

Performance of Environmental Efficiency of Energy Consumption in OPEC Countries

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Abstract : Global awareness on energy security and climate change has created much interest in assessing energy efficiency performance. A number of previous studies have contributed to evaluate energy efficiency performance using different analytical techniques among which data envelopment analysis (DEA) has recently received increasing attention. Most of DEA-related energy efficiency studies do not consider undesirable outputs such as CO₂ emissions in their modeling framework, which may lead to biased energy efficiency values. Within a joint production frame work of desirable and undesirable outputs, in this paper we construct energy efficiency performance index for measuring energy efficiency performance by using environmental DEA model with CO₂ emissions. We finally apply the index proposed to assess the energy efficiency performance in OPEC over time.

Keywords : energy efficiency, environmental, OPEC, data envelopment analysis

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