

## Abstract

The study compares FIT (Feed-in tariff) and RPS (Renewable Portfolio Standard) as the two most commonly used support schemes for renewable energy sources (RES) in the EU. It examines a relationship of an Environmental Kuznets Curve (EKC) and by a practical experiment for public lighting in Prague the study proposes an ecological functioning of electricity grids in the EU with CO<sub>2</sub> emissions reduction effect. The main contribution lies in the recency and originality of the econometric analysis and practical experiment. FIT and RPS analysis demonstrates that both schemes affect demand for electricity and increase its price. The econometric model was tested for 28 EU countries for 1990-2013. The results say that the EU is currently located on the downslope of the inverted U-shaped EKC with a turning point, after which the dependence begins to grow. Nevertheless, for the most of observations the turning point is too far to be a source of concern. Practical experiment has shown that installation of energy saving devices for electricity grids in the EU can bring satisfactory results in reducing CO<sub>2</sub> emissions independently of state aid. More efficient use of existing energy sources, however, should rather serve as a complement to conventional support, phasing out with the development of RES technologies.

**JEL Classification**

O13, Q20, Q410, C21, C23

**Keywords**

Renewable energy sources, RES, FIT, RPS, Environmental Kuznets curve, EKC, Kyoto protocol, CO<sub>2</sub> emissions

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