

## Auctions and Revenue Recycling under Carbon Cap-and-Trade

In January, Senior Fellow Dallas Burtraw testified before the U.S. House of Representatives Select Committee on Energy Independence and Global Warming. This article is drawn from his full testimony.

There are not many viewpoints you can get public finance economists to agree on, but one exception is the role of an auction in the implementation of an emissions cap-and-trade program. Compared to free allocation, auctions are, by far, the most efficient way to allocate emissions allowances.

The primary reason is that auctions satisfy the goals of simplicity and transparency, which are important for the formation of a new market for an environmental commodity. Also, they are administratively simple and preclude regulated parties from seeking a more generous future allocation.

Auctions also have efficiency benefits that apply specifically to the electricity sector, which holds the greatest potential for the largest emissions reductions in the first decades of climate policy. Specifically, auctions can reduce the difference between price and marginal cost for electricity generation, a source of inefficiency that is endemic to the electricity industry.

The second and equally forceful reason that economists favor auctions is that they generate funds that can be used to achieve related goals. Depending on how these revenues are used, they can help reduce the social cost of policy significantly. For the purposes of minimizing the cost of climate policy on the economy and promoting economic growth, economists would favor dedicating auction revenues to

reduce preexisting taxes.

Like any new regulation, climate policy imposes costs on households and firms, and that cost acts like a virtual tax, reducing the real wages of workers. This hidden cost can be especially large under a cap-and-trade program because the price placed on the scarcity value of carbon is reflected in the cost of goods that use carbon in their production.

However, one of the most important findings in environmental economics and public finance in the past 15 years is that the use of revenue raised through an auction (or an emissions tax), if dedicated to reducing other pre-existing taxes, can reduce this cost substantially. This so-called revenue recycling

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would have truly dramatic efficiency advantages compared with free distribution. In a study for the State of Maryland, my colleagues and I found that the dedication of 25 percent of the allowance value to investments in end-use efficiency could offset any increase in retail electricity prices that would occur from the state's joining the Regional Greenhouse Gas Initiative, a cooperative effort by Northeastern and Mid-Atlantic states to reduce carbon dioxide emissions. Investing just a portion of the allowance revenues can offset the impact of the policy on consumers, while also advancing climate policy goals, according to our findings.

Auction revenue can also help support the attainment of efficiency in our energy infrastructure more broadly. A small sliver of auction revenues could provide a substantial infusion of support for research and development of new technologies or incentives for investment, such as an investment tax credit aimed at promoting innovative technologies or modernizing industries that are especially vulnerable to the policy.

Finally, a related issue involves adaptation to climate change. Atmospheric scientists tell us that we are already at the point where some climate warming is inevitable and that adaptation will be necessary. Adaptation to climate change will likely involve significant investment by the private and public sectors. An auction provides revenues that can be directed toward these activities. ■

► Dallas Burtraw's full testimony can be found at: [www.rff.org/rff/Documents/CT-Burtraw-Testimony-08-01-23.pdf](http://www.rff.org/rff/Documents/CT-Burtraw-Testimony-08-01-23.pdf).