

Carbon Tax vs. Cap-and-Trade

What is the difference?

The Obama administration and leadership in both the House and Senate overwhelmingly support the creation of a national cap-and-trade system aimed at reducing greenhouse gas (GHG) emissions in the United States. However, a number of politicians, business leaders, and interest groups have shown support for a countering policy design to address climate change; a tax that would be placed on emissions of carbon dioxide from large, point sources. Considerable domestic pressure to adopt comprehensive climate change legislation, as well as international pressure to determine the direction of post-Kyoto Protocol climate change policies, is pushing this issue high on the legislative agenda. Understanding the significant differences between cap-and-trade and carbon tax will be vital in choosing the system that will deliver actual environmental results and provide farmers and rural communities with economic growth potential to overcome rising energy costs.

A carbon tax and a cap-and-trade system are not the same thing.

Carbon Tax - A carbon tax would be a tax levied on carbon emissions from large, point-sources by the government. A carbon tax sets a price on carbon, but not an economy-wide carbon emission reduction goal.

Cap and Trade - Under a cap-and-trade system, a “cap” would be placed on GHG emissions from regulated sectors, such as electric utilities and manufacturers, and a base-level of emissions “allowances” or credits would be distributed at no cost or auctioned. The number of allowances would be reduced over time and capped entities would be able to trade these allowances depending on the amount of emissions they generate. That is, a company that is able to reduce their emissions below the number of allowances they currently hold may sell their excess allowances to companies in need of more allowances for emissions levels that are above their cap.

The process by which carbon “sinks” remove or “offset” emissions of carbon dioxide from the atmosphere is known as carbon sequestration. Land-based practices such as biomass management, soil carbon sequestration, and reduction offsets provide readily available and low-cost solutions for beneficial near-term GHG reductions. Under a cap and trade market, land owners from unregulated or uncapped sectors, such as agriculture and forestry, could sell carbon offset credits from GHG reductions or removals to generate additional revenue. These offsets could be purchased by capped entities in lieu of allowances.

What is the primary difference?

Under a cap-and-trade system, the market would determine the most cost-effective methods for reducing GHG emissions, such as sequestration activities from the ag and forest sectors. While revenue from a carbon tax could theoretically be redistributed to incentivize additional mitigation activities, such as from the ag and forest sector, this redistribution of funding would be determined by the government and not the market. **A carbon tax would not generate additional revenue for the agricultural and forestry sectors for implementing GHG reduction measures in the same way as a cap-and-trade system.**

Carbon Tax vs. Cap-and-Trade in Detail

A cap-and-trade system would incentivize effective, short-term GHG emission reduction opportunities such as carbon sequestration.

In order to meet the significant reductions in atmospheric carbon dioxide levels required to avoid global climate change, all mitigation opportunities should be utilized. A cap-and-trade system can promote the sequestration of GHGs to remove carbon dioxide from the atmosphere as well as generate GHG emission reductions. Offset projects can be created quickly, effectively, and cost efficiently to take advantage of vital mitigation opportunities. Due to the low technology requirements of many offset projects, they can be started quickly and provide short term reductions while more technical emission reduction methods are in the longer process of being finalized and implemented. **A carbon tax provides no incentive for offset providers to participate and contribute a vital source of greenhouse gas mitigation opportunities.**

Levying a tax on carbon emissions encourages emitters to reduce emissions to avoid large tax payments; it does not actually require specific reduction levels. A cap-and-trade system, on the other hand, does not set a government defined price for carbon emissions, but rather a defined carbon reduction goal for the economy as a whole. Both mechanisms encourage industry to reduce carbon levels, but only cap-and-trade requires reductions to a level that is known to be effective in reversing climate change.

A cap-and-trade system would promote the lowest cost opportunities for reducing GHG emissions while generating revenue for uncapped sectors such as agriculture and forestry.

The primary goal of any climate change legislation would be to effectively reduce greenhouse gas levels, but policymakers are also keenly aware of the need to create a reduction mechanism that is not economically restrictive. Both cap-and-trade and a carbon tax will encourage emitters to find the most cost effective way to reduce actual emissions. However, only cap-and-trade includes a mechanism to reduce atmospheric carbon levels through offsets. In a cap-and-trade system, the agricultural sector would be neither taxed nor capped, but could help capped sectors reach reduction levels in the most cost effective manner with the inclusion of agricultural offsets. Offsets are usually less expensive to



create than emission reductions, and since offsets and allowances are sold on the same market, offsets can drive down the cost of purchasing needed emission reductions. According to the EPA, “offsets have a strong impact on cost containment.”¹ **Taking advantage of all possible carbon reductions through cap-and-trade, especially those that can be done immediately, will drive down the short and long term costs of compliance for the entire economy.**

Under a cap-and-trade system, agriculture has the opportunity to generate offsets by capturing emissions in soils and new plant growth. Such sales could provide a deep revenue source for agriculture; projected at \$330 billion from 2012 to 2030.² The price of a carbon tax can only be adjusted through government action and does not allow agriculture to enter the market as a provider of carbon offsets.

A cap-and-trade system would spur innovation in GHG mitigation opportunities from carbon offsets.

Implementing either cap-and-trade or a carbon tax would spur innovation in point source emission reduction technologies, but only cap-and-trade spurs innovation in offsets. Since both methods place a cost on emissions, in either scenario there is incentive to find ways to reduce emissions. However, a tax provides no incentives for those in the marketplace to develop offset methods and technologies that have the potential to reduce atmospheric greenhouse gas levels. The recent cap-and-trade model proposed by House Representatives Waxman and Markey includes offsets as a certified reduction, and if passed, would provide incentive for the agricultural community to continue developing cost-effective ways to offset GHG emissions. Some aspects of GHG mitigation, such as monitoring, can be expensive and cost-prohibitive. **A cap-and-trade system would provide incentive to invent more effective technologies for offsetting carbon emissions at a lower price.**

Carbon tax and cap-and-trade also differ in the allocation of funding for potential innovation. A carbon tax would bring revenue into the government, who would then be in charge of distributing funding to an industry or company of their choice. A cap-and-trade program would leave the distribution of funding for new technologies, for both reducing emissions at the source as well as offsets, to the market.



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¹ Environmental Protection Agency. (2009). EPA Preliminary Analysis of the Waxman-Markey Discussion Draft: The American Clean Energy and Security Act of 2009. Available online at: <http://www.epa.gov/climatechange/economics/pdfs/WM-Analysis.pdf>.

² 21st Century Agriculture Policy Project. (2008). The Role of Agriculture in Reducing Greenhouse Gas Emissions Recommendations for a National Cap-and-Trade Program, 13.