

GILBERT METCALF

The case for a carbon tax

Many economists argue that painful though it might be to consumers, the best way to address climate change is to put a “price” on carbon dioxide and other carbon-based emissions, thereby making fossil fuels more expensive and alternative energy sources more competitive.

The European Union established a trading program for carbon emissions in 2005. In the United States, a proposal for a similar system is at the center of the new administration’s energy policy. Under such programs, a regulatory authority sets a cap on total carbon emissions, and tradable emissions allowances are issued or auctioned off to industries. But many economists advocate a far simpler approach: a carbon tax levied directly on the production of fossil fuels.

Over the last several years, Gilbert Metcalf, an economist at Tufts University, has calculated the costs and consequences of such a policy. He explains to *Technology Review* editor David Rotman why a carbon tax is a good idea.

TR: How much revenue would a carbon tax raise in the U.S.? Who would get the money?

Metcalf: For an initial tax of \$15 per ton of carbon dioxide, I estimate that the tax would raise about \$85 billion annually. The U.S. Treasury would get the money. But your real question is, What does the Treasury do with the money? I have proposed creating a tax credit in the personal income tax. That ensures that we don’t raise the overall tax burden during this recession and that we don’t disproportionately burden low-income households.

Why a carbon tax, rather than a cap-and-trade program?

As businesses are planning long-lived investments, power plants that last 50, 60 years or longer, they need to know what price they are going to face to make these plants competitive. With a tax, we know what that price is. It’s the tax rate. With cap-and-trade, we have much less certainty about what the price will be. For example, we’re seeing carbon prices falling [in the E.U.] because the demand for energy is falling as the economy slows down.

Beyond allowing for a more predictable price, why is a carbon tax better than a cap-and-trade scheme?

It’s much simpler. From both an efficiency and an administrative perspective, a carbon tax is a better approach. I think there is a clear consensus on that among economists.

Would I have to pay a carbon tax on my electric bill or at the gas pump?

No. The best way to do a carbon tax would be to tax coal as it comes out of the ground. You can levy the tax where it is most convenient: the coal mine. For oil, at the refineries. It’s pretty easy to catch all the fossil fuels with a small number of taxpayers. Administratively, it is very easy.

Nevertheless, the impact of the tax will, of course, reach the consumer.

Yes.

Given the woeful state of the economy, how politically feasible is such a new tax?

The political momentum clearly favors cap-and-trade. The game in Washington has been to design a cap-and-trade system that acts as much as possible like a carbon tax without being a tax.

Is the cap-and-trade scheme really working in the E.U.?

We’re starting to get some sense. I think it will not be effective at achieving the targets. It is a partial system. It is only including the electric-utility sector and some energy-intensive industry. The transport sector is not in the system at all. There are certainly many lessons that we can learn from the E.U. approach, but the most important lesson may be how not to design a carbon-trading system.

With the price of oil so low, does a carbon tax’s effect on innovation get lost?

It does. Most of the proposals putting an initial price on carbon emissions only add about 25 to 40 cents to the price of a gallon of gas. The real action will be in the coal sector. It has a huge impact there. The transport sector is very important—something like 40 percent of our carbon emissions come from the transport sector—but that is not the cheapest place to get our initial emission reductions. The cheapest will be the electric-utility sector and industry.

How much will a carbon tax add to the cost of electricity?

A \$20 tax per ton of carbon dioxide adds about 15 percent to the cost of electricity. For coal-fired electricity it will be a lot more. It will more than double the price of coal—about a 40 percent increase in the price of coal-generated electricity.

Is the current economic recession affecting this debate?

The interesting fallout from the economic crisis is that there has been this love affair with the cap-and-trade approach: we create these markets, we create these assets and let trading happen. Well, I think some of the bloom is off the rose in creating these kinds of [financial] instruments. I don’t know what it will mean for the relative attractiveness of a carbon tax versus a permit approach, but I think that it could make the tax that much more politically attractive. **TR**

