Mind the Emission Gap: Policy Stringency Matters for Emission Reductions in the EU ETS

Abstract

We document that firm-level emission reductions under the EU ETS program are strongly influenced by climate policy stringency. We define this stringency as the firm-specific expected compliance gap over time, which in turn is defined as the difference between projected allowances and emissions, adjusted by the allowance price and scaled by sales. By capturing both immediate regulatory pressure and firms' expectations about future compliance obligations, our stringency measure emerges as a key determinant of firms' decisions to reduce emissions. Sectoral analyses confirm that policy stringency remains influential across diverse industries, irrespective of financial constraints or technological barriers. We use the sectoral model to assess progress toward the EU's emission goals by 2030. While the phased reduction of free allowances associated with the Carbon Border Adjustment Mechanism (CBAM) drives emissions reductions in covered sectors, it is insufficient to drive the economy-wide reduction required to meet this goal. Meeting the required regulatory pressure across the economy would entail an immediate carbon price of around €125 per tonne.

Keywords: Carbon pricing; Climate policy; Low-carbon transition; Policy-stringency.

JEL Classification: C58, E58, G32, Q51, Q56, Q58