This article belongs to the project: Climate Plan

New study: Emissions in Austria are falling – also due to climate policy

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Austrian greenhouse gas emissions have been falling for 20 years. Researchers at the Vienna University of Economics and Business have investigated how much of this can be attributed to climate policy measures. According to their analysis, it is about a quarter.

Since 2005, Austrian greenhouse gas emissions have fallen by 26 percent. But what proportion of this can be attributed to political measures? Researchers from the WU Department of Economics have got to the bottom of this question.

In a new paper published in the renowned journal Scientific Data, Talis Tebecis and Jesús Crespo Cuaresma examined the development of emissions in all OECD countries and compared them with their gross domestic product and population development. "If you take these two main influencing factors out of the equation, you are left with fluctuations that are most likely due to climate policy," says Tebecis. "These statistical outliers can often be linked to specific political measures. Our data set can therefore serve as a basis for checking the effectiveness of climate measures."

The researchers identified a total of 62 of these statistical outliers for Austria. "Compared to the other EU countries, that is very few - in Germany, for example, there were 131 and in Ireland as many as 261," says Talis Tebecis. From a peak of 79 million tons, Austrian emissions have fallen by around 20 million tons to date. The researchers' data suggest that 6.1 million tons - a good quarter of this emission reduction - can be attributed to political climate measures.

Biggest savings in metal industry
Talis Tebecis and Jesús Crespo Cuaresma have also analyzed which Austrian economic sectors have seen the greatest reduction in emissions. The metal industry ranks first in terms of reducing average emissions. In this traditionally very emissions-intensive sector (with around 12 million tons of CO2 $_{per}$ year, the Voestalpine Group is the largest single emitter in Austria), national and European regulations have clearly had an effect.

Significant savings are also evident in biomass and waste incineration plants. "This is a sign that the regulatory support for sustainable biomass production and the high efficiency standards in this area are taking effect," says Talis Tebecis. The Austrian electronics industry has also been able to significantly reduce its emissions. In contrast, there were only small reductions in the areas of electricity and heat generation, wastewater treatment and manure management.

For Jesús Crespo Cuaresma, head of the Department of Economics at WU, this dataset is an important piece of the puzzle in research on climate policy: "When it comes to identifying the best strategies, the devil is often in the details. That's why we went to such a detailed level of analysis and examined 37 different sectors and all major greenhouse gases - not just CO2 $_{.}$ "

Using the data collected by the two researchers, similar calculations can be made for all OECD countries: "We hope that these data will help policymakers make empirically sound climate policy decisions," says Crespo Cuaresma.

Detailed study results and further information
Tebecis, T., & Crespo Cuaresma, J. (2025). A dataset of structural breaks

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Visualized results: https://worldemissions.io/