



By Robert N. Stavins

## Cap-and-Trade or a Carbon Tax?

While political leaders in the European Union, Canada, Australia, Japan, and the U.S. Congress move toward cap-and-trade systems as their preferred approach for achieving meaningful reductions in emissions of CO<sub>2</sub> and other greenhouse gases, there is a lively debate among economists, many of whom have been critical of the cap-and-trade approach in the climate context and have endorsed carbon taxes instead.

In my last column, I described a proposal I developed for The Hamilton Project of an up-stream, economy-wide CO<sub>2</sub> cap-and-trade system to cost-effectively achieve meaningful GHG emissions reductions, an approach which would be scientifically sound, economically rational, and politically pragmatic (the proposal is available at [hamiltonproject.org](http://hamiltonproject.org)).

I am by no means opposed to the notion of a carbon tax, having written about such approaches for more than twenty years. Indeed, both cap-and-trade and carbon taxes are good approaches to the problem; they have many similarities, some trade-offs, and a few key differences. I am opposed, however, to the confused and misleading straw-man arguments that have sometimes been used against cap-and-trade.

While there are trade-offs between these two principal market-based instruments targeting CO<sub>2</sub> emissions,

the best (and most likely) approach for the short to medium term in the United States is a cap-and-trade system. I say this based on three criteria: environmental effectiveness, cost effectiveness, and distributional equity. So, my position is not capitulation to politics. On the other hand, sound assessments of environmental effectiveness, cost effectiveness, and distributional equity should surely be made in the real-world political context.

The key merits of the cap-and-trade approach I have proposed are, first, the program can provide cost-effectiveness, while achieving meaningful reductions in greenhouse gas emissions levels. Second, it offers an easy means of compensating for the inevitably unequal burdens imposed by a climate policy. Third, it provides a straightforward means to harmonize with other countries' climate policies. Fourth, it avoids the current political aversion in the United States to taxes. Fifth, it is unlikely to be degraded — in terms of its environmental performance and cost effectiveness — by political forces. And sixth, this approach has a history of successful adoption and implementation in this country over the past two decades.

There are some real differences between taxes and cap-and-trade that need to be recognized. First, environmental effectiveness: a tax does not guarantee achievement of an emissions target, but it does provide greater certainty regarding costs. This is a fundamental trade off. Taxes provide automatic temporal flexibility, which needs to be built into a cap-and-trade system through provision for banking, borrowing, and possibly a cost-containment mechanism. On the other hand, political economy forces strongly point to less severe targets if carbon taxes are used, rather than cap-and-trade — which is why environmental NGOs are opposed to the tax approach.

In principle, both taxes and cap-and-trade can achieve cost-effective

reductions, and — depending upon design — the distributional consequences of the two approaches can be the same. But the key difference is that political pressures on a carbon tax system will most likely lead to exemptions of sectors and firms, which reduces environmental effectiveness and drives up costs — some low-cost emission reduction opportunities are left off the table. But political pressures on a cap-and-trade system lead to different allocations of allowances, which affect distribution but not environmental effectiveness and not cost-effectiveness.

Proponents of carbon taxes worry about the propensity of political processes under a cap-and-trade system to compensate sectors through free allowance allocations, but a carbon tax is sensitive to the same political pressures, and may be expected to succumb in ways that are ultimately more harmful: reducing environmental achievement and driving up costs.

The Hamilton Project staff concluded in an overview paper (which I highly recommend) that a well-designed carbon tax and a well-designed cap-and-trade system would have similar economic effects. Hence, the authors say, the two primary questions to use in deciding between them should be which is more politically feasible and which is more likely to be well designed.

The answer to the first question is obvious; and I have argued here that given real-world political forces, the answer to the second question also favors cap-and-trade. In other words, it is important to identify and design policy that will be “optimal in Washington,” not just from the perspective of Cambridge, New Haven, or Berkeley.

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