

Investigating the Impact of ICT and Economic Growth on Environmental Pollution: Case Study of Persian Gulf Countries

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Abstract

Today, the issue of information and communication technology (ICT) and its role in reducing environmental pollutants is one of the most important issues in environmental economy. In fact, ICT help to increase environmental pollution through the production of ICT machines, energy consumption, and electronic waste recycling. While ICT is expected to reduce emissions of carbon dioxide by developing smart cities, transportation systems, power grids, industrial processes and energy savings. Therefore, the purpose of this study is to investigate the impact of ICT on carbon dioxide emission in the Persian Gulf countries by panel data method during the period 2000-2015. The results showed that ICT had a direct effect on carbon dioxide emissions. Also square of ICT has a negative and significant effect on carbon dioxide emissions. Therefor results indicated an inverted U-shaped relationship between ICT and carbon dioxide emissions. Also, economic growth has a direct effect and square of economic growth has a negative effect on carbon dioxide emissions, which confirms the EKC hypothesis. Also, per capita energy consumption and trade have had a direct and significant effect on carbon dioxide emissions. According to the results, the Gulf countries can help reduce carbon dioxide emissions and environmental pollution by developing information and communication technology.

Keywords: Information and Communication Technology, Environmental Pollution, Economic, Growth Persian Gulf countries.

JEL Classification: D83, Q01, Q53, Q55, Q56.

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