

[DOI: 10.20472/IAC.2015.016.012](https://doi.org/10.20472/IAC.2015.016.012)

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## **IS RENEWABLE ENERGY CONSUMPTION CONSEQUENT OF THE INCOME GROWTH?**

### **Abstract:**

Most because of the rapidly increasing world population, the world energy demand has also increased year by year. Unfortunately, that energy demand has satisfied with an energy sources such as oil, natural gas and coal that can't be sustainable. In this regard the extensive and rapidly increasing use of fossil fuels is conceived as a main reason both of the climate change and global warming. On the other hand the relationship between economic growth and environmental pollution is frequently investigated by researchers in the economic literature. The main theoretical proposition of this relationship named as Environmental Kuznets Curve (EKC) hypothesis by researchers. According to this hypothesis, at the early stages of economic development, governments and citizens are rarely aware of the environmental problems and environmental friendly energy sources such as renewable energy that is not so profitable to use because of its high investment costs. Afterwards, along with per capita income increase, environmental pollution increases to the beyond of the ecological threshold level. In that point, environmental quality improves with higher income per capita. However governments may still prefer to consume mainly fossil fuel energy sources in their energy policies because of the high investment costs of the renewable energy sources. This study is aimed to investigate the relationship between renewable energy consumption per capita and income per capita in G-20 countries during 1992 and 2010 by using panel data analysis techniques. According to the analysis results, income per capita has a statistically significant (1 percent significancy) and positive impact (0.61%) on renewable energy consumption per capita in the long run. However it has found that increase in carbon dioxide emission (CO<sub>2</sub>) per capita any statistically significant impact on renewable energy consumption per capita. Concordantly coherent with the EKC hypothesis, it has found in that study that G-20 countries are prefer to consume renewable energy sources depending upon the increase in income per capita.

### **Keywords:**

Environmental Kuznets Curve, Renewable Energy, Panel Data Analysis, Income, G-20 countries.

**JEL Classification:** Q50