



Earth Day: Saving our planet, saving ourselves

By Veerabhadran Ramanathan & Durwood Zaelke

Saturday, April 21, 2012

What can we do to return the planet to a safe and stable climate that civilizations have enjoyed for the last several thousand years? The record heat in March, which broke more than 15,000 records in the United States, gives this question a sense of urgency. Among the impediments stopping the U.S. and other countries from taking action to avoid unmanageable climate changes is the perception that it amounts to an act of unaffordable economic sacrifice, one bound to put us at a disadvantage. Recent climate research and policymaking, pioneered in part at UC San Diego, shows there is a way out.

So far, most of the policy focus has targeted the prime global-warming gas, carbon dioxide. But at least 40 percent of the current global warming is due to four other pollutants. Many regions, particularly California, have proven and successful technologies to reduce these pollutants quickly and dramatically. Such reductions could cut future warming by almost half and delay by several decades the peak warming that threatens disaster for the world's vulnerable peoples and places, including mountain glaciers, Arctic sea ice, and low-lying islands and coastlines. Cutting these pollutants will also save 2 million lives annually and prevent billions of dollars of crop damage. Yes, saving the climate system can also save our lives!

The four pollutants to address are methane, a gas that leaks from landfills and natural gas pipes; black-carbon particles in the exhaust of diesel trucks and the smoke from wood- and coal-burning cookstoves; noxious gases from tailpipes that produce ozone in smog; and hydrofluorocarbons (HFCs), man-made gases used in refrigerators, air conditioners and spray cans. Because these pollutants stay in the atmosphere only a short time, reducing them provides a payoff perceptible within a matter of months to a decade.

Our optimism derives from the fact that fast action to cut these climate pollutants does not require that we wait until negotiations for a global climate treaty produce agreement. Both developed and developing countries are beginning to see that it is in

their own domestic interest to address the problem. What we need are energetic, bottom-up efforts from networks of local decision-makers, engineers, scientists and NGOs that are translating scientific knowledge into actions. Civil societies such as those celebrating Earth Days can play a large role in such knowledge-to-action networks.

One area to which they can contribute is the provision of energy-efficient and less-polluting cookstoves to the 2.7 billion people in the developing world who cannot afford fossil fuels and instead burn biomass such as firewood and dung. This act alone will cut down emissions of black carbon, ozone-producing gases, methane and carbon dioxide and thus slow the melting of Himalayan glaciers, in addition to saving lives and preventing crop damage every year in Asia and Africa.

In many regions of the world, we are already employing these technologies. California has led the way, drastically cutting the black carbon and ozone in smog thanks to aggressive mandates from the California Air Resources Board. Of course, these measures met with resistance initially, but with strong support from civil society they prevailed and now all California residents are enjoying the benefits. For the HFCs, replacement compounds are available and the Montreal Protocol is ready to do the job, having already phased out similar chemicals.

There are no advocacy groups promoting poor health nor any pro-pollution lobby. What we propose could find nearly universal support. But success would require the embrace of the United States, the European Union, China, India and other major developing economies. Who can deliver the message?

We have found an ally in Secretary of State Hillary Clinton, who announced in February a coalition consisting initially of six countries plus the United Nations Environment Programme that have pledged action to reduce climate-warming air pollutants.

We are confident society can score a victory against this global threat. Perhaps the actions we proposed here will be the spur that lets us come back to the original problem that has so divided us: what to do about carbon-dioxide emissions from fossil fuels.

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