Carbon footprint for the University of Castilla-La Mancha

Topic: Environmental input-output modeling VI

Author: Nuria Gomez

Co-Authors: Fabio Monsalve, Maria Angeles Cadarso, Maria A. Tobarra-Gomez

There is an increasing concern about the environmental performance and sustainability of firms and organizations and educational institutions are also involved. Our objective in this paper is to calculate the footprint for the Universidad de Castilla-La Mancha (UCLM) in 2012 in order to measure its environmental impact. This is a fundamental first step to improve sustainability within this institution, as it can provide ways to reduce its environmental impact as well as decrease costs, increase environmental awareness and improve the university's image. We use input-output methodology instead of life cycle analysis, as input-output avoids the truncation errors that could underestimate the total environmental load. Furthermore, this methodology is completely compatible with the UCLM budget, from which we obtain a demand vector that allows us to know which products are used by the university in generating its services. The calculation of the consumer responsibility is assimilated to that of footprint, as this takes into account both direct and indirect emissions unlike the producer responsibility (that only includes direct emissions). As a novelty we include in the calculations of UCLM carbon footprint the consumption of university workers. We think that this inclusion is necessary to make comparisons with the performance of the university in the other fields of sustainability, the economic and social one. As a matter of fact, these indirect emissions from household consumption of university workers account for two thirds of total UCLM carbon footprint. We also analyze emissions according to the industries that provide inputs to the **UCLM**

Keywords: Carbon footprint, Producer responsibility, Consumer responsibility, Input-output, Life cycle analysis.ding to the industries that provide inputs to the UCLM.