

# CO2 emissions from the residential sectors in Europe: drivers and distributive consequences

*Dorothee Charlier, Mouez Fodha and Djamel Kirat*

## **Abstract:**

This paper investigates empirically the causal factors of the CO2 emissions from the residential sectors for 14 European countries during the 1990-2012 period. We find significant effects of both economic and climatic variables on CO2 emissions. We compute the distributional impacts of a European carbon tax (20€/ton) and show that it increases the inequalities among countries, in terms of tax revenue-to-GDP ratio. We finally simulate the country-specific carbon tax policies that equalize the burden among countries. We define the compensatory transfers that may correct these inequalities, increasing therefore the acceptability of the environmental policy. Basically, these transfers represent (in average) 5% of the cost of the European Union climate and energy package.

Keywords: CO2 emissions, distributional effects, geographical heterogeneity, residential sector, panel data.

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