

A cool calculus of global warming

The British government recently issued the most comprehensive study to date of the economic costs and risks of global warming, and of measures that might reduce greenhouse gas emissions, in the hope of averting some of the direst consequences.

Written under the leadership of Sir Nicholas Stern of the London School of Economics, who succeeded me as chief economist of the World Bank, the report makes clear that the question is no longer whether we can afford to do anything about global warming, but whether we can afford not to.

The report proposes an agenda whose cost would be equivalent to just one per cent of annual consumption, but would save the world risk equivalent costs that are five times greater. The reported costs of global warming are higher than in earlier studies because it takes into account the mounting evidence that the process of global warming is highly complex and non-linear, with a non-negligible chance that it may proceed much faster than had previously been thought and that the extent of warming may be much greater than had previously been thought.

Indeed, the study may actually significantly underestimate the costs: for instance, climate change may lead to more weather variability, a possible disappearance or major shift of the Gulf Stream - of particular concern to Europe - and a flourishing of disease.

When I served in 1995 on the Intergovernmental Panel on Climate Change, the scientific group that periodically assesses the science of global warming, there was overwhelming evidence that the concentration of greenhouse gases in the atmosphere had increased markedly since the beginning of the industrial revolution, that human activity had contributed significantly to those increases, and that they would have profound effects on climate and sea levels. But few saw, for instance, the Arctic ice cap melting as rapidly as now seems to be the case.

Still, some suggest that because we are not certain about how bad global warming will be, we should do little or nothing. To me, uncertainty should make us act more resolutely today, not less. As one scientist friend puts it: if you are driving on a mountain road, approaching a cliff, in a car whose brakes may fail, and a fog bank rolls in, should you drive more or less cautiously? Global warming is one of those rare instances where the scientific community is more fearful of what may be happening than the population at large. Scientists have glimpsed what the future may portend.

As the Stern report points out, as usual, the poor are the most vulnerable. A third of Bangladesh will be underwater by the end of this century. The Maldives and a host of Pacific Island states will disappear: our twenty-first-century Atlantis.

To an economist, the problem is obvious: polluters are not paying the full costs of the damage they cause. Pollution is a global externality of enormous proportions. The advanced countries might mean Bangladesh and the disappearing island states no harm, but no war could be more devastating.

A global externality can best be dealt with by a globally agreed tax rate. This does not mean an increase in overall taxation, but simply a substitution in each country of a pollution (carbon) tax for some current taxes. It makes much more sense to tax things that are bad, like pollution, than things that are good, like savings and work.

Although US President George W Bush says he believes in markets, in this case he has called for voluntary action. But it makes far more sense to use the force of markets - the power of incentives - than to rely on goodwill, especially when it comes to oil companies that regard their sole objective as maximising profits, regardless of the cost to others.

Exxon has reportedly been funding so-called think tanks to undermine confidence in the science of global warming, just as the tobacco industry funded "research" to question the validity of statistical findings showing the link between smoking and cancer. Some companies even seem to celebrate the melting of the polar ice cap, because it will reduce the cost of extracting the oil that lies beneath the Arctic Ocean.

The good news is that there are many ways by which improved incentives could reduce emissions - partly by eliminating the myriad of subsidies for inefficient usage. The US subsidises corn-based ethanol, and imposes tariffs on sugar-based ethanol; hidden in the tax code are billions of dollars of subsidies to the oil and gas industries.

Most importantly, price signals that show the true social costs of energy derived from fossil fuels will encourage innovation and conservation. Small changes in practices, when replicated by hundreds of millions of people, can make an enormous difference. For example, simply changing the colour of roofs in warm climates to reflect sunlight or planting trees around houses can lead to great savings on energy used for air conditioning.

We have but one planet, and should treasure it. Global warming is a risk that we simply cannot afford to ignore anymore.

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