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What Do We Do With All This Carbon?

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The world and the United States especially, are very dependent on fossil fuels. It's easy to understand how this dependency has escalated to its current level. Fossil fuels are in forms that are easy to use and store, they are energy dense; a small amount provides a lot of energy, and they are cheap. As with most forms of dependency, there are negative effects as well. Burning fossil fuels releases carbon dioxide into the air. Carbon dioxide is a greenhouse gas, and according to the Intergovernmental Panel on Climate Change (IPCC), anthropogenic emissions of greenhouse gases could lead to unmanageable climate change.

It's going to take time to reduce our dependency on fossil fuels. In order to do this, Governments need to provide assistance by encouraging the use of renewables, as well as discouraging the use of fossil fuels. Currently, the two most popular methods for discouraging fossil fuel use are taxes and caps. Let's take a closer look at these two methods.

Fossil fuels are cheap because the additional cost of carbon dioxide emissions are not reflected in their price. The purpose of both taxes and caps is to add the cost of carbon emissions to the price of fossil fuels. If done correctly, the market will be brought back to an efficient allocation of resources, and the benefit will be a decrease in emissions.

What is the difference between taxes and caps? In a cap and trade system, the government puts a limit on the total amount of emissions that can be released. They do this by creating a certain number of emission permits. Each company that uses fossil fuels would need to have permits for all of their emissions. Companies that can reduce their emissions cheaply wouldn't need all of their permits, and could sell the extras to companies for whom reducing is more expensive.

A tax collected on carbon dioxide emissions increases the price of fossil fuels which reduces the quantity demanded. The revenue can be used to provide renewable energy incentives or to help the people who are hurt most by the carbon tax, namely socioeconomic classes who wouldn't be able to afford higher prices for their basic energy needs.

One big difference is the distribution of money. In a cap and trade system, the companies only have to pay the amount needed to reduce emissions. Because they are able to trade permits, emissions are able to be reduced at the cheapest possible rate. With a tax system, on top of paying to reduce emissions, companies also have to pay the government, thereby raising the cost to producers, who pass it on to their customers.

Along with having lower prices for producers, other benefits to a cap and trade system include having a guaranteed amount of emissions reductions and being more politically favorable than taxes. Disadvantages include not having a fixed price on carbon, and if they are not set up correctly, there can be quite a few loopholes.

Benefits of a tax include having a fixed price on carbon which helps stabilize the market, it provides revenue to the government, and there are few loopholes. Disadvantages include the higher price to producers, no fixed amount of emission reduction, political unpopularity, and it may take some time to find the optimal tax level.

Carbon taxes have already been implemented in Finland, Sweden, Boulder Colorado, and very recently Australia, while the European Union, Norway, and almost half of the United States have implemented cap and trade systems. Both systems have seen reductions in carbon dioxide emissions, and none of the countries have had their economies collapse as a result.

I believe that a cap and trade program is the most feasible policy for America to implement to reduce our emissions. It will not be as costly to businesses, it is guaranteed to reduce emissions, and it's more acceptable politically. In designing the program, there are some things we could learn from Europe that will help reduce loopholes. Permits need to be auctioned to companies at the start instead of being given away, no new permits can be created, and it should be started slowly to give businesses time to adjust.

There are several areas of the United States that have regional cap and trade systems or are planning to implement them by 2012. However, in order to be able to make significant reductions in emissions, all of the states need to take part, either through local systems or a national system. We need to break away from our dependency, and turn towards a cleaner, healthier future and it needs to start now.

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