

# Abstract

This thesis uses up-to-date meta-analysis methods to produce a systematic summary of the literature on marginal abatement costs (MAC) of greenhouse gas emissions. It collects 242 MAC estimates for 2030 and 2050 from 59 studies. Besides the usual tests for publication bias, the study employs several modern non-linear tests, such as the TOP 10, the Kink method, the Stem method, and others. Subsequently, Bayesian model averaging is performed for the first time in MAC literature to reveal a mild negative publication bias for the MAC in 2050. The thesis reveals that newer studies provide higher estimates of MAC. Other factors influencing MAC estimation are the size of stabilisation targets, emissions baseline, utilising the LEAP model, the inclusion of other greenhouse gases besides carbon dioxide, and considering the long-run decision making. Several robustness checks are conducted along the way to confirm the selection of the dataset and the robustness of the BMA analysis (using weighted BMA, FMA, OLS). The true value of MAC in 2030 corrected for publication bias is around 32 EUR/tCO<sub>2</sub>-eq, while for 2050, it is 59 EUR/tCO<sub>2</sub>-eq.