

A CGE assessment of the impacts on electricity production and CO2 emissions of a residential demand response program in Spain

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Abstract-

Changes in electricity demand can bring substantial shifts in the production structure, costs, and level of emissions of electricity systems. However, the electricity sector is not the only one affected as these changes can create significant repercussions in other sectors and, consequently, in the whole economy. In this paper, the indirect effects of a reduction in household demand for electricity have been evaluated for the Spanish economy. A multisectoral static computable general equilibrium model is employed to achieve this objective. The results clearly point out the importance of assessing other sectors' behavior when assessing the consequences of promoting demand response policies, especially when dealing with pollutant emissions.

Index Terms- Computable General Equilibrium (CGE), Emissions, Electricity Demand Response

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