

Renewable Portfolio Standards: True Commitments or Pure Symbols?

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Abstract

Most existing empirical research on the impact of Renewable Portfolio Standards (RPS) policies has employed a cross-sectional approach or over-simplified measure for RPS which ignored the heterogeneity in RPS designs. In this paper, we have introduced a new way to measure the stringency of RPS that explicitly accounts for some RPS design features that may have a significant impact on the strength of an RPS. The difference between this new measure and other more commonly used measures is striking; some seemingly aggressive RPS policies in fact provide only weak incentives, while some seemingly moderate RPS policies are in fact fairly ambitious. We also investigate the impacts of renewable portfolio standards on the renewable electricity development using our new measure of RPS stringency, and compared the results with those when alternative measures are used. The difference in the estimates is again striking. Using our new measure, the results suggest that, on average, RPS policies have had a significant and positive effect on renewable energy development. These findings are masked when differences between RPS policies are ignored. We also find that another important design feature – allowing “free trade” of REC’s – can significantly weaken the impact of an RPS. These results should prove instructive to policy makers that are interested in RPS policies, especially for countries who are developing an RPS such as China.