The Cost of Compliance to the Paris Agreement and its Distribution: An Input-Output Analysis of the Canadian Economy

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According to its Paris Agreement commitment, Canada must find a way to substantially reduce its greenhouse gas (GHG) emissions. However, given the Canadian political system, where regulation and taxation powers are divided between different levels of government, a nation-wide action plan against climate change calls for a high level of coordination and agreement between provinces. The goal of this research is to propose a way to limit Canadaâ€™s GHG emissions without placing an unacceptable burden on the highly emitting provinces.

Using a subnational multiregional input-output model with interprovincial trade and GHG emissions, the economic impact of a carbon pricing policy will be assessed according to two scenarios. The first scenario will evenly allocate the GHG emission reduction across all industrial sectors. The second scenario will put the burden of the abatement costs on the largest GHG emitting sectors of the Canadian economy.

By simulating these different policy scenarios, this study will look at the trade-offs between their overall economic costs, the GHG emission reduction, and the geographical distribution of those costs amongst provinces. Distributing the GHG cut evenly across industrial sectors is expected to be a high cost alternative, however, targeting only the highest GHG emitting sectors will place a large burden on the western provinces, preventing the policy to be implemented in Canada. A compromise between these two scenarios would need to be negotiated.