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Exploring the Merits and Demerits of Carbon Taxation

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Outline

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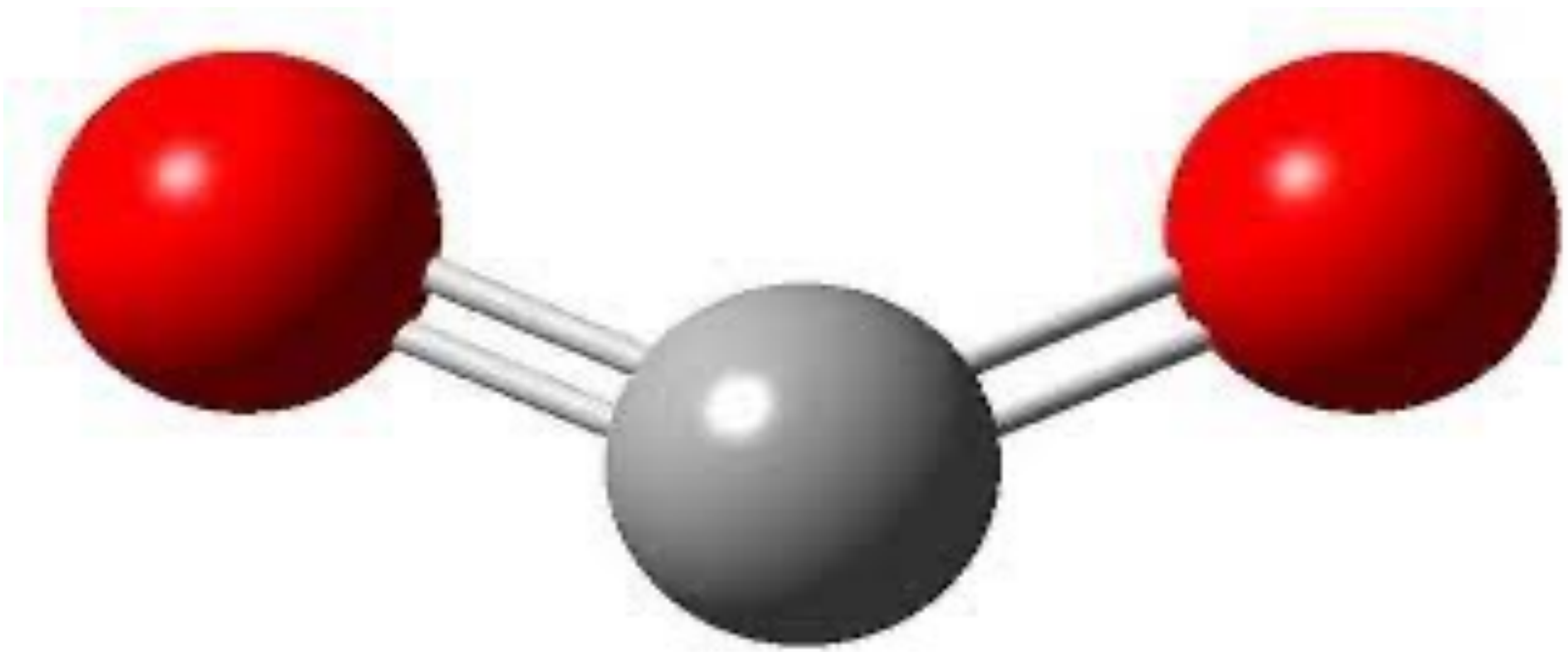
- Demerits of CO_2 Taxation
- Kenya's Draft Green Fiscal Incentives Policy Framework
- Conclusion



Source: *http://epgp.inflibnet.ac.in/epgpdata/uploads/epgp_content/S000005CH/P000663/M007441/ET/1454924364CHE__P8_M23_e-Text.pdf*

Introduction

- Why pollution is a negative externality

Pollution is a non-pecuniary eternality which justifies government intervention

Consequences of CO_2 Pollution

- Environmental effects

- Health Effects

- Economic Effects

4 Ways to Correct for Externalities

i. Taxation-Charges and taxes

ii. Regulation(Permits)-Tradable Emission permits

iii. Coasian Bargaining

iv. Deposit refund systems

Table 1: Facts and Figures on CO_2 Emissions

	Population (M)	Metric Tonne/Capita	Total Emissions Million (MT)	Global Emissions %	GDP B($)	Value added /MT C02($)
Kenya	50.95	0.4	20.38	0.06	100.38	4925.42
Uganda	42.95	0.1	4.31	0.01	35.35	8201.86
Tanzania	59.87	0.2	11.97	0.04	61.14	5107.77
World	77,400	4.4	34,070	100	87,650	2572.64

***Source**: World Bank Data on Population, Carbon Dioxide Emissions per MT and GDP,2019*
***NB:** % are author's own calculations*

- In 2021, the International Monetary Fund proposed an international carbon price floor (ICPF) with different price points for emissions for economies at different stages of development to incentivize greater participation.

- High-income countries, would be subject to a carbon price of $75 for every tonne of C02 emitted, $50 a tonne for polluters in middle-income countries, and $25 a tonne for low-income countries.

CO_2 Taxation

- Carbon taxation is a policy approach that aims to reduce greenhouse gas emissions by imposing a tax on carbon-based fuels, such as coal, oil, and gas.
- **Carbon pricing** creates **signals** and **incentives** for firms and households to reduce carbon-intensive energy use and in the long-run shift to cleaner fuels thereby cutting emissions and helping to meet official climate targets.
- A carbon tax is a type of **government intervention** to address market failure.
- Under a carbon tax, the government sets a price that emitters (polluters) must pay for **each tonne of greenhouse gas** emissions they emit into the atmosphere. This is based on the polluter-pays-principle

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Merits of CO_2 Taxation

i. Achieve environmental goals at least cost

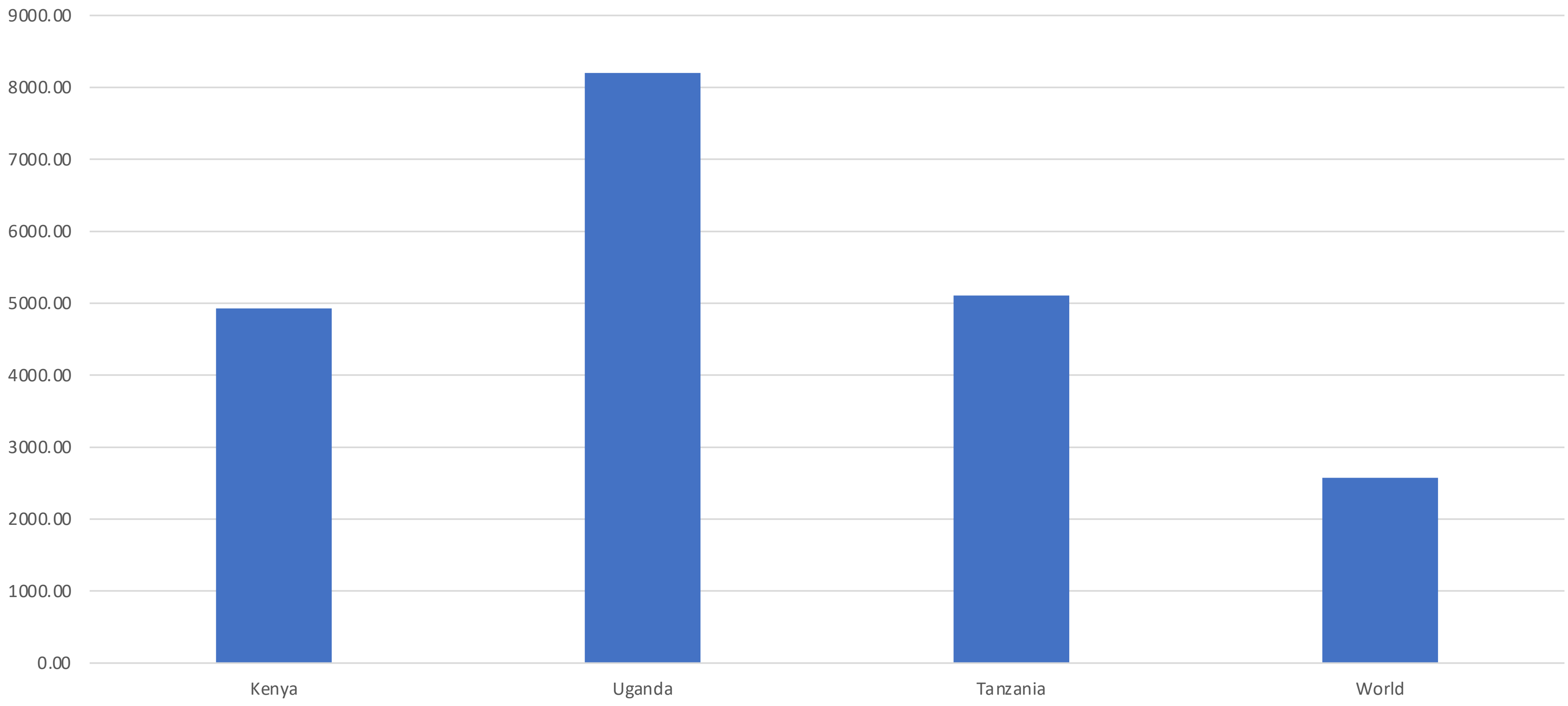
ii. Carbon taxation promotes the adoption of cleaner technologies and energy sources.

iii. Potential for raising government revenue- it helps fund clean energy investment and other socially beneficial projects

iv. Principle of making the polluter pay

v. Carbon taxation can create a level playing field for all players in the market

Chart 1:Value Addition per Metric Tonne CO2



Source: *Author's Calculations from World Bank Emissions Data, 2019*

Demerits of CO_2 Taxation

i. Carbon taxation raises the costs of goods and services that have carbon content and inputs such as transportation, electricity, and manufacturing

ii. Carbon taxation may be regressive

iii. May impact the competitiveness of export-oriented industries in the global market- “pollution haven” hypothesis

iv. It is difficult to measure carbon emissions – making it tough to set the right rates for carbon tax

v. The international political economy of carbon taxation requires that countries that export crude petroleum should bear a share of the tax and this is difficult to achieve for fear of reduction in national output

Kenya's Draft Green Fiscal Incentives Policy Framework

Policy Goals

i. Direct government planning, budgeting and procurement towards green production and consumption

ii. Provide a framework for fiscal incentives to attract private sector investment into a low-carbon emission, climate resilient and environmentally sustainable economy

iii. Provide a framework for generating additional revenue streams for government

Kenya's Draft Green Fiscal Incentives Policy Framework

4.2.2 Carbon tax

Recognizing the ability of carbon taxes to both cost efficiently reduce GHG emissions and also to provide a revenue stream that can be used to meet broader government objectives, the government will explore the viability and design of a carbon tax in Kenya.

Source: *Draft National Green Fiscal Incentives Policy Framework (Page 53).*

ECONOMISTS' STATEMENT ON CARBON DIVIDENDS ORGANIZED BY THE CLIMATE LEADERSHIP COUNCIL

STATEMENT TEXT | ORIGINAL CO-SIGNATORIES | ALL SIGNATORIES | SIGN THE STATEMENT

ORIGINAL CO-SIGNATORIES INCLUDE:

28 Nobel Laureate Economists

4 Former Chairs of the Federal Reserve

15 Former Chairs of the Council of Economic Advisers

ECONOMISTS' STATEMENT ON CARBON DIVIDENDS

Global climate change is a serious problem calling for immediate national action. Guided by sound economic principles, we are united in the following policy recommendations.

I. A carbon tax offers the most cost-effective lever to reduce carbon emissions at the scale and speed that is necessary. By correcting a well-known market failure, a carbon tax will send a powerful price signal that harnesses the invisible hand of the marketplace to steer economic actors towards a low-carbon future.

II. A carbon tax should increase every year until emissions reductions goals are met and be revenue neutral to avoid debates over the size of government. A consistently rising carbon price will encourage technological innovation and large-scale infrastructure development. It will also accelerate the diffusion of carbon-efficient goods and services.

III. A sufficiently robust and gradually rising carbon tax will replace the need for various carbon regulations that are less efficient. Substituting a price signal for cumbersome regulations will promote economic growth and provide the regulatory certainty companies need for long-term investment in clean-energy alternatives.

IV. To prevent carbon leakage and to protect U.S. competitiveness, a border carbon adjustment system should be established. This system would enhance the competitiveness of American firms that are more energy-efficient than their global competitors. It would also create an incentive for other nations to adopt similar carbon pricing.

V. To maximize the fairness and political viability of a rising carbon tax, all the revenue should be returned directly to U.S. citizens through equal lump-sum rebates. The majority of American families, including the most vulnerable, will benefit financially by receiving more in "carbon dividends" than they pay in increased energy prices.

Case Studies: Cap & Trade

Example 1: EU Emissions Trading System Green Deal 2021

- Tax equivalent to € 64.45 per Metric Tonnes of CO_2

Example 2: China's CO_2 Tax

- National Emissions trading scheme
- World's largest CO_2 trading market

Source: *https://earth.org/what-countries-have-a-carbon-tax/*

Thank You

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