

Endogenizing the cap in a cap-and-trade system: assessing the agreement on EU ETS phase 4

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Abstract: In early 2018, a reform of the world's largest functioning greenhouse gas emission cap-and-trade system, the EU Emission Trading System (ETS), was implemented. The reform changes the main principles of the system. We show that one effect of the reform is that the effective emission cap is no longer set by EU policymakers. Instead, the effective emissions cap is now endogenous to allowance demand. One consequence of this is that national policies that reduce allowance demand can reduce the amount of emissions in the long run, which is not possible in a standard cap-and-trade system. We show how the size of this effect depends on a number of hard-to-predict parameters, such as the future progress in renewable energy technologies. Using a newly developed dynamic model of allowance demand, we show that the effect can be substantial for plausible values of these parameters.