Should the U.S. Put a Tax on Carbon?

1 July 2020 By Joshua Doucet

Let it be stated that the following argument relies on the premise that manmade climate change is caused by a growing presence of greenhouse gasses (GHG's) such as carbon-dioxide (CO₂) in the atmosphere. There will be no argument about these realities. If we desire the prevention of continental flooding, extreme weather patterns, rising temperatures, and the extinction of numerous species of life, then we must change our relationship with GHG's. Thus, I present the following issue. Should the United States implement a nationwide carbon tax program to reduce greenhouse gas (GHG) emissions? This may be an option to mitigate global climate change, but is it the best option for the United States?

Let's start with a little background on the topic. A carbon tax is a form of taxation that prices the emissions of CO₂. The goal of a carbon tax is to discourage the production of GHG's (Tax Policy Center). Some carbon taxes fall on businesses while others fall on an individual, but all of them have the goal of reducing the level of GHG's in Earth's atmosphere. Typically, a carbon tax becomes more expensive over time as an incentive to push an economy away from fossil fuels (Kestenbaum, David, et al). There are two ways that carbon is commonly taxed. The first method is a plain and simple taxation, "the government sets a price per ton on carbon, then translates it into a tax on electricity, natural gas or oil" (Dowdey). The other method is known as a cap-and-trade system that requires companies to bid for a finite number of pollution vouchers that can be traded with other companies (Plumer). In the context of this argument the term "carbon tax" will encompass both the standard variety of carbon taxation and a cap and trade system. Today there are more than 40 countries worldwide that have a price on carbon emissions (Plumer). Should the U.S. be the next?

One side of this argument says that the advantages of a carbon tax are not significant, and that the disadvantages are more evident. A carbon tax policy can have serious consequences that affect an economy and the lives of its citizens. People often say that they want to help the environment, but money is a significant concern that affects people's decisions. France and Australia have implemented carbon pricing and found that voters find themselves angered about rising energy costs (Plumer). Whether those costs are big or small, most people do not enjoy when their daily expenses go up. Also, households that are living off lower incomes find it more difficult to thrive when goods and services cost more due to a carbon tax. These taxes hinder an economy since people have less purchasing power due to increased costs. A carbon tax increases the price tag on gasoline, electricity, heating, air travel, food, and the goods or services of any industry that relies on processes that produce CO₂ (Kestenbaum, David, et al). Thus, the level of carbon taxation imposed by a government can have significant ramifications in a capitalistic free market. And one must not forget that additional regulations reduce the amount of liberty that citizens in a society possess.

Although carbon taxes have the intention of reducing GHG's, some experts argue that the reductions fall short of expectations. A report done by the United Nations estimates that governments worldwide would need to enforce a price of \$135 - \$5,500 per ton of CO₂ emissions

to keep rising global temperatures within the international goal capped at a 1.5°C increase by year 2050 (Plumer). Gilbert Metcalf, Professor of Economics at Tuffs University, says that carbon taxes alone not are not enough to make a significant reduction in GHG's. Any economy aiming for zero carbon emissions requires new inventions and innovative products (Metcalf 8). Also, a carbon tax may be difficult to regulate. Metcalf states that "tax evasion is certainly a potential problem" (Metcalf 8). The argument thus far has presented skepticism about the implementation of a carbon tax. Before elaborating on the argument in favor of a carbon tax it is important to examine some of the alternative measures that can be utilized in the reduction of GHG's.

Alternatives to a carbon tax that may lead to better results in minimizing the presence of CO_2 in the atmosphere. According to Jesse Jenkins, a postdoctoral researcher at Harvard's John F. Kennedy School of Government, "It is safe to say that policies other than carbon pricing have driven the majority of emissions reductions to date" (Plumer). GHG's can be reduced by making cars more fuel efficient. Cities can also implement better mass transit systems to reduce the number of cars on the road. Regulations can be placed on utility companies that mandate the creation of alternative energy infrastructure such as wind, solar, and geothermal. And instead of taxing carbon, governments can give out subsidies to individuals and businesses that utilize alternative energies that minimize CO_2 levels. Beyond minimization, it is currently possible to capture and remove CO_2 from the atmosphere as well.

Chemical engineer Jennifer Wilcox describes an invention that works like a Brita water filter, but instead of water the device filters the air in Earth's atmosphere. Wilcox's invention works by placing air filters with large surfaces areas into the atmosphere to remove CO_2 . The CO_2 goes through the filter and a chemical reaction takes place and traps the carbon. Once captured, the CO_2 can be injected back into the Earth's surface, thus reducing the level of GHG's warming the planet (Raz). In theory it is possible to remove more carbon from the atmosphere than the amount that is being emitted. However, Wilcox believes that both reduction and removal of carbon is necessary to mitigate the effects of GHG's on global climate (Raz).

So, what are the benefits of implementing a nationwide carbon tax program in the U.S, and is there any proof saying that a carbon tax is an efficient way in reducing GHG's? Henry Jacoby, an economist at MIT's Center for Energy and Environmental Policy Research argues that the only thing necessary to fix climate change is to tax fossils fuels in proportion to the quantity of CO_2 that they produce. This would make fossil fuels more expensive and less appealing to individuals and institutions, thus, leading to a reduction in carbon emissions. Jacoby continues on to say that "the tax has small effects around a million different activities, and that's the advantage of it. It gets its influence almost everywhere" (Kestenbaum, David, et al).

People have cognitive biases and often need some extra incentive to do the right thing. A carbon tax is such an incentive, and if the United States implements a good faith initiative to combat climate change, then additional countries may be inclined to follow suit. People can be proactive about reducing carbon emissions or reactive. Either way these GHG's will affect the economy, but If people make a change in lifestyle today instead of tomorrow, then they can save the homes of people living at sea level and postpone the extinction of life worldwide. There is plenty to lose if people choose to be reactive instead of proactive about GHG levels.

A minor hit in the economy today due to carbon taxation can prevent economic catastrophes such as flooding and other extreme weather patterns. According to studies from Rice University, a carbon tax will affect the United States gross domestic product (GDP) by no more than 1% (Roberts). In other words, the number of goods and services produced in a one-year interval should not be reduced by more than 1% if the US implements a carbon tax. A carbon tax takes purchasing power from individuals, but this could be mitigated by reducing the quantity of income taxes collected on people.

Carbon taxes create an economic system that does not directly reduce income, but instead redirects where money is spent. The carbon tax is intended to direct money away from processes that produce GHG's. The redirected money that ends up becoming government revenue could be used to invest in clean alternative energies that would ease the friction caused by a transition from a fossil fuel centric economy.

So, what evidence says that carbon taxes can effectively reduce GHG's? A Stanford study found that carbon tax regulations in 2020 priced at \$25 per ton on energy related fossil fuels, such as oil, coal, and gas, would immediately reduce emissions by 6 to 18 percent. And a \$50 per ton tax would yield an 11 to 25 percent decrease in emissions for 2020 (Metcalf). Also, the carbon tax is showing promise in other countries. Brittan's carbon tax system was introduced in 2013 and has reduced GHG emissions to levels as low as 1890 (Plumer, Popovich). William D. Nordhaus, a recipient of the 2018 Nobel Memorial Prize in Economic Science, stated "the most efficient remedy for the problems caused by greenhouse gas emissions would be a global scheme of carbon taxes that are uniformly imposed on all countries" (Plumer). Overall, evidence exists that shows a carbon tax can be an effective and cost-efficient way to reduce GHG levels. Individuals and companies alike become inclined to reduce their carbon footprint in innovative and thrifty ways when given enough incentive through a carbon tax.

In summary, both positions on the issue of implementing a carbon tax in the U.S. have valid concerns that should be considered when searching for a reasonable conclusion to this question. The opposition to the issue states that carbon taxation can hinder liberty and has economic ramification that change the way people spend and save money. A carbon tax can stunt economic growth in a society by reducing the amount of goods and services produced, and there is also evidence that show a carbon tax would have to be noticeably pricey to meet the climate goals set by international climate committees. With these limitations, the opposition to a carbon tax point to alternatives that may reduce GHG's more effectively. The position in favor of a carbon tax presents evidence that supports a correlation between carbon tax can reduce GDP, it is likely minimal in larger economies such as the U.S (Roberts). This minor effect on GDP today can prevent an economic collapse that may follow from climate change in the nearing future.

So, is a carbon tax the only option in reducing GHG's? No. Does a carbon tax have a negative impact on the short-term economy? Yes. Has as a carbon tax been effective in reducing GHG emissions? It sure has. And lastly, does a carbon tax convince people to care about the environment? Well no, but at least it makes them think twice about adding more GHG's to the

atmosphere. A carbon tax is not a perfect solution to climate change, but it is a viable option in mitigating the problem. Whether the United States chooses to implement a carbon tax or not, the country must remember that worldwide people use 100 million barrels of oil a day, and the level of carbon in the atmosphere is at 400 parts per million and rising (Raz). These conditions are leading to a warming climate that has devastating consequences for life on Earth. Thus, the decision of choosing to be reactive about GHG levels rather than proactive carries a heavy burden and should not be taken lightly.

Works Cited

- Dowdey, Sarah. "How Carbon Tax Works." *HowStuffWorks Science*, HowStuffWorks, 28 June 2018, https://science.howstuffworks.com/environmental/green-science/carbon-tax.htm
- Kestenbaum, David, et al. "Episode 472: The One-Page Plan To Fix Global Warming ... Revisited." *NPR*, 18 July 2018,

www.npr.org/sections/money/2018/07/18/630267782/episode-472-the-one-page-plan-to-fix-global-warming-revisited

- Metcalf, Gilbert E. "On the Economics of a Carbon Tax for the United States." *Brookings Papers on Economic Activity*, 8 Mar. 2019, www.brookings.edu/wpcontent/uploads/2019/03/On-the-Economics-of-a-Carbon-Tax-for-the-United-States.pdf.
- Plumer, Brad, and Nadja Popovich. "These Countries Have Prices on Carbon. Are They Working?" The New York Times, 2 Apr. 2019, www.nytimes.com/interactive/2019/04/02/climate/pricing-carbon-emissions.html.
- Plumer, Brad. "New U.N. Climate Report Says Put a High Price on Carbon." The New York Times, 8 Oct. 2018, www.nytimes.com/2018/10/08/climate/carbon-tax-united-nationsreport-nordhaus.html.
- Roberts, David. "The 5 Most Important Questions about Carbon Taxes, Answered." *Vox*, 18 Oct. 2018, www.vox.com/energy-and-environment/2018/7/20/17584376/carbon-tax-congress-republicans-cost-economy.
- Raz, Guy. "Climate Crisis." NPR, 7 June 2019, www.npr.org/programs/ted-radiohour/725511914/climate-crisis.
- Tax Policy Center. "What Is a Carbon Tax?" www.taxpolicycenter.org/briefing-book/whatcarbon-tax