

Economy of Climate Change

Dr. Aneel Salman & Sheraz Ahmad Choudhary



Climate change is a “global phenomenon” which requires macro mitigation solutions, but also adaptation strategies which will have to be “inevitably and unavoidably local.” Pakistan’s contribution is less than 1% in global GHGs emission but highly vulnerable for climate change.

While each country may be facing similar climate risks, impacts will vary in every region, locality and even across groups within those regions and locales based on their “institutional links, material endowments, occupational patterns and asset portfolios, and social networks”.

Climate change and its effects already impose a cost on the Pakistan economy and the federal budget – and looking ahead, the impact could be even more significant. Government of Pakistan has increased the budget allocation to climate change division from Rs 5000 M to Rs 14,327 M for ongoing climate change projects and to enhance the country’s resilience against environmental degradation. Social sector improvement has always been the key priority of present government. Finance Minister Shaukat Tarin announced Rs 68 billion for the achievement Sustainable Development Goals.

The real challenge of connecting climate change and development is not modelling the long-term impacts and potential threats, rather formulating a holistic, sustainable policy, which is crucial for the achievement of the Sustainable Development Goals (SDGs), set of 17 “Global Goals” with 169 targets between them.

The SDGs are especially significant in addressing climate change because the challenges of both development and climate change are similar. The

environmental sustainability under SDG 13 became an important part of the global poverty reduction framework, factoring in the proportion of land area covered by forests, CO₂ emission, and consumption of ozone-depleting substances, the proportion of fish stocks within safe biological limits, water resources used, and conservation of arable land, coastal regions, and endangered species.

From 1994–2015, increase in the emissions was 123 percent in Pakistan. Future projections for 2015–30 show a steady increase in emissions due to

the ambitious plans of the present government to spark economic activity through large-scale investments in energy, communication and industrial infrastructure consistent with historical trends, both energy and agriculture sectors are predicted to remain predominant in GHG emissions, whereas significant increase is also expected in other sectors like industrial processes and waste.

As per National Climate Change Policy (2012) Clause: 5.1. (j). consider introducing carbon tax on the use of environmentally detrimental energy generation from fossil fuels and Clause: 6 (l) (e) strengthen the national institutional framework for undertaking tasks related to the implementation of UNFCCC.

Carbon pollution is the dominant type that is badly affecting our environment. Its time for serious discourse that government should take concrete steps to control carbon pollution. The best policy to regulate carbon pollution is to apply a carbon tax on polluting industries. From an environmental point of view, taxes offer certainty over the cost of compliance (the tax rate). The carbon tax will reduce environmental

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degradation, and could be a source of revenue for Pakistan.

Several countries are successfully putting carbon tax to reduce their carbon emissions, such as England, Sweden, Malaysia, Sri Lanka, Canada, South Africa, Etc. The United Kingdom is applying \$15/tons of the carbon tax, which contributes to the country's growth rate. Canadian government starts at \$15/ton of carbon dioxide in 2019 and will rise to \$30/ton by 2022. Sweden is one of these countries whose carbon tax rate is high, like \$123/tons, and profitably applied.

Malaysia and Sri Lanka are using the carbon tax from \$0.8/tons to \$8/tons, which effectively reduces carbon emission and contributes to the economy's growth rate. Moreover, the Malaysian and Sri Lankan economic structure is much related to Pakistan's economic system. The energy growth rate of Sri Lanka and Malaysia are 5.3% and 3.2%, which is like Pakistan, having an energy growth rate of 5.8%. The emissions generated from the energy sector of Malaysia and Sri Lanka are 43.4% and 55%, which is also similar with Pakistan's energy sector emissions of 46%.

Taxation system in Pakistan is based on income. Every sector has different type and amount of tax. Tax implementation is based on different rules and ordinance that the Federal government passed like finance

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ordinance 2007 and income tax rule 2001. If we compare Pakistan's taxation system with other countries, the overall tax-to-GDP ratio has slipped to 11.4% of GDP by end of last fiscal year from 12.9% at the end of the PML-N tenure. Still, there is no carbon tax in the taxation system of Pakistan.

The government has never thought about this type of tax. In our opinion, the carbon tax will increase economic growth and play a significant role in the financial condition of Pakistan. This tax would improve Pakistan's economic situation and play a vital role in making technologies green instead of standard machinery. The carbon tax is an indirect policy to reduce carbon emissions as per UNFCCC, and sidewise revenue is also generated through carbon taxation.

It is easier and practical to consider carbon tax at the provincial level because, after the 18th amendment, all the responsibilities were shifted to the provincial governments to make proper policy to reduce carbon emissions. Every province should have its policy plan to reduce emissions according to their energy resources. And those plans must involve the carbon tax factor.

Our research describes the

impact of carbon emissions on the provincial level and suggests the carbon tax rate implementation. There is reduction in carbon emissions in all provinces when a carbon tax of \$8 is applied. Punjab's emissions will decline by 3%, Sindh's carbon emissions decrease by 6%, KPK carbon emissions decrease up to 2%, and Baluchistan's carbon emissions decrease by 0.5%.

Climate conditions suggest Pakistan could produce enough power to cover domestic needs and export, along with associated equipment and technology. It is likely, Carbon emissions will increase due to the CPEC projects so putting a carbon tax on carbon emissions is a feasible option. It is an excellent indirect policy option that will control carbon emissions in the future.

The relationship of GDP with total emissions in all the provinces is positive and significant, which means that a carbon tax could generate much revenue for Pakistan's government. There is 3% revenue generated in Punjab by applying carbon tax. 4% in Sindh, 4% in KPK as well, and 1% in Baluchistan. There will be a positive impact of carbon taxation on the economic development of Pakistan.

The writer is a Behavioral Economist based in Islamabad, and co-author is UK based economist

