

Do high-income countries generate electricity more cleanly?

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ABSTRACT

This paper asks whether electricity is generated more cleanly, using carbon dioxide (CO₂) as the measure of emissions, in high income, relative to low income, countries. The goal is to apply the logic of the environmental Kuznets curve, which asks whether countries' level of environmental degradation is systematically related to income, to the electricity generation sector. Econometric results show that in a country with per capita income of Democratic Republic of the Congo (DRC), an additional kilowatt-hour of electricity production is related to 0.82 additional kilograms of CO₂, while the marginal kilowatt-hour in a country with per capital income of the United States is related to 0.61 additional kilograms- 26% less. It is concluded that high-income countries are relatively cleaner in their electricity production. Some discussion of possible causal mechanisms is given. The distinction between pollution due to fuel choice versus to fuel use efficiency is also investigated.