

The Impact of Renewable Electricity Generation on Employment at The State Level

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Abstract

This essay examines the impact of energy production from RES on employment in the electricity sector for a panel of 50 states over the period of 1990 to 2017. While significant attention in the literature has been given to the impact of energy *consumption* from RES and non-renewable energy sources (NRES), this research will investigate the impact of energy *production* on state level economies to avoid the electricity loss because of transmission and distribution. The choice of the time period for the empirical work is significant because there has been an actual and recognizable application of green energy sources in the electricity sector (Menz and Vachon 2006, 1786). Important to note here is that there is no data for the years before 1990 for electricity generation data for RES, which limits the scope of this work to a certain degree. The reason for using the *state level* data is that each state in the U.S. has its own economy, resources, policies, population, business climate, and characteristics. Thus, it could be more accurate to look at each state independently rather than dealing with aggregate numbers for the whole country. If the results of this study show an improved economy for these states as a result of devoting more resources to generating energy from RES, the results may inspire leaders in the states to support policies that encourage increasing renewable energy use. A distinction between whether a state is an oil-producing state or a non-oil-producing state is considered when examining the impact of production of the RES on employment.

This essay looks at the impact of REN on the employed as percent of civilian non-institutional population (N) measured as total employed individuals divided by the civilian non-institutional population. By using fixed effect estimations with state-fixed effects and time-fixed effects to estimate the impact of REN on N, this essay finds that REN has a statistically significant and positive impact on employment of each state. The positive impact of REN on employment includes both states that produce oil and states that do not produce oil. These findings indicate the importance of increase in the use of RES in the electricity sector because it creates new jobs, which improves the employment in each state.

Keywords: RES, NRES, REN, Employment, and NREN