The Role of Energy Transition in Advancing Employment-Related Sustainable Development Goals

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The energy transition process is expected to result in job losses in the fossil fuel energy sector while fostering employment growth in the renewable energy sector. These anticipated outcomes have far-reaching implications that extend beyond the energy industry, reaching into the upstream supply chains. Previous studies, however, have primarily focused on assessing the direct impacts of energy transition within the energy sector and often only categorizing employment based on race, gender, and skill levels. Consequently, there remains a gap in our understanding of how the energy transition may affect the broader spectrum of employment-related Sustainable Development Goals (SDGs). In this paper, we employ a global multiregional input-output model (MRIO) to examine the multifaceted impacts of the energy transition on employment-related SDGs. First, we construct satellite accounts that delineate employment characteristics by gender, age, skill levels, formality (formal or informal), and safety (occupational injuries) based on data from the International Labour Organization (ILO). Then, utilizing the EXIOBASE MRIO tables, we comprehensively evaluate the energy transition's impact on various employment-related SDGs spanning the years 2004 to 2019. Overall, our analysis represents the inaugural global-level comprehensive assessment of this pivotal subject, contributing to deepening our understanding of the intricate interplay between energy transition and employment-related SDGs. Additionally, the employment satellite accounts developed in this study make a valuable database contribution to MRIO-based employment analysis.