

The ignored role of investment in the allocation of environmental responsibilities: the case of tourism industry.

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Environmental responsibility is usually measured following two main criteria: producer and consumer responsibility. At sector level, the first one means that a sector is responsible for environmental damages caused by its own process of production, whereas the consumer principle implies that a sector is responsible for environmental damages linked to the inputs it consumes in its production process, including imported inputs. Input-output framework allows calculating these environmental effects in direct and indirect terms. Also, the input-output model considers final demand (consumption, investment and exports) as exogenous. But investment is necessary in order to provide goods and services and is itself linked to direct and indirect emissions (as any other good) that shall be quantified for, since environmental effects of an activity are infraestimated when investment is left out. We propose to widen the concept of consumer responsibility at sector level to include emissions linked to the generation of capital goods used in production, independently of its origin, domestic or foreign, allocating them to the 'consumer' sector instead of adding them to the emissions of the capital goods producing sector.

We apply this measure of broad consumer responsibility to the Spanish tourism sector for the period 1995-2005, because following the World Tourism Organisation, tourism is one of the economic activities with a highest effect on climatic change and Spain is the second country in tourists per year. This work aims to measure and allocate emissions related to the Spanish tourism industry considering, not just goods and services consumption, but also investment required to produce them as responsible for tourism polluting emissions. By doing so the emissions measure is more adequate since it also accounts for the tourism sector structure. Results show that in 2005 domestic tourism consumption explains 11.2% and tourism investment 3.4% of total CO₂ emissions linked to productive activities in Spain. A major improvement in global environmental efficiency in the tourism sector takes place during the analysed period, since emissions embodied in a euro spent by a tourist have decreased from 0.5 CO₂ kilograms in 1995 to 0.37 CO₂ in 2005.