



By Robert N. Stavins

Pricing Carbon: Promises, Problems

October 21, 2011, was a significant day for climate change policy worldwide. On that date, the California Air Resources Board voted to adopt the nation's most comprehensive cap-and-trade system to reduce carbon dioxide emissions. Compliance began in 2013, and will eventually cover 85 percent of the state's emissions. The system — which has already linked with a similar system in Quebec — is likely to become the focal point of a future “North American Climate Initiative.”

Thinking about California's adoption of its CO₂ cap-and-trade system causes me to reflect on the promise and problems of pricing carbon (a topic on which I co-authored an article with my Harvard colleague Joseph Aldy in the *Journal of Environment and Development* in 2011).

In a modern economy, nearly all aspects of economic activity affect greenhouse gas emissions — in particular CO₂. By internalizing the externalities associated with CO₂ emissions, carbon pricing can promote cost-effective abatement, deliver powerful innovation incentives, and — for that matter — ameliorate rather than exacerbate government fiscal problems.

Five types of policy instruments can conceivably be employed by regional, national, or sub-national governments for carbon pricing: cap-and-trade, car-

bon taxes, emission reduction credits, clean energy standards, and reduction of fossil fuel subsidies.

A number of regional, national, and sub-national carbon-pricing regimes are now in place, but climate change is truly a global commons problem: the location of greenhouse gas emissions has no effect on the distribution of damages. Hence, free-rider problems plague unilateral and multilateral approaches, because mitigation costs are likely to exceed direct benefits for virtually all countries.

In principle, international cooperation in this realm can help, and it can take one of three forms. First, countries could agree to apply the same tax on carbon (harmonized domestic taxes) or adopt a uniform international tax. Second, the international policy community could establish a system of international tradable permits, effectively a nation-state-level cap-and-trade program. In its simplest form, this represents the Kyoto Protocol's Annex B emission targets and Article 17 trading mechanism. Third, and most likely, a decentralized system of internationally linked domestic cap-and-trade programs (and other such policies) could ensure internationally cost-effective emissions mitigation.

In reality, political responses in most countries to proposals for market-based approaches are a function of issues and factors that transcend the scope of environmental and climate policy. Because a truly meaningful climate policy — whether market-based or conventional in design — will have significant impacts on economic activity in a wide variety of sectors and in every region of a country, proposals for these policies inevitably bring forth significant opposition, particularly during difficult economic times.

In the United States, political polarization has decimated what had long been the key political constituency in the Congress for environmental

action, namely, the middle, including both moderate Republicans and moderate Democrats. Whereas congressional debates about environmental and energy policy had long featured regional politics, they are now fully partisan. In this political maelstrom, the failure of a cap-and-trade climate policy in the Senate in 2010 was essentially collateral damage in a much larger political war.

It is possible that better economic times will reduce the pace of political polarization. It is also possible that the ongoing challenge of large budgetary deficits in many countries will increase the political feasibility of new sources of revenue. When and if this happens, consumption taxes (as opposed to traditional taxes on income and investment) could receive heightened attention, and primary among these might be energy taxes, which can be significant climate policy instruments, depending upon their design.

But it is too soon to predict what the future will hold for the use of

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market-based instruments for climate change. Perhaps the two decades we have experienced of relatively high receptivity in the United States, Europe, and other

parts of the world to cap-and-trade and offset mechanisms will turn out to be no more than a relatively brief departure from a long-term trend of reliance on conventional means of regulation. It is also possible, however, that the recent tarnishing of cap-and-trade in U.S. political dialogue will itself turn out to be a temporary departure from a long-term trend of increasing reliance on market-based environmental policy instruments. It is much too soon to say.

Robert N. Stavins is the Albert Pratt Professor of Business and Government at the John F. Kennedy School of Government, Harvard University, and Director of the Harvard Environmental Economics Program. He can be reached at robert_stavins@harvard.edu.