عنوان مقاله:

Drivers of CO۲ Emissions from Power Plants in Selected Fossil Fuel-Producing Countries

محل انتشار:

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خلاصه مقاله:

Fossil fuel-producing countries have access to low-cost primary energy sources, which could be converted into cheap secondary energies like electricity. Although, it is worth noting that this process always generates a high rate of emissions. Most of the energy-related emissions in fossil fuel-producing countries are caused by power plants. This study focuses on data from seven major fossil fuel-producing countries of the Middle East from ۲۰۰۰ to ۲۰۱۸. These countries include Bahrain, Iran, Oman, Qatar, Kuwait, Saudi Arabia, and the United Arab Emirates. The analysis is based on a dynamic panel data model using GMM techniques. The results show that switching from oil-fired power plants to natural gas-fired power plants does not reduce power plant CO۲ emissions. However, fuel switching could be an effective climate policy in cases where electricity is generated by burning low-quality oil products. Our analysis also indicates that by increasing the thermal efficiency of power plants, CO۲ emissions in fossil fuel-producing countries could be reduced. To conclude, we recommend incorporating power plant efficiency improvements into emission reduction efforts in fossil fuel-producing counties.

کلمات کلیدی:

Power plant emissions, Dynamic Panel Data, Thermal efficiency, fossil fuel countries, Fuel switching