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## **RENEWABLE ENERGY CONSUMPTION, R&D AND GDP IN EUROPEAN UNION COUNTRIES**

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### **Abstract**

The relationship between the use of renewable energy sources and other characteristics of national economies has frequently been investigated, and a wide range of approaches can be observed in publications. The aim of this study to examine the potential relationship between the ratio of renewable consumption in gross energy consumption, GDP per capita, and R&D expenditures in European Union countries. Data are analyzed in their original forms, and a mathematical model is presented that is suitable to analyze the effect of change in the input data further. A positive relationship is determined between R&D expenditure and renewable energy consumption at various levels of GDP. The results indicate that the impact of GDP is positive at a higher level of R&D expenditure, but the effect is not unambiguous at a lower level of R&D expenditure.

*Key words:* GDP, R&D expenditure, renewable energy consumption, support vector regression

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