

Optimization of Material Flows and Resource Productivity - An Input-Output analysis

Topic: Sustainable production and consumption 2

Author: PITAN SAMUEL

Material Flow Analysis (MFA) is the study of physical flows of materials into, through and out of a given system (usually the economy). It is generally based on methodically organised accounts in physical units. It uses the principle of mass balancing to analyse the relationships between material flows (including energy), human activities (including economic and trade developments) and environmental changes.

In this study the author adopts the inputs and/or outputs analysis disaggregating Nigerian industry and aligned to the monetary input-output tables to establish so called hybrid flow accounts in the context of integrated environmental and economic accounting in Nigeria.

The results shows an anomalous deviation from economic theory in terms of milieu of material and resource flow cum utilization in the context of Nigerian economy due to misalignment of environmental pressures and product life cycle at Meso and Macro level

The paper suggest workable and admissible policies and decision in areas such as product policies, energy efficiency, integrated waste management, sustainable materials management. It presents corporate strategies on investments and emissions, and monitor the availability of critical resources and the vulnerability of a company or a plant to disruptions in the supply chain.