CLIMATE

A Madisonian Approach to Climate Policy

David G. Victor,[1*] Joshua C. House,[2] Sarah Joy[2]

After years of gridlock and indecision, serious efforts to slow the greenhouse express are finally taking hold. Unlike the integrated global scheme envisioned under the Kyoto Protocol, progress is arriving via fragmented and multispeed efforts. The decentralized system is akin to the messy federalism that James Madison embraced in the U.S. Constitution (*1*). Whereas Madison foresaw individual states becoming "laboratories" for political innovation, this global federalism of climate policy has emerged through innovation within nations, regions, and individual firms.

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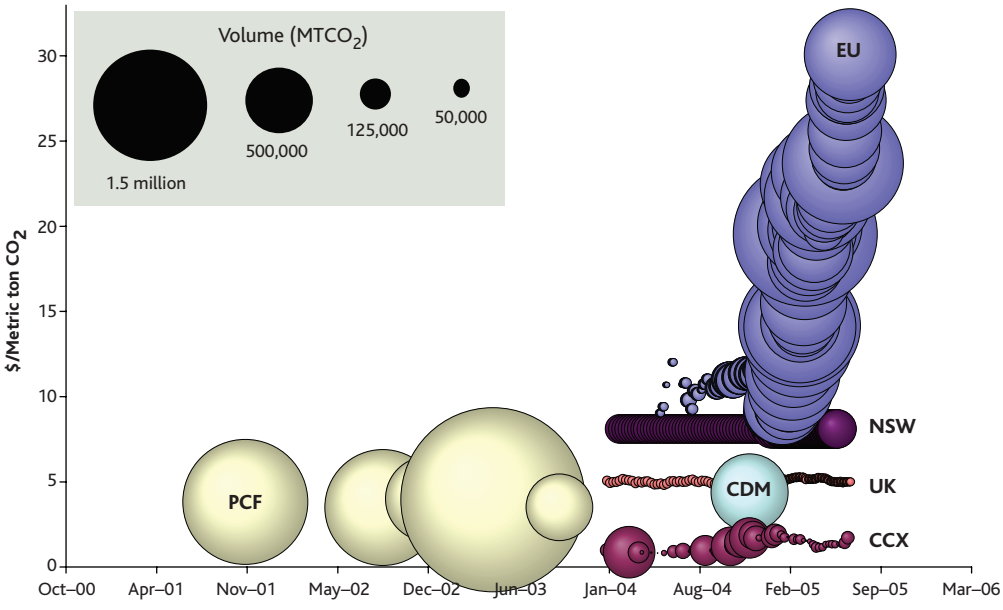
The most important efforts have involved trading emissions credits for carbon dioxide (CO_2), the leading human cause of climate change. So far, six trading systems have emerged—each a laboratory with its own procedures, stringency, and prices (see figure, right). The European Union (EU) is leading the pack with a system that caps CO_2 emissions from about 12,000 industrial facilities. Meanwhile, a distinct trading system in the United Kingdom continues to operate. The Kyoto Protocol includes a provision called the Clean Development Mechanism (CDM) that awards tradable credits for investments that cut emissions in developing countries. And the World Bank has established its own CDM-like mechanism, the Prototype Carbon Fund (PCF), which invests in carbon-reducing projects mainly in developing countries. Even in the United States, where the federal government has notoriously rejected any binding limit on greenhouse gases, 31 firms have imposed their own modest emission cuts and are trading credits on the private Chicago Climate Exchange (CCX). In addition, the lack of federal effort has compelled states to launch their own initiatives. Nine states in the northeast are far advanced in designing a scheme that would cap CO_2 emissions from power plants and would allow carbon trading.

This fragmented "bottom-up" approach to carbon trading is not simply a stiff smile to be painted on the wreckage of grander visions for global trading. Rather, it is pragmatic and effective (*2*–*4*). The architects of global trading were blinded by the theoretical benefits that could arise from trading among diverse economies; a universal system, they thought, would also prevent free riding. However, global institutions are too weak to monitor and enforce what is, in effect, a new monetary system. Global agreements are also vulnerable to exit when commitments become inconvenient (such as when the United States abandoned the Kyoto process). A system that originates from the top takes the speed of its least ambitious nation (*5*, *6*).

The strength of a bottom-up approach is its ability to tap stronger national and regional institutions for governance. Indeed, the most successful experiences with emission trading have all occurred within the boundaries of strong governing institutions (mainly in the United States) (*7*–*9*). The EU, although it now has 25 members, initially applied its carbon trading scheme to just the subset of 15 members that have the longest history of cooperation and were most capable of tolerating the intrusive procedures for allocating emission credits and enforcing compliance.

Still, progress is needed on three fronts. First, a suitable framework is needed to help stitch these fragmented efforts into a fuller global approach. For now, Madisonian laboratories allow flexibility that accommodates widely varied political preferences and institutions. For example, the trading scheme emerging in Canada will feature a "safety valve" to prevent pricing from exceeding 15 CAD (~U.S. $12.5), which will assure industry that carbon trading won't hurt competition with U.S. firms, which face no federal limits. By contrast, the EU system allows prices to vary more widely. Fault lines will arise between these different approaches,



Prices and volumes for six trading schemes. Data for PCF and CDM observations represent individual projects; the EU's Emission Trading System (ETS) values are daily, and the CCX values are weekly. We also show monthly values (derived from annual averages) for the U.K. trading system. NSW (Australia) trading values are monthly estimates based on trading averages for the 15 months preceding April 2005. Sources: Point Carbon, International Emissions Trading Association.

[1]D.G.V. is adjunct senior fellow at the Council on Foreign Relations and director of the Program on Energy and Sustainable Development (PESD), Stanford, CA 94305–6055, USA. [2]J.C.H. and S.J. are Research Fellows at PESD.

*Author for correspondence. E-mail: david.victor@stanford.edu

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and governments will not allow trading between these different systems unless they have confidence in the integrity of each system and see a comparable level of effort. Formal coordination will be needed to create wider and deeper markets.

Today's conventional wisdom focuses on treaties, such as the Kyoto Protocol, as the instruments for international coordination. But treaties, because they are binding, focus drafters on legal compliance and are therefore inherently conservative. They are good at locking the least risky achievements into place but a poor way to chart an uncertain course.

A different approach would engage leaders to set ambitious, nonbinding goals that would steer the Madisonian effort. Heads of government would assemble cross-cutting deals into a package of climate policies. Peer review would promote learning and hold governments accountable. Canadian Prime Minister Paul Martin has advocated such a concept, what he calls the "L20," as a standing forum of about 20 leaders from North and South to address a wide array of global issues (*10*). On climate change, the L20's cross-cutting packages of commitments would address every major aspect of the problem, including support for scientific research, programs to develop better carbon-free energy technologies, commitments to control emissions, and policies that make societies more adaptive to a changing climate (*11*). The L20 could launch treaty negotiations for particular issues that require the force of binding law. It could oversee the technical and political work needed to interlace the different trading systems together into an increasingly global currency.

The L20 group would be small enough to make progress on such complex issues yet sufficiently broad to exert leverage on the global situation. (The top 20 emitters of greenhouse gases account for about three-fourths of the world total.) Such an approach—high-level engagement, concentration on a handful of important countries, the setting of aspirational goals, regular progress review, and subsequent codification into binding law—has been used effectively in controlling acid rain and water pollution in Europe, in arms control, and in breaking logjams in trade negotiations (*12*).

Second, and most importantly, the U.S. government must devise a serious response. Global efforts are difficult to inspire when the leader on most international matters is far back in the pack. Current U.S. policy relies on funding for climate science and low-carbon technologies, as well as voluntary emission controls, such as a pact announced with five Asian countries. But U.S. policy lacks a strong signal that will induce firms to reduce carbon. Gridlock in the United States stems partly from unrealistic goals set in Kyoto, as well as political polarization. Recently signed comprehensive energy legislation does not include any limit on carbon.

The absence of serious action by the U.S. federal government has catalyzed individual states and even cities to pursue their own policies. But such efforts are too atomized to exert much leverage on the country's emissions, because federal institutions mostly govern the U.S. economy. For example, 10 states have set their own emissions targets, but none has a viable plan to achieve its goals. These 10 are among the least carbon-intensive in the nation. Their per capita emissions are about half the country average, and although they produce about one-third of the nation's income, they generate just 14% of its electricity (*13*). [Electric power plants are the largest single sector for CO_2 (*14*).] In California, the same week that Arnold Schwarzenegger's government announced a target to reduce greenhouse gas emissions to 2000 levels by 2010 (with deeper cuts later), it also pushed for a stronger power grid that will make it possible to import more coal-fired (and carbon-intensive) electricity from Nevada, Utah, and Wyoming. As Madison himself argued, effective governance requires assigning the functions of government to the institutions that have leverage and accountability.

Third, a new strategy is needed to engage developing countries, which already account for nearly half the world's total emissions. Thus far, these nations have steadfastly refused to limit their effluent because they rightly put a higher priority on development. Most visions for overcoming this challenge have imagined a Kyoto-like trading system; developing countries would receive extra credits needed to cover the higher emissions that would accompany their industrial growth (*15*). But this approach is doomed, because governments that have imposed strict caps and strong institutions for trading will object to the printing of extra credits that will cause capital and effort to flow into the developing countries. Indeed, the managers of the EU's trading system are likely to impose controls on trading outside the EU's zone precisely to avoid such a flood of foreign permits.

A Madisonian approach would engage developing countries on their own terms rather than through carbon caps and prices (*16*). For example, more programs to build natural gas infrastructures would help the governments of China and India to manage their local air pollution problems while cutting emissions of CO_2. (Compared with coal, gas typically emits less than half the CO_2 for every unit of useful energy, such as electricity.) Most of the capital and effort needed to build these gas infrastructures must come from the Chinese and Indian governments and private investors. The L20, however, can provide a framework for other governments to help. India's shift to gas is being hampered by the United States–led effort to isolate Iran, which is slowing plans to build an important pipeline from Iran's vast gas deposits to markets in Pakistan and India. External pressure and assistance to normalize Russia's gas industry would help to unlock vast Siberian gas deposits for export to China. In China alone, faster implementation of gas could cut annual CO_2 emissions in 2020 by an amount larger than all the emissions from all the cars in California (*17*).

For those who fear the plague of global warming, this bottom-up process will appear painfully slow and sprawling. The narrow focus of each fragment will seem contrary to the global geophysics of carbon. But it is the only way to build credible institutions that are essential for markets.

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