Computable General Equilibrium Analysis of Eco-Car Introduction into Toyohashi City

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Abstract:

Reducing the emissions of CO2 has been a biggest agenda in the global environment issue. The CO2 produced in Japan in 1990 was 1.26 billion tons. In order to reduce it by 6%, the average CO2 emissions should be reduced to 1.186billion tons during 2008 and 2012. On the other hand, the CO2 emissions were 1.359 billion tons in 2005, which was a surprising raise of 7.7% as compared to the base line year of 1990. This increase is counted as 13.7% relative to the target reduction 6%. This article will therefore take Toyohashi City as a study region, and construct a static computable general equilibrium (CEG) model and then apply it to analyzing the economic performance of low-carbon society. The most effective method to reduce the CO2 emissions is to integrate eco-cars, renewable energies and the attention-getter smart grid, and incorporate those into the standard structure of a CEG model. This paper will assess the practicability of Toyohashi city's low-carbon society referring to the reduction in CO2 emissions and fossil fuel consumption.