



PRESS RELEASE (2018/1/4)

Decomposition of toxicity emission changes on the demand and supply sides:  
empirical study of the US industrial sector

This study conducted by Prof. Shigemi Kagawa and Shunsuke Managi of Kyushu University, Assoc Prof. Hidemichi Fujii of Nagasaki University and lecturer Shunsuke Okamoto of Onomichi City University investigated the changes in the toxicity of chemical emissions from the US industrial sector over the 1998 to 2009 period. Specifically, they employed a multiregional input-output analysis framework and integrated a supply-side index decomposition analysis (IDA) with a demand-side structural decomposition analysis (SDA) to clarify the main drivers of changes in the toxicity of production- and consumption-based chemical emissions. The results showed that toxic emissions from the US industrial sector decreased by 83% over the studied period because of pollution abatement efforts adopted by US industries. A variety of pollution abatement efforts were used by different industries, and cleaner production in the mining sector and the use of alternative materials in the manufacture of transportation equipment represented the most important efforts. This research achievement was published online on December 12, 2017 in Environmental Research Letters.

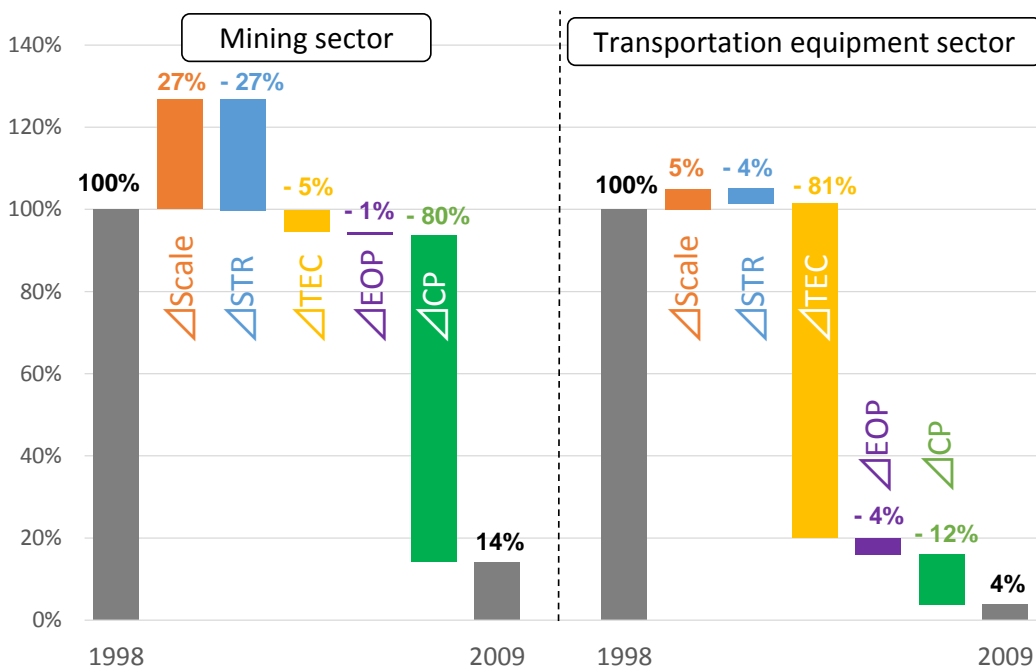


Figure. Major drivers of induced toxic emission changes in the mining and transportation equipment sectors.

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