

## **Policy Effectiveness, Spatial Dependencies and Energy Market: Evidence from the Renewable Portfolio Standard**

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This research estimates the effects of the Renewable Portfolio Standard (RPS) on renewable energy capacity development in the United States. The RPS is a renewable electricity policy, which mandates the electric utilities to supply a certain percentage of renewable electricity over the specified time frame. This study uses the most recent data, from 1990-2014, in 47 states. The empirical estimation uses the panel fixed effect and spatial econometric methods. The results indicate the RPS increases the overall renewable capacity by 194 MW, where the impacts are heterogeneous for each renewable capacity. The RPS contributes positively to solar and wind capacity, while the evidence remains insignificant for biomass and geothermal. The technology specific results imply the potential amplification of RPS contributions if the policy specifies the mandates for each renewable technology separately. Finally, the spatial correlation of the RPS shows that the spatial rearrangement of the RPS across the states can change the renewable capacity.

**Key Words:** Energy Policy, Renewable Portfolio Standard, Renewable Resources, Spatial Structure,