
Energy intensity and environmental performance in the GCC countries: long-run evidence from a heterogeneous panel

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Abstract

Although energy wealth rankings place the six Gulf Cooperation Council (GCC) countries among the richest in the world, the GCC economies face unsustainable growth in energy use and continuous environmental degradation. This paper examines the long-run relationship between per capita CO₂ emissions and energy intensity in the GCC, while controlling for economic activity, the size of the manufacturing sector, and institutional qualities. We use heterogeneous panel techniques that account for heterogeneity and cross-country dependence for the period 1971-2011. We find that energy intensity and emissions are cointegrated in all GCC countries and that conservation and energy efficiency policies have greater potential in reducing emissions in Kuwait, Oman, and the UAE. However, energy efficiency and conservation alone may not be viable policy options to significantly cutting emissions in the next decades. A regional goal of mitigating emissions by 10% would require a reduction in energy intensity by 12%, on average. Therefore, investing in Carbon Sequestration (CS) technologies and having a strong commitment to renewable energy seem essential ingredients to any sustainable energy and environmental strategy. Last, we find that judiciary independence is an essential institutional quality that ensures the successful implementation and the stringent enforcement of long-term environmental policies.
