

## **Abstract**

Discussions on renewable energy have gained pace in recent years due to its potential in mitigating the effects of climate change and enhancing energy security in a cost-effective manner. Its technical potential in the U.S. is 100 times over the country's current electricity consumption. However, renewable energy projects' high upfront costs and perceived riskiness can create adoption bottlenecks. These bottlenecks may exert pressure on project financing, which is likely sensitive to central bank policies. We study the relationship of monetary and macroprudential policies with renewable energy production in the U.S. using threshold regression to capture how this relationship changes in different monetary policy regimes. We found that contractionary monetary policy has a regime-varying relationship with renewable energy production; it is negative in the zero lower bound policy rate regime but positive in the low but non zero lower bound policy rate regime. As long as the Federal Reserve sets its policy rates in accordance with its dual mandate, monetary policy will not have negative consequences on renewable energy production. Additionally, contractionary macroprudential policies have a regime-varying relationship with renewable energy production; it is positive in the zero lower bound policy rate regime but negative in the low but non zero lower bound policy rate regime. A macroprudential tightening in the zero lower bound regime and a macroprudential loosening in the low but non zero lower bound regime should be conducive to the sector.

**Keywords:** Monetary Policy, Macroprudential Policies, Renewable Energy Production, Threshold Regression.