OPINION

TODAY'S TOPIC **'SOLAR GEOENGINEERING'**

Our view

Reflecting sunlight offers no quick fix for feverish planet

Efforts to reduce emissions of climate-disrupting greenhouse gases are moving at a pace that is, well, glacial. Human activity continues to spew tens of billions of tons of carbon dioxide into the air every year. And even though a bone-chilling cold snap has the eastern U.S. shivering this week, the globe as a whole continues to warm at a scary pace.

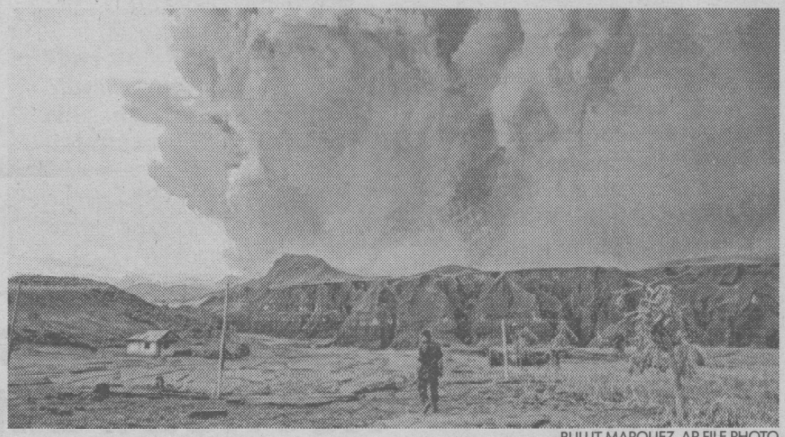
So it's not surprising that some scientists, economists and politicians have begun to discuss a Plan B.

Variously known as "solar geoengineering," "radiation management" or "albedo modification," Plan B involves spraying particles into the atmosphere that would reflect sunlight and cool the Earth's surface. Particle injection would be cheaper than emissions reduction and, like a volcanic eruption such as Mount Pinatubo in the Philippines in 1991, could produce relatively rapid results.

Voila! Problem solved.

Um, not so fast. As a National Academy of Sciences panel reported last week, solar geoengineering is no substitute for efforts to reduce greenhouse gas emissions and adapt to a changing climate. Here's why:

▶ Squirting sulfate particles or other aerosols into the atmosphere doesn't address the root cause of climate disruption, nor would it counteract ocean acidification and other effects of elevated carbon dioxide levels. Once particle injection began, it would have to go on for centuries, unless ways were developed to remove large amounts of carbon dioxide from the atmosphere.



BULLIT MARQUEZ, AP FILE PHOTO

Mount Pinatubo in the Philippines erupting in 1991.

▶ The risks posed by this global science experiment are poorly understood. Some areas might get floods and others drought. Blue skies and starry nights would probably be replaced by milky hazes and red sunsets.

▶ Some sort of international body would need to oversee the injection program. It's hard enough for a husband and wife to agree on the best bedroom temperature. Imagine the nations of the world trying to set the planet's thermostat.

"The nearly two years' worth of reading and animated discussions that went into this study have convinced me more than ever that the idea of 'fixing' the climate by hacking the Earth's reflection of sunlight is wildly, utterly, howlingly barking mad," panel member Raymond Pierrehumbert, a University of Chicago geophysicist, wrote in *Slate*.

The government-sponsored panel had a more favorable view toward another form of "climate intervention" — removing CO2 from the atmosphere. This approach is far less problematic, but it's slow and uneconomical.

As for injecting particles into the atmosphere to cool the planet, the scientists recommended more research to determine whether such ideas could be viable someday. That's fine, as long as policymakers treat particle injection as a last-ditch scheme that is less Plan B than it is Plan Z.