

## **Input-output analysis of the energy sector in Brazil for the years 2000 and 2015**

Topic: Input-Output Analysis: Energy Policies - IV

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The main energy sources in Brazil are oil, natural gas, electricity, mineral coal, wind energy, biodiesel and sugarcane products. In recent years, renewable energy generation has been gaining prominence and contributing to the reduction in the use of fossil fuels. In this context, it is questioned how the changes that occurred in the Brazilian energy sector contribute to the energy transition? This paper analyzes the structural changes that occurred in the energy sector in Brazil for the years of 2000 and 2015. To do so, it uses the input-output matrices estimated by the Brazilian Institute of Geography and Statistics (IBGE) for both years. It should be noted that, as the energy data (physical flows) of the National Energy Balance (BEN) presented a different sectoral disaggregation from the input-output matrices for Brazil, the need arose to make the two bases compatible, which generated a matrix with disaggregation for fourteen productive sectors. The sector analysis will be based on two parts. The first will consist of an exploratory analysis of the sector, using classic input-output indicators (e. g. key sector, analysis of employment, income and production multipliers). The second will be based on the hybrid input-output model. The hybrid model will allow verifying the direct, indirect and total requirements of the energy sector. The results of this article will enable a better understanding of the energy sector in Brazil and the fight against climate change through the use of more renewable sources.

Keywords: Energy sector; Input-output; Hybrid models.