



Universität Hamburg

Department of Communication and Marketing

Media and Public Relations Section

Tel: +49 40 42838-2968
medien@uni-hamburg.de

June 27, 2024

33/24

Less Air Pollution

EMISSIONS TRADING ALSO CREATES HEALTH BENEFITS

The EU Emissions Trading System is not only good for reducing CO₂ and for the climate. It also results in considerable health benefits due to reduced air pollution and saves hundreds of billions of euros, according to a recently released study by a team at Universität Hamburg.

The research team from the Cluster of Excellence Climate, Climatic Change, and Society (CLICCS) at Universität Hamburg analyzed the indirect effects of the European Emissions Trading System (EU ETS) on hazardous air pollutants such as sulfur oxide, particulate matter, and nitrogen oxides. “The EU ETS has already amply proven that it is doing its job as Europe’s central climate protection instrument by reducing greenhouse gas emissions,” explains Jonas Grunau. “But we don’t know as much about side-effects of the system.”

To explore such side-effects, the Hamburg team analyzed how the EU ETS had reduced the emission of air pollutants and quantified the damage to health that the emissions reduction has prevented, using the official cost estimates from the Federal Environment Agency. They calculated how the amount of air pollutants have changed in the EU since the introduction of emissions trading in 2005 up to 2021 in regulated sectors such as the energy industry, in comparison to unregulated sectors. The results show a reduction of 15 million tons (Mt) of sulfur oxide, 1 Mt of particulate matter, and 5 Mt of nitrogen oxides.

“While our study provides an initial estimate at the aggregate level, we need further analyses to investigate where the reductions are occurring, and which groups of individuals specifically benefit,” added Dr. Piero Basaglia.



European emissions standards, which were tightened during the same time as emission trading was operating, might have also contributed to the reduction in air pollutants. But even when the research team subtracted the full potential amount of reductions resulting directly from the emissions standards, the amount of damage to health prevented amounts to more than one hundred billion euros.

“European climate protection reduces CO₂ and thus prevents climate damages across the globe, particularly for future generations. At the same time, the EU Emissions Trading System is providing substantial benefits for human health here and now for European citizen. This can be an important motivating factor for supporting climate policy,” Prof. Dr. Moritz Drupp concluded from the study’s results.

Journal article:

Basaglia P., Grunau J., Drupp M.A. (2024) The European Union Emissions Trading System might yield large co-benefits from pollution reduction; Proceedings of the National Academy of Sciences (PNAS); <https://doi.org/10.1073/pnas.2319908121>

Queries:

Prof. Dr. Moritz Drupp
Universität Hamburg
Cluster of Excellence Climate, Climatic Change, and Society (CLICCS)
Center for Earth System Research and Sustainability (CEN)
Hamburg Center for Health Economics (HCHE)
Faculty of Business, Economics and Social Sciences
Tel: +49 40 42838-6171
Email: Moritz.Drupp@uni-hamburg.de.

Jonas Grunau
Universität Hamburg
Cluster of Excellence Climate, Climatic Change, and Society (CLICCS)
Center for Earth System Research and Sustainability (CEN)
Faculty of Business, Economics and Social Sciences
Tel: +49 40 42838-3288
jonas.sebastian.grunau@uni-hamburg.de

Stephanie Janssen
Universität Hamburg
Cluster of Excellence Climate, Climatic Change, and Society (CLICCS)
Center for Earth System Research and Sustainability (CEN)
Tel: +49 40 42838-7596
stephanie.janssen@uni-hamburg.de

