



Could a Carbon Tax Work? (BP, CVX)

David Floyd

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Joseph Stiglitz, who won the Nobel Prize for Economics in 2001, told CNN Tuesday that Hillary Clinton should tax fossil fuels, not only to combat climate change but to "stimulate the economy." Stiglitz, who is a Clinton adviser, thinks a **carbon tax** would lift prices for oil, gas and coal as well as creating jobs, since it would force firms to retool factories and supply chains.

Clinton has not adopted a carbon tax as part of her campaign platform. The decision is understandable, Stiglitz said, given the political landscape. But a policy that might have struck many as a liberal pipe dream a few years ago is gaining momentum. Economists on the left and right are pushing for it. Even some oil majors, if you take their word for it, are in favor of the idea. The **Paris climate accord** shifts the terms of the debate. And perhaps most importantly, energy is now cheap.

A U.S. carbon tax could actually happen in the foreseeable future. It's been tried elsewhere, and in British Columbia it's met with some success (see final section). But is it a good idea here?

What's a Carbon Tax?

A carbon tax is a way of assigning a price to carbon dioxide emissions produced by burning fossil fuels. These emissions impose a social cost by contributing to unclean air and the harmful effects of climate change, among them rising seas, less predictable rains, more intense storms, hotter summers and disappearing lakes. None of these costs are reflected in the price of a ton of coal or a barrel of oil, however, which are therefore low relative to their theoretical total cost.

Markets are not about to start incorporating these costs unbidden, and for some, that means no one should try to make them. Other economists – perhaps a sizeable majority – take issue with that view. They argue that when a market activity generates a negative **externality** (in this case environmental harm), the market is behaving inefficiently, and a tax is needed to correct it.

Known as **Pigovian taxes** after British economist Arthur Pigou, these taxes reflect the cost society pays for an individual's activities when the market has failed to account for those costs.

There is another way to assign a price to carbon, which is to cap emissions and assign tradable credits to hydrocarbon-burners. This "**cap-and-trade**" system creates a market for emissions credits, allowing those who burn less than the quota to sell the surplus to those who burn more. The approach generally involves a falling cap, so that total emissions decrease over time.

The Carbon Tax Debate

For a policy that appears to drive a giant governmental wedge into the workings of the free market, economists are surprisingly in favor of a (well-designed) carbon tax, including a few no one would ever accuse of being lefties. In 1979 Milton Friedman had this to say regarding the matter: "The way to do it is to impose a tax on the cost of the pollutants emitted by a car and make an incentive for car manufacturers and for consumers to keep down the amount of pollution." He framed his argument in a more general defense of Pigovian taxes, saying, "there's always a case for the government to some extent when what two people do affects a third party." (Airbags, on the other hand, are "my business.")

In October 2014, Michael Greenstone, the Milton Friedman professor of economics at the University of Chicago, described a "consensus, starting from Milton Friedman and going to the most left-wing economist you can find, that the obvious practical solution is to put a price on carbon," according to Forbes. (See also, *Carbon Credits: Action or Distraction?*)

According to a survey conducted by the New York University Institute for Public Integrity and published in December 2015, 95% of economists who had published research on climate change advocated a federal commitment to reducing climate change if a multilateral agreement could be reached and other major polluters enacted policies to reduce emissions. The 195-country Paris climate agreement, reached the same month, would presumably meet these conditions; if not, the consensus drops to a still-hearty 77%. In a separate question, 81% advocated some form of trading program or carbon tax as the most efficient way to implement the **EPA's** Clean Power Plan. (See also, *What the Paris Climate Deal Means for Investors.*)

Perhaps the most surprising advocates of a carbon price are some of the world's largest oil companies: BP PLC (**BP**), ENI SpA (**E**), Royal Dutch Shell PLC (**RDS-A**, **RDS-B**), BG Group PLC (**acquired by Shell**), Statoil ASA (**STO**) and Total SA (**TOT**) expressed the belief "that a price on carbon should be a key element" of future policy frameworks, according to a May 2015 letter to UN climate officials. (See also, *The Largest Oil Companies Make a Pledge to Climate Change.*)

The obvious question is why. Skeptics have decried the oil majors' stance as a public relations move. The American giant Exxon Mobil Corp. (**XOM**) began calling for a carbon price in June, amid investigations into an alleged cover-up of climate change research going back to the 1970s. Senator Sheldon Whitehouse, a Democrat representing Rhode Island, told the Wall Street Journal he'd seen "little movement out of any of their lobbying groups," suggesting Exxon's commitment to a carbon tax wasn't so deeply felt.

On the other hand, there may be reasons to take the oil companies at their word. They might see the writing on the wall in terms of climate regulations and prefer a measure of certainty over relatively cushy treatment that **can't last forever**. According to the May 2015 letter, companies already account for potential carbon prices to test whether investments will be viable in the long term. "We need governments across the world to provide us with clear, stable, long-term, ambitious policy frameworks," the letter reads. "This would reduce uncertainty and help stimulate investments in the right low carbon technologies and the right resources at the right pace."

There may even be a self-interested reason to support a carbon tax. John Watson, CEO of Chevron Corp. (**CVX**), despite his avowed admiration for Friedman, has never been on board with the carbon price push. Yet he sees the global push towards cleaner fuel as a potential boon to the company he leads: natural gas is preferable to coal, after all. "I hope to gain market share in some areas," he told investors in May. (See also, **Exxon, Chevron Butt Heads with Investors over Climate Change.**)

What Are the Cons of the Carbon Tax?

Watson is not the only one who's skeptical of a carbon tax. The libertarian Cato Institute points out that determining the social cost of carbon dioxide emissions is an exercise in wild imprecision, with tweaks to certain variables leading to cost estimates that differ by orders of magnitude. The group is right. As the chart above shows, the Obama administration has estimated the 2050 social cost (in 2007 dollars) of a metric ton of CO₂ at somewhere between \$26 (5% **discount rate**, average environmental impact) and \$212 (3% discount rate, high environmental impact).

The conservative American Energy Alliance argues that a carbon tax will make energy more expensive, saying, "this is the *purpose* of a carbon tax." That is true for a fossil-fuel dependent economy. On the other hand, low energy prices have been a **cause of market turmoil this year** and have contributed to **economic downturns** in producing states and countries, so the argument may be less powerful at the moment.

The AEA also argues that such a tax is **regressive**, disproportionately impacting low-income individuals. A 2012 report by the Congressional Budget Office supports this view, estimating that a tax of \$28 per metric ton of CO₂ would cost families in the lowest income quintile \$425 on average, or 2.5% of their income, versus \$1,380 – less than 1% of income – for the highest quintile. Advocates such as Stiglitz acknowledge this issue, arguing that it can be offset through credits or rebates.

Another argument is that the tax is not "revenue-neutral." Some of proponents have tried to sell the carbon tax by arguing that other taxes could be reduced so that there's no net rise in overall tax revenues. The AEA does not see that happening, which is indeed a possibility. On the other hand, British Columbia has pulled off a revenue-neutral tax (see below).

The AEA also argues that a carbon tax would damage American competitiveness. Responding to this line of attack, the Economist, which has advocated a carbon price since 1989, says "it may

even be worth considering carbon **tariffs**". While **protectionism** is not the most elegant solution, the magazine argues, "a functioning carbon price in the real world beats the textbook version every time."

How Does the Carbon Tax Work Elsewhere?

There are several examples of functioning carbon prices in the real world today, including taxes with varying designs in Chile, Costa Rica, Denmark, Finland, France, Iceland, Ireland, Japan, Mexico, Norway, Sweden, Switzerland, the UK and British Columbia. The European Union has a cap-and-trade system, as does California. (See also, *Texas Stakes Claim for Renewable Energy.*)

The EU and California have seen mixed results, with an oversupply of credits leading their price to plunge in both markets. Part of the issue in California has been legal challenges to the law, which makes businesses hesitant to spend on credits that might become worthless due to a court ruling. On the other hand, the low price suggests that reducing emissions is proving to be cheaper than originally thought in California, which is now pursuing an ambitious 40% emissions cut from 1990 levels by 2030. In Europe the problem is an oversupply of credits, which led the price to crash to zero in 2007 before recovering the next year. Still, big European emitters managed to cut emissions by 8% from 2005 to 2010, according to the European Commission.

British Columbia's carbon tax, introduced in 2008, is broadly considered a success. A May 2015 Duke working paper found that emissions in the province fell by 5% to 15% with "negligible effects on aggregate economic performance, though certain emissions-intensive sectors have faced challenges." The authors found the tax to be revenue-neutral; in fact the government returned slightly more money to households than it took in carbon tax revenues.

It appears that carbon pricing can work, in other words. Even business leaders in the province are more-or-less okay with the new status quo. "We were not very happy when it was first announced," Business Council of British Columbia's head of policy Jock Finlayson told the New York Times in March. But that opposition has since given way to "a sizable constituency saying this is O.K."