is estimated to decline by 16-29% due to the competition in water usage, which is increasingly becoming scarce because of high temperatures occasioned by global warming.

Not all regions in the country suffer economic consequences due to global warming. For instance, regions in the Northeast where the \$31 billion maple sugar industry thrives suffer losses ranging between 15%-40%. This is estimated to be close to \$12 billion in annual income due to the reduction in the flow of maple juice due to the increase in temperatures (Rapp et al. 188). In addition, the region will also witness a decrease in skiing days which will reduce the region's income by \$405 million annually. Another sensitive sector to climate change is the dairy industry, where cows are hugely affected by the increase in temperature. The productivity of dairy cows starts to drop with an increase in temperature above 25°C. For that reason, in California, the dairy industry is expected to suffer losses ranging between \$287 -902 million in the next decade.

Consequently, the grape industry is also suffering from global warming, with the quality of grapes diminishing with the increase in temperatures in the grape production areas. These sectors may be regarded as small niche sectors in the wider economy, contributing to less than a tenth of the country's gross domestic product. Still, they are an essential component of local employment, culture, history, and landscape. Also, the changes in climatic conditions are fostering the spread of diseases and pests. For instance, the spruce bark beetle calamity in Alaska can result in more than 50% loss of available timber, leading to the loss of close to \$332 million. In addition, the recent outbreak of the Pine beetle attributed to global warming has impacted pulpwood and saw timber production in Kentucky, Alabama, Mississippi, and Louisiana. On average, the losses incurred in the timber sector are estimated to be 1% of the country's gross domestic product.

It is hard to think of another catastrophe similar to Hurricane Katrina, which is also attributed to global warming. The economic losses from Hurricane Katrina were more than \$200,

which was over 1% of the GDP, and detrimental to the United States' economy. A similar catastrophe will likely result in damages that may exceed the ones witnessed in the case of Hurricane Katrina. Global warming is already contributing to the increase in storms across the country, with 53% of the United States population residing close to major water bodies (Deryugina et al. 204). In this regard, these citizens and the existing infrastructure are in harm's way. The government's approaches to guard them or evacuate them when calamities occur require huge amounts of resources.

Global warming affects regions and sectors differently, but the population is also affected at an individual level, hence increasing the need for better healthcare that requires significant amounts of resources. The temperatures in the country, and the world, are increasing due to global warming. For instance, the Chicago heat wave of 1995 is a perfect example of how increasing temperatures can affect people. The Chicago heat event that lasted five days led to an 85% increase in death rates and 11% heat-related hospitalizations (Nairn et al. 2494). Such occurrences impact the economy of the United States of America because they lead to community-level hardships that require monies to manage.

The effects of global warming are also putting immense strains on the public budget because huge amounts of resources are needed to maintain and repair damaged infrastructure. Hence, economic losses translate to lost tax incomes or the complete absence of government services. On the other hand, the government may decide to raise taxes. For instance, it is estimated that global warming will increase the cost of maintaining Alaska's infrastructure by \$5-10 billion by 2080. The only way the federal government will manage to raise this revenue is via increases in taxation. Furthermore, depending on the global warming scenario, due to the significant costs incurred because of service disruptions, recent figures indicate that a rise in sea

level by twenty inches would result in damages worth \$23 -170 billion in the country. For example, in Hawaii, the rising sea levels have necessitated upgrades to the existing wastewater and drinking water infrastructure to the tune of \$1.9 billion in the next twenty years (Allen et al. 325).

Global warming has impacted the country's economy in that managed ecosystems require additional funds for the smooth running of their operations. The federal insurance programs are also strained due to the heightened adversities of adverse weather due to global warming. For instance, between 1980 and 2005, the federal insurance entities have parted with more than \$76 billion in insurance claims. In this regard, public planning policies that endorse adaptation in anticipation of the adversities of climate change should be embraced to limit the strain on the federal government's budget (Rifkin).

The indirect effects of global warming on the country's economy are rarely quantified. They include increased prices of essential commodities because the prices of raw materials, transport, energy, insurance, and taxes increase due to global warming. Because the cost of doing business increases, the overall competitiveness of individual entities declines, leading to the loss of employment and economic surety. With the loss of jobs, many individuals apply for government cushion, which is detrimental to the economy if a huge percentage of the population seeks support from the government to live. Furthermore, as global warming continues to affect households in the country, resources are diverted to food aid programs and other essential services like healthcare, hence weakening other sectors of the country's economy where money has been withdrawn. The ripple effect of the effects of global warming on the country's economy is profound.

A perfect example is the case of Hurricane Katrina that damaged thousands of houses and other critical infrastructure. The hurricane also damaged more than two thousand oil platforms and more than fifteen thousand miles of pipeline. The revenues lost due to these damages were in the range of \$11 billion, and it also slowed down the growth of the country's economy (Deryugina et al. 202).

Also, evidence suggests that global warming will continue affecting different sectors of the country's economy, either directly or indirectly. Though others argue that there are short-term benefits of climate change, the economic consequences of global warming exceed the short-term benefits. Thus, due to the economic consequences discussed in this paper, stakeholders and other policymakers need to act immediately to avert any future catastrophes directly linked with the survival of the country's economy.

### **Conclusion**

A comprehensive action to alleviate greenhouse gas emissions, together with measures aimed at adaptation to future unavoidable outcomes of global warming, will considerably lessen the overall economic outcomes associated with global warming. In addition to that, since the comprehension of the effects of global warming and the costs and benefits of these outcomes is in the best interest of the federal government, the federal administration must establish and sponsor a set of sector-specific and region-specific research studies to assist in offering guidance on climate policy issues and investment via appropriate methodologies. For instance, a multi-agency approach should be adopted. Different government and state agencies work in unison, including research organizations and laboratories, to help understand global warming and its economic, social and environmental impacts. Furthermore, the intellectual ability of the institutions of higher learning must be tapped to conduct cutting-edge studies into the economic

impacts of global warming, together with the effects in other sectors. This move will ensure that policymakers are guided by evidence in making informed decisions on global warming and its unintended consequences.

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