

We can afford to save the planet

By Eban Goodstein, Frank Ackerman and Kristen Sheeran
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Here is the good news on the climate front: The Europeans have ratcheted down their emissions targets, the Chinese are getting serious about solar power and energy efficiency, and Washington is lumbering toward a carbon cap.

These are steps toward the long-held goal: cutting global warming pollution 80 percent by 2050. Such cuts would stabilize the thickness of the heat-trapping carbon dioxide blanket surrounding the planet at 450 parts per million (ppm) and, we've been told, ensure that the global average temperature increase would not exceed 2 degrees Celsius (3.6 degrees Fahrenheit) from 1990 levels.

The bad news? Turns out that 450 ppm is so 2005.

In the past four years, climate scientists, led by NASA's James Hansen, have dramatically altered the goal. To avoid the collapse of the continental ice-sheets and a dangerous rise in sea levels, many scientists are now saying we have to get down to 350 ppm, and quickly.

This means what was already a heroic (and to many, impossible) target has become mind-boggling. Reaching 350 ppm would require a 97 percent reduction in emissions, entailing a complete conversion to renewable energy systems by mid-century, with the world economy virtually free of carbon emissions. Such a goal is far more demanding than any of the leading policy proposals under discussion.

Game over?

No. It's just time to rethink what is possible.

Some have argued that the worrisome climate news is that the cost of preventing climate change is too high. In fact, estimates of the cost of acting to mitigate warming have remained relatively stable, while estimates of the likely cost of inaction are becoming unbearable. Whether the goal is 450 or 350 parts per million, this is still a problem we can afford to solve. Stopping global warming remains fundamentally a problem of political will.

We are among the eight authors of a [recent](#) report for Economics for Equity and the Environment Network, an affiliate of the nonprofit Ecotrust, that surveyed numerous economic studies on the cost of meeting the 350 ppm goal. We found that quicker action aimed at more ambitious targets makes good economic sense.

Our report shows that a comprehensive global strategy is well within the range of what most nations are willing to pay to avoid far greater damages from climate change down the line. With investments of roughly 1 to 3 percent of global gross domestic product, or \$600 billion to \$1.8 trillion, we could rapidly transition from oil and coal to renewables and clean energy sources, including wind and solar, and replenish global forests, which would help trap billions of tons of carbon. These efforts would create jobs and stabilize the climate in the process. Fluctuations or changes in some factors, such as the price of oil, could mean these investments might actually save us money.

To some, the price of 1 to 3 percent of global economic output may seem too high. But examine the amount in context. Suppose, for instance, that the cost of climate protection turns out to be 2.5 percent of global GDP. In an economy like that of the United States that is, say, growing at a roughly 2.5 percent annual rate, spending 2.5 percent of its GDP on climate protection each year would be equivalent to skipping one year's growth and then resuming. Put another way, Americans in 2050 would have to wait one additional year, until 2051, to be as rich as they would have been had they not been investing in the transition to clean energy.

Consider another comparison: Military spending is greater than 4 percent of GDP in both the United States and China. Because of concerns about potential future dangers, both countries are already diverting from annual consumption more than the high-end estimates of what it would take to stop global warming.

Business lobbies have argued that even the moderate reductions called for in recent U.S. climate and energy legislation would cripple the economy. Yet academic research and findings by the Congressional Budget Office and the Environmental Protection Agency show that recent U.S. legislative proposals would have very little if any negative impact on the U.S. economy. Our report surveys the economic studies of the costs of achieving the far more ambitious target of 350 ppm and finds only estimates of moderate net global costs.

The pace of our switch to clean energy will determine whether we hit a concentration target (whatever it may be) or fail to do so. Certainly, failure to slow and stop warming will impose high costs on future generations. The world has begun taking important initial steps toward addressing the climate crisis, with increasingly widespread acceptance. To avoid dangerous warming or the effects it would cause will require us to do better than 450 ppm. Luckily, the data suggest that we can, indeed, afford to do better. What we cannot afford is too little climate policy, too late.

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