

GREENHOUSE GAS EMISSIONS IN THE MEXICAN ECONOMY AND MITIGATION POLICIES, 2020-2030

Topic: Input-Output economics in Latin America: Advances and challenges (II)

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This work is a follow up of previous research works on the subject (Ruiz N  poles, 2011, 2012, 2014a, 2014b, Ruiz-N  poles, Casta  eda-Le  n and Moreno-Reyes, 2017) using an environmental input-output model (EIOM) to detect productive sectors which are high. Greenhouse Gases (GHG) emitters, and therefore should be the object of special attention by government authorities for the application of mitigation policies, facing the Climate Change resulting from Global Warming that apparently has already begun to occur.

In this paper we developed an Environmental Input-Output Model (EIOM) for the Mexican economy for estimating the Greenhouse Gases (GHG) emissions produced by the Mexican economy from 2018 to the year 2030 and exploring the possibilities for their reduction. The model shows how innovative technologies applied in selected subsectors of the economy might reduce total emissions, through their direct and indirect effects on other sectors. We used the model for estimating two trajectories, one called "business as usual" and another that results from simulating a technological change in selected sectors.

We conclude from the results, among other things, that technological change, even limited to few sectors, tends to produce important beneficial effects in terms of GHG reduction. Economic growth, however minimal, generates GHG emissions in practically all sectors of the economy directly or indirectly. Thus, technological change must be transversal to all productive sectors. Thus, emission-saving technologies must be transferred at low cost between countries. Financial resources to support weaker economies will be needed to achieve that change. Only through decisive action by government authorities can policies of significant GHG reduction be made effective.

In general, the State must use the instruments of industrial policy that it has at hand with a sustainable development orientation. These policy instruments are basically three: monetary policy on credit, trade policy on imports and exports, and fiscal policy, both in public spending (subsidies) and revenue (taxes). The key to the success of these policies is the coordination between the three.

Keywords: Greenhouse Gases, Input-Output, Technological Change.

JEL codes: C67, O13, O33.