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POLICY BRIEF

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THE CENTRE FOR RESEARCH ON FINANCIAL MARKETS AND POLICY®

Promoting a Carbon Tax as the appropriate Carbon Pricing Measure for Kenya

Executive Summary

Kenya contributes 0.05 percent of global greenhouse gas emissions but incurs a 2 – 2.8 percent GDP loss annually due to floods and has lost approximately 8 percent of GDP over the past five years due to frequent and widespread drought. To combat these anticipated effects of climate change, Kenya committed to adopt climate-mitigation policies to reduce its emissions by 30 percent by 2030 in the second National Determined Contribution 2020. To lower GHG emissions, Kenya intends to implement an Emissions Trading System to be known as the Kenya Emissions Trading System (KETS) to price carbon activity. Evidence shows that carbon taxes have been more effective in reducing GHG emissions with lower administrative costs, carbon price certainty and greater monitoring and implementation efficiency relative to ETS. Interventions by Kenyan policymakers to reduce carbon emissions domestically with minimal costs, could aim at implementing carbon taxes in the form of petroleum fuel levy as the main carbon pricing policy.

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The Centre for Research on Financial Markets and Policy®

The Centre was established by the Kenya Bankers Association in 2012 to offer an array of research, commentary, and dialogue regarding critical policy matters that impact on financial markets in Kenya. The Centre sponsors original research, provides thoughtful commentary, and hosts dialogues and conferences involving scholars and practitioners on key financial market issues. Through these activities, the Centre acts as a platform for intellectual engagement and dialogue between financial market experts, the banking sector and the policy makers in Kenya. It therefore contributes to an informed discussion that influences critical financial market debates and policies.

1. Context and importance

Surface temperatures across Africa have increased by 1.5° Celsius over the past 100 years (NCCAP 2018-2022). Sea temperature have increased by 0.6 Celsius over the period 1950 – 20009 (NCCAP 2018-2022). Kenya is geographically placed in an area with varying climatic conditions, thus, susceptible to adverse climate change effects. Temperatures in Kenya have been rising by 1° Celsius over the past 70 years from an average of 24.27° Celsius between 1951 – 1980 to an average of 25.30° Celsius between 1971-2020. The highest number of days with a high heat index has been observed in the past 5-years with the most recent incident observed in 2020. Finally, precipitation has been on a declining trend over the past 70 years with volatility observed in the past two decades.

Climate change is increasingly affecting Kenya's economy evidenced by greater incidence of weather and climate shocks resulting in more volatile agricultural output that has resulted in a 3-5 percent socio-economic GDP loss over the past decade. Climate risks costs Kenya 2-2.4% of GDP annually due to floods and 8% GDP was lost in the past five years due to drought.

Although Kenya contributes a mere 0.05 percent to global Greenhouse Gas (GHG) emissions, Kenya's GHG emissions have been rising substantially over the past 20 years since 2000. It is encouraging that Kenya's GHG emissions are mainly consumption driven by oil imports, as cement and coal represent a small proportion of GHG emissions. Majority of GHG emissions have been driven by five main sectors, agriculture, fuel combustion, transport, industry and manufacturing and construction. Fuel emissions are the second highest in the economy, their trend is the most concerning as the uptick is driven by oil imports used as inputs in economic activity.

Kenya's GDP growth is coupled with its emissions. As the economy grows oil demand is estimated to rise. Intergovernmental Panel on Climate Change (IPCC) requires countries globally to decouple growth from carbon intensive sectors to realize global net-zero emissions. Carbon pricing is a key policy towards net zero global emissions and can be implemented in the form of an emissions permit system (ETS) or a carbon tax.

2. Policy options

An ETS can take one of two forms, either a compliance or a voluntary ETS. A compliance ETS operates through a national authority setting an emissions limit known as a cap. Companies wishing to exceed this cap purchase emission permits and can sell emission permits it does not use. A voluntary carbon market is unregulated, and companies participate in the purchase and trade of emission permits on a voluntary basis.

In 2021, 30 carbon taxes and 9 ETS have been implemented by various national and supranational authorities while 45 countries had adopted either a carbon tax or an ETS to price emissions beyond a certain level or to cap emissions produced. The European Union ETS, introduced in 2005 is one of the first ETS carbon market and the largest one in the world. Finland was the first country to introduce a carbon tax in 1990 at a rate of $1.41 per 1 tonne of carbon dioxide is one of the earliest to be implemented globally. ETSs result in varied prices of carbon based on

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the demand for the permit and prevailing economic conditions. Globally, ETS range from below $3 to over $100 per 1 tonne of carbon dioxide. Carbon taxes are levied on products based on a set carbon content. Carbon taxes result in a fixed price of carbon applied in standard manner across all companies. Carbon taxes globally range from about 30 percent to over 70 percent.

Both emissions trading and carbon taxes have advantages and disadvantages. Carbon taxes have been promoted as a more appropriate carbon pricing measure for developing economies such as Kenya (IMF, 2022). By considering the implications of a carbon tax in Kenya and empirical evidence illustrating the benefits outweigh the cost of implementing a carbon tax, this policy brief aims to persuade policymakers to consider a carbon tax rather than an emissions trading system.

3. Implications of a carbon tax and empirical evidence

A study on the macroeconomic and financial stability implications of a 50 percent carbon tax on manufactured imported good (oil) in Kenya reveal that a 0.5 percent rise in general prices through imported inflation, lower investment to GDP, a 0.51 percent rise in real GDP, and narrower fiscal and current account balances supported by a rise in government revenue (Talam & Maru, 2022). The findings corroborate literature on implications of carbon pricing for various countries globally including Australia, Canada, Ireland, and South Africa. The rise in general prices supports findings by various studies on carbon tax of a rise of between 0.75 and 1.9 percent. Majority of the literature found a decline in output ranging from 0.68 percent to 1 percent, mainly through a decline in consumption. Talam & Maru (2022) found a 0.5 percent rise in real GDP supported by government consumption while household consumption declined by 3.4 percent comparable to the range of 2-2.4 percent from empirical literature. The empirics found increase in government revenue which corroborates the findings in Talam & Maru (2022).

Firstly, carbon prices have been more effective in lowering carbon emissions relative to ETS. Empirical literature finds carbon taxes led to between 0.5 percent to 6.5 percent decline in carbon emissions, while ETS have led to a 0.5 percent to 2 percent decline in carbon emissions. However, emissions have fallen faster in countries with ETS though the timing of ETS implementation does not correspond to the reductions in carbon emissions indicating a secondary driver of lower emissions.

Secondly, ETS increase the price of carbon intensive activities though by lower magnitudes compared with carbon prices due to carbon taxes. EU ETS carbon prices have been lower than carbon taxes in the EU leading to lower carbon price in the Union as demand for emission permits declined due to low GDP growth. This decline may jeopardize progress and meeting of GHG emission targets within the set deadlines. On the other hand, carbon taxes have been shown to increase prices of high carbon goods by greater magnitude leading to inflationary pressure in the short-term which are offset by rise in investment and real GDP in the medium to long run as has been observed in Sweden.

Thirdly, ETS is administratively complex to implement and susceptible to lobbying pressures which may hinder their success. ETS require high regulatory capacity, significant regulatory and legislation changes that maybe time consuming and require consensus across several stakeholders.

Finally, carbon price through carbon taxes is fixed relative to an ETS thus lower uncertainty thus promote adoption of greener policies by companies. Clarity of carbon price increases transparency, and ease of measuring the effects of carbon pricing in reducing GHG emissions which helps to track progress in NDCs targets.

In summary, the EU emissions trading scheme has not had as much success in reducing emissions (3.8 percent reduction in carbon emissions in the past 8 years) relative to the cost of implementation relative to Sweden's carbon tax (6.3 percent reduction in carbon emissions annually) despite both carbon pricing measures being implemented in the same region.

4. Policy implications

Kenya aims to reduce its emissions by 30 percent by 2030 primarily though implementing a compliance ETS where firms can sell and purchase emission permits. In 2022, through amendment 22 of 2022, Kenya's Finance Act introduced carbon tax incentives through a decline in corporate tax for firms operating in the carbon market exchange. The corporate rate for such firms declined from 30 percent ordinary tax rate to 15 percent. Taxes and levies on fuel account for 40% of pump prices in Kenya, where excide, petroleum development levy and VAT account for the bulk of the taxes and levies.

The fuel levies are like those implemented by Finland as carbon taxes thus making the move toward carbon taxes a seamless one administratively. It would require fewer additional legislation, regulation, financial resources, and capacity to implement targeted carbon taxes relative to an ETS. Kenya's Energy and Petroleum Regulator (EPR) has been able to allocate the petroleum fuel levy to smooth out fluctuations in oil prices occasioned by global shocks. Similarly, carbon taxes could be allocated towards government revenue allocated to climate adaption measures or welfare support to households most affected by adverse climate impacts.

In conclusion, this brief seeks to persuade policymakers to consider implementing a targeted carbon tax on oil to be administered in a similar manner as the current petroleum fuel levy and to allocate the revenue to food and relief spending to households in 23 drought-prone countries in Kenya.

References

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