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## Distributional Implications of GHG mitigation policies: Methods and Insights

The decarbonization of the energy system will not impact uniformly the different activities of the economy. Countries and sectors producing materials, equipment and services related to reducing GHG emissions (such as RES technologies, batteries, energy saving equipment, RES fuels) will benefit from the energy system transformation whereas activities related to the generation of GHG emissions (such as fossil fuel mining/extraction, refineries, fossil based power generation, repair of conventional vehicles) are expected to decline. Changes in the structure of the energy and economic systems will be accompanied by changes in electricity prices and changes in financing requirements: the purchase and operation of energy and electrical equipment/appliances will change from low CAPEX/high OPEX to high CAPEX/low OPEX. The changes in prices and production levels will affect households' disposable income. Households whose income is linked to fossil-based activities and low income households (that will face high upfront costs in purchasing energy saving equipment) will both be negatively affected. General equilibrium models often feature one representative household over the national economy. This aggregation although useful when large scale modelling is required (covering many countries and for many years) may mask critical insights regarding distributional implications among household types. This study uses a large scale CGE model soft-linked with a bottom up representation of multiple households in order to assess the distributional implications across households of ambitious GHG mitigation policies.

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