

# How carbon taxes can succeed

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The political leeway for carbon taxes is greater than commonly assumed. Political scientists at ETH have shown how carbon taxes could find acceptance in Germany and the U.S.. What matters most is the intended use of the tax revenues and that all industrialized nations implement the taxes.

Useful to fight [climate change](#), but politically risky: [carbon taxes](#) are

widely regarded as a double-edged sword. However, a study conducted by ETH [political scientists](#) has now challenged this idea. Depending on how carbon taxes are designed, the majority would indeed support them. In addition to the actual tax rate, there are two main factors affecting public acceptance: how governments use the revenues and whether other industrialized nations introduce similar taxes.

This was the conclusion reached by the authors—senior researcher Liam Beiser-McGrath and ETH Professor of Political Science Thomas Bernauer—in an article recently published in *Science Advances*. They conducted an online experiment to study attitudes towards carbon taxes in a representative sample of about 3,000 people in both Germany and the U.S.. Participants evaluated a series of carbon tax proposals, which randomly differed based upon features of their design.

This set-up allowed the researchers to evaluate the influence of individual aspects of a carbon tax model on people's willingness to pay. In other words, they were able to determine how a carbon tax should be structured in order to achieve majority acceptance, and conversely which properties could cause it to fail.

They focused on two questions in particular: How did information about the intended use of the tax revenues influence people's willingness to pay? And did respondents' attitudes change when they knew that other countries would also impose a carbon tax?

## **Earmarking taxes improves acceptance**

Focusing exclusively on the influence of the intended use of tax revenues, a clear picture emerges: survey participants were more open to paying the tax when they know how the revenues would be used. Certain purposes even generated a clear majority. For example, if the government were to use carbon taxes to invest in renewable energy, more

subjects surveyed in the U.S. would support than oppose taxes as high as 60 U.S. dollars per ton of carbon emissions. This is equivalent to 860 dollars annually for the average citizen, which falls within the range considered necessary to bring greenhouse gas emissions in line with the internationally agreed 2°C goal. Similarly, a general tax refund to the population also has a positive effect on people's willingness to pay.

In Germany, too, acceptance of CO<sub>2</sub> taxes rises significantly when revenues are used for these sorts of programs, although the majority is only willing to pay up to 20 U.S. dollars per ton. This figure is nevertheless remarkable from today's perspective, as Canada's carbon tax—which was implemented in 2019 at 20 dollars per ton, to be increased to 50 dollars by 2022—is considered ambitious. Bernauer says: "Our study shows that there is indeed leeway for structuring a carbon tax that is both effective and acceptable to the majority. This is probably true for Switzerland as well. Carbon taxes aren't necessarily political suicide."

Government plans to invest revenues in infrastructure had a positive impact on people's willingness to pay the tax, as did planned investment in government programs for low-income communities (albeit to a lesser extent). However, carbon taxes are very unpopular if revenues are used to reduce corporate taxes or government deficits.

## **Industrialised nations must cooperate**

The researchers identified another decisive factor, in addition to the use of revenues: respondents in both countries were only prepared to accept high taxes if all industrialized nations were to implement a CO<sub>2</sub> tax. For Germany to accept a lower tax, on the other hand, it was sufficient for other EU countries to cooperate. In the U.S., there was even [majority support](#) for unilaterally introducing a tax of up to 30 dollars per ton.

## More progressive Americans

This surprising discrepancy appeared throughout the results: in the U.S., people seem to be more open to a [carbon](#) tax than in Germany. Study author Beiser-McGrath says, "We would never have expected that Americans, who tend to be more averse to taxation, would be more open to this than Germans." This may be due to lower support of market instruments in Germany. However, the study leaves this point open.

**More information:** Liam F. Beiser-McGrath et al. Could revenue recycling make effective carbon taxation politically feasible?, *Science Advances* (2019). [DOI: 10.1126/sciadv.aax3323](https://doi.org/10.1126/sciadv.aax3323)

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