

Cooling to the cap-and-trade push

A strong case can be made for implementing a carbon usage fee in efforts to combat greenhouse emissions, writes **Robert Shapiro**.

The climate change legislation which the US House of Representatives passed in June 2009 embodies a cap-and-trade approach to addressing greenhouse gases. Most US economists and many environmentalists, at least privately, no longer support this approach, especially compared with the alternative of a refundable, carbon-based tax.

Their concerns were only heightened by the rampant horse-trading to win votes for the Waxman-Markey Bill in the House, which substantially weakened its effective cap on emissions.

Whatever plan the US Congress ultimately approves, with whatever flaws it contains, will become the US response to climate change for a decade or more. That's why many environmental groups and businesses (again, at least privately) are giving further consideration to the alternative of carbon taxes.

Both approaches rely on higher prices for carbon-based fuels to encourage people and businesses to prefer less carbon-intensive forms of energy and technologies. They also spur companies to develop new technologies and less expensive ways of generating low-carbon or carbon-free energy.

Under cap-and-trade, the price of carbon depends on the relationship between energy demand and the supply of permits. But while the supply of permits in any year is fixed by the cap, the demand for energy shifts all the time.

So, when that demand increases unexpectedly — because the summer is hotter than predicted or the winter colder, or the economy is stronger than anticipated — the price of the permits will rise sharply.

The same kind of volatility occurs when demand shifts downward, because the summer is cooler than expected, the winter milder or the economy slower. In that case, the price of the permits would fall sharply. Economically, this introduces a new layer of price volatility in energy, and such additional domestic volatility would often amplify the price swings in international energy prices we already live with.

Such additional price swings are unequivocally bad for an economy. In fact, economists link the onset of many of the downturns of recent decades with steep energy price increases — including the onset of the current recession in late 2007.

This volatility is equally troubling environmentally: it means that cap-and-trade cannot provide a predictable price for carbon, which undermines the basic strategy of getting people to shift away from carbon-based fuels.

This drawback is even more important for businesses, considering the large investments they will make to redo their energy infrastructure or, critically, to develop new climate-friendly fuels and technologies. If they can't know or predict what the price of carbon will be, it becomes much harder to figure out whether large investments make economic sense — and, as a result, we would get less of those investments.

This volatility and the analysis based on it are not simply thought experiments. The prices for the permits in the US acid rain program, America's only foray thus far into cap-and-trade, have moved up and down an average of 17 per cent per month since the program began in the early 1990s. And in the first three years of the European Trading Scheme, its permit prices similarly moved up and down by an average of more than 20 per cent per month.

Most cap-and-trade advocates point to the prospect of linking future emissions trading programs in the US and other countries to create a global system, but this would only increase the likelihood of even greater global volatility in energy prices.

The contrast to a carbon usage fee is clear: by definition, the carbon tax provides a known price for carbon which can be set at whatever level scientists believe will enable us to meet the necessary goal of reducing greenhouse gas emissions.

Supporters of cap-and-trade counter that the carbon tax approach lacks a cap, so if the summer is hotter or the winter colder than expected, emissions will increase with rising energy demand. That's correct — but every carbon tax proposal includes provisions to adjust the tax rate periodically to ensure that we stay on a path of sustainable emissions reductions.



Concerns linger over the effectiveness of the cap-and-trade strategy.

Photo: NIC WALKER

The bill that passed the US House of Representatives limits the potential volatility of its permits and the energy prices that lie underneath them, but in the wrong way. It provides so many exceptions, exemptions and offsets that its cap would ensure very little emissions reductions for at least a decade.

For example, the greatest producers of greenhouse gases in the US are large utilities, which use the cheapest and most carbon-intensive fuel — coal — to generate most of their electricity. Yet, under the House-passed bill, electric utilities pay nothing for their permits, sharply reducing their incentives to reduce their emissions. In fact, the bond ratings of large US coal companies improved

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when the bill passed, as investors concluded that it would not threaten their future profits.

Why did the House give coal and many other greenhouse gas-emitting producers a free (or reduced-price) pass? Because they could: cap-and-trade is very complicated and little understood by the public, creating an ideal environment for horse-trading.

Members also know well that Americans hate rising energy prices, and only a small minority — in the US and everywhere else — would be willing to bear additional costs today to avoid larger costs down the road. To reduce most people's costs of addressing

climate change, they sacrificed the program's potential environmental effectiveness.

With the House passing a climate program that's too weak to protect the climate, they will delay real action at potentially enormous costs for everyone.

In contrast to cap-and-trade, carbon usage fees are relatively transparent, making it harder for greenhouse gas-producing interests to finagle sweetheart deals at the climate's expense.

Equally important: a carbon-based tax addresses people's resistance to bearing additional costs directly.

In most versions, the revenues are recycled as tax relief — for example, through cuts in the payroll tax or lump-sum payments to households. In this way, the strategy can change the relative price of different forms of energy based on their effects on the climate, without making people poorer.

This refundable feature protects families, especially lower and middle-income households, as well as the overall economy.

In theory, cap-and-trade could auction all of its permits — as President Barack Obama urged — and return the proceeds to households as well. In practice, the Waxman-Markey bill gives away 85 per cent of its permits, providing great windfalls for greenhouse gas producers and failing to protect most households.

The current financial crisis highlights another important difference between the two approaches. Cap-and-trade creates a trillion dollars or so in new financial instruments — the permits — that would be traded on financial markets. This spells trouble.

Those permits would quickly become the focus of large-scale speculation, because speculators make their money off price changes — and cap-and-trade inherently and inevitably produces high price volatility.

This market also would be very vulnerable to insider trading and manipulation, because every large utility and energy producer would

become aware before anyone else of shifts in energy demand, which in turn will produce shifts in the price of the permits.

Perhaps that explains why many large energy companies with major trading operations in energy futures are strong supporters of cap-and-trade, along with Wall Street. Other large energy companies less involved in trading futures prefer a carbon-based tax approach.

The House bill makes such insider trading and manipulation illegal, although it would already be illegal under current securities law. After everything that has happened in the capital markets and the economy, aren't there serious doubts that we lack the capacity to effectively monitor markets with millions of complicated trades?

In any case, there is no conceivable rationale for deliberately creating a trillion dollars in new financial instruments. These would quickly produce derivatives and derivatives of those derivatives, and we now know the economic risks such markets can pose when their underlying asset is basic to the economy — like mortgages and energy — and subject to large price swings and bubbles.

Cap-and-trade's international prospects are also discouraging. While the Kyoto Protocol, the only international agreement on climate change, is based on cap-and-trade, it hasn't produced actual greenhouse gas reductions.

The reason is a version of the same dynamic that neutralised the potential effectiveness of the House-passed legislation. In order to secure broad international support, the agreement formally exempted every developing nation and used various stratagems to provide an effective pass for most advanced countries.

Even so, many countries went even further for powerful domestic interests — Germany, for example, has exempted new coal-fired plants from its cap. The only countries that would have been forced to take more drastic action under Kyoto either withdrew (the US and Australia) or reinterpreted their obligations to reduce them (Japan and Canada).

Furthermore, the large developing nations (including China, now the world's biggest greenhouse gas emitter) recently reiterated that they would never accept caps on their emissions.

At least in principle, carbon taxes should be more appealing to governments in places such as China, India and Brazil, since fast-growing developing nations all need substantial new revenues to help finance the enormous infrastructure and educational investments required for modernisation.

In truth, it is unlikely that the world will agree to a single global strategy for climate change, especially when such universal agreement eludes us in virtually every other area. The best prospect is an agreement on national emission goals that allows each nation to determine how best to meet its goal.

As they do so, the advanced nations — which already are committed to reducing their emissions — should consider again the self-evident failure of Europe's cap-and-trade experiment, especially compared with the carbon-based taxes used across much of Scandinavia, which now has the world's lowest per-capita greenhouse gas emissions.

Sweden, which at the moment holds the presidency of the European Union, recently called on other EU countries to enact their own carbon taxes. It noted that since the tax was enacted in 1990, the country's carbon emissions had fallen 8 per cent, while its gross domestic product increased 48 per cent. In France, President Nicolas Sarkozy is also considering a carbon tax on fuel.

For more than a decade, cap-and-trade has been the policy embodiment of that public commitment to address climate change. It has served its purpose as a symbol — but now that we turn to the business of actually reducing emissions, cap-and-trade is no longer good enough.

The best option — and it's not even a close call — is the policy promoted by Al Gore in his Nobel lecture: a revenue-neutral carbon-based tax.

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