Turkey's Shift to Renewables: Analyzing the NREAP's Effects on Hydropower, Wind, and Solar Energy

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ABSTRACT

In this study, this study analyzes the impact of Turkey's 2014 National Renewable Energy Action Plan (NREAP) on renewable energy deployment and greenhouse gas emissions is evaluated. Using the synthetic control method, this study analyzes the causal effect of the NREAP on the share of renewable energy in electricity generation, disaggregating by hydro, solar, and wind power, as well as its impact on per capita greenhouse gas emissions. Our findings reveal 14 % increase in the total renewable share of electricity following the NREAP implementation, primarily driven by growth in solar and wind energy. However, no significant impact is observed on the hydro share and greenhouse gas emissions. Robustness checks using placebo tests largely support these findings. The results indicate that, with regard to some renewable energy technologies, the NREAP has effectively spurred growth. This study concludes that the implementation of additional policies is essential to achieving broader environmental objectives.

Keywords: Renewable Energy Policy, Synthetic Control, Emissions, Renewable Generation, National Renewable Energy Action Plan
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