

## The impacts of implementing the carbon tax on fossil fuels: a hybrid CGE analysis for Indonesia / Herbert Wibert Victor Hasudungan

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### Abstrak

This paper investigates the environmental and economic impacts of introducing CO<sub>2</sub> taxation on carbon-based fuels using a detailed disaggregation of energy-economy-environmental CGE model for Indonesia. The carbon tax has yet to be implemented in Indonesia. However, this instrument has been considered in the ministry of finance report as one of the government's fiscal strategic framework to finance the country's action plan in commitments to reduce the GHG emissions. Suppose that the government levies the tax of Rp.100,000/ton CO<sub>2</sub>e under two possible revenue-recycling scenarios: the carbon tax revenue is recycled through a reduction of labour income tax rate or an increase of government spending on commodities. For comparison purpose, we also implement the non-compensated scenario of which the additional revenue from carbon tax is kept as government savings to run budget surplus. Overall, the results suggested that the carbon tax reduces the national emissions but adding more cost to the economy, resulting a fall in GDP. In terms of income distribution, the carbon tax tends to be progressive in both scenarios of revenue-recycling. However, when there is no compensating mechanism, the carbon tax tends to be regressive - the poorer households carry a higher share of the carbon tax burden.