Insights for Change

Using Trade Policy to Achieve Environmental Goals in Pakistan

Farrukh Iqbal

March 2025
P1-02-25

This note has been prepared by Farrukh Iqbal, a former Executive Director of the Institute of Business Administration, Karachi, and a member of CDPR team that recently assessed trade and related policy measures to achieve environmental goals in Pakistan. This project was supported by the REMIT program of UKAID.

The Context

Over the last two decades or so, the context for economic development in Pakistan has been increasingly affected by environmental considerations. In brief, these considerations highlight the need for Pakistan to reduce its carbon footprint. Indeed, in the most recent round of international discussions on coping with global warming, the Government of Pakistan has committed to the specific target of cutting in half its projected carbon emissions by 2030 (Ministry of Climate Change, 2021; this commitment is also referred to as a Nationally Determined Contribution or NDC). This note considers how trade and related policy actions can help Pakistan achieve this goal. It focuses on interventions relating to tariffs, non-tariff measures (NTMs), and selected industrial policies.

Environmental Considerations

As in other developing countries, economic development in Pakistan has led to adverse effects on the environment, particularly through air and water pollution and the depletion of key resources such as forests and water. These outcomes pose ongoing public health risks and can potentially constrain future economic growth.

Industrial activities, urbanization, and reliance on fossil fuels have contributed to significant air pollution in Pakistan's cities, particularly in major urban centers like Karachi and Lahore. 57% of Pakistan's electricity comes from fossil fuels. A rising level of energy consumption, fueled by demographic trends, is leading to higher levels of carbon dioxide emissions. Urbanization and sprawl have led to congestion and inefficient transport systems in major cities. Congestion not only wastes time and fuel it also generates air pollution with attendant public health consequences including high levels of respiratory and related illnesses. According to the Air Quality Life Index, air pollution reduces the average lifespan in Pakistan by 3.9 years. Several Pakistani cities feature among the most polluted in the world.

Air pollution can also affect cognitive function and mental health, which are essential for productivity in various fields. Studies have

shown that exposure to air pollutants such as fine particulate matter (PM2.5) and nitrogen dioxide (NO2) is associated with cognitive decline, decreased attention span, and impaired decision-making ability. Additionally, poor air quality has been linked to increased rates of depression, anxiety, and stress, which can further reduce productivity by affecting motivation and concentration in the workplace.

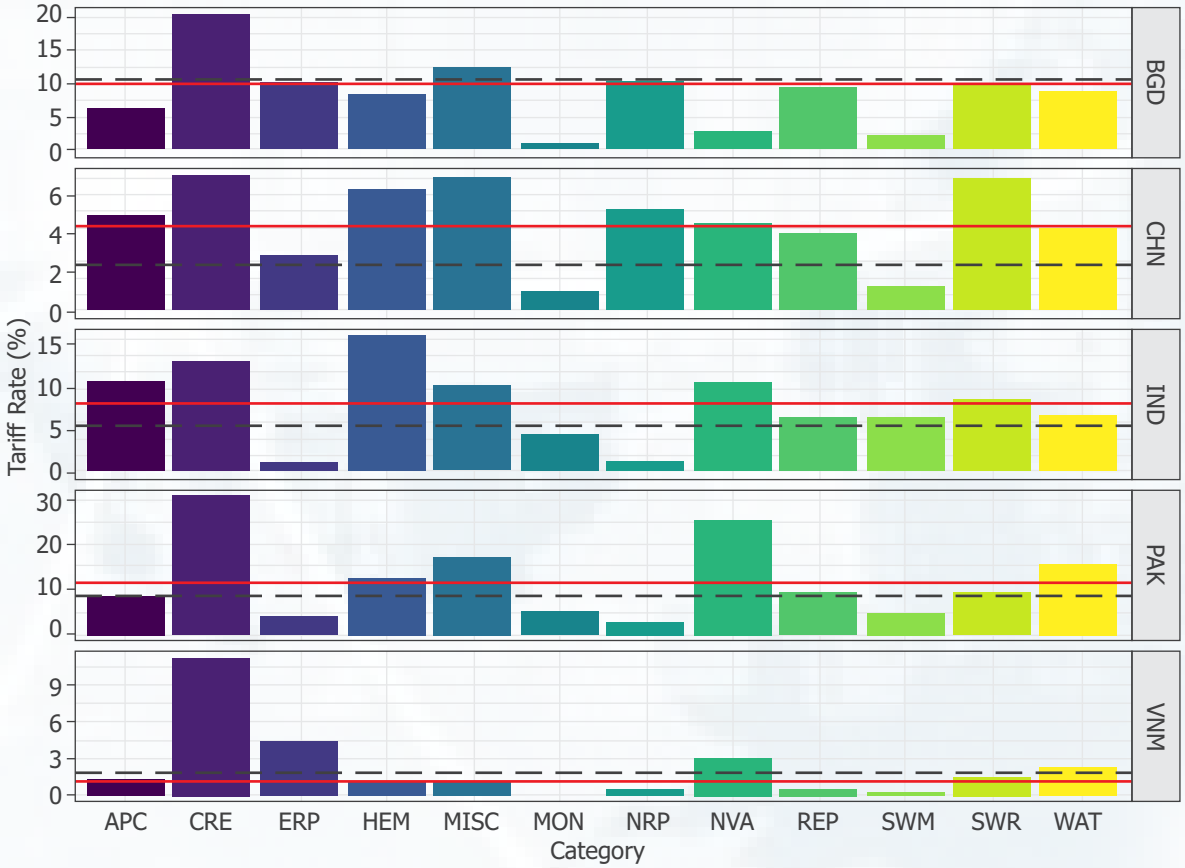
Water pollution is also a critical issue, primarily due to poor waste management practices both in agriculture and industry. Currently able to treat only 1% of its wastewater, Pakistan is far from its commitment under the relevant sustainable development goal (SDG) to treat up to 50% of its wastewater. Polluted water sources contribute to waterborne diseases such as cholera and dysentery and lead to significant adverse health impacts, especially amongst children. Affected children subsequently experience weaker cognitive development and academic performance. This in turn has a lifelong effect on their productivity and earnings.

The Scope for Tariff Reforms

The rising interest in reducing global carbon emissions has led to the specification of a category of imports termed environmental goods (Egs). These are to be understood as goods that feature low carbon intensity in their own production and use and/or help reduce the carbon emissions of other goods and services. Various international agencies have compiled lists of EGs to facilitate analysis. Two recent studies, one conducted by the World Bank (see Sugathan and Varela, 2021) and the other sponsored by the USAID, conclude that the average tariff on imports of EGs into Pakistan should be reduced. The first study finds average tariff rates on EGs to be 15.7 percent while the second, using a larger sample, finds the average to be around 11 percent. The latter study also investigates "para tariffs" or additional duties assessed on relevant imports and finds that these add around 5 percent to the importer's cost. Both studies consider the average level to be non-negligible and recommend reducing tariffs on EGs in general and on electric vehicles, energy saving appliances, and air pollution control equipment specifically.

A more recent assessment, conducted by a CDPR team in 2024, uses a broader set of EGs than considered by the earlier studies (for details see CDPR, 2024). It finds average tariffs to be around 11 percent as well. It also finds (see Figure 1) that EGs attract a higher average rate of tariffs than non-environmental goods and that some neighboring countries apply lower tariffs on such goods than does Pakistan. Through separate analysis, it calculates the import expanding and revenue reducing effects of cutting tariffs on EGs goods and notes that these can be offset by tariff rebalancing measures applied to carbon-intensive imports. Accordingly, the CDPR study reinforces the recommendations of the earlier studies that tariffs on EGs should be reduced to shift the composition of imports towards such goods. Such a move would help decarbonize Pakistan's imports as well as bring Pakistan into line with policies being implemented in neighboring countries.

Figure 1: Average Tariffs on EGs for Pakistan and Selected Comparators



Notes applicable to Figures 1-4: Import tariffs are trade weighted average rates for 2021 taken from the WITS database. The dashed black line refers to non-environmental goods while the solid red line refers to environmental goods. Acronyms on the vertical axis refer in descending order to Bangladesh, China, India, Pakistan, and Vietnam. Acronyms on the horizontal axis refer to the following categories: APC, Air Pollution Control; CRE, Clean Resource Efficient technologies; EPP, Environmentally Preferable Products; HEM, Heat and Energy Management; MISC, Miscellaneous items; MON, Environmental Monitoring Equipment; NRP, Natural Resource Protection equipment; NVA, Noise and Vibration Abatement items; REP, Renewable Energy Plant and equipment; SWM, Solid Waste Management items; SWR, Soil and Water Remediation; WAT, Wastewater Management and Treatment.

How NTMs Can Gelp

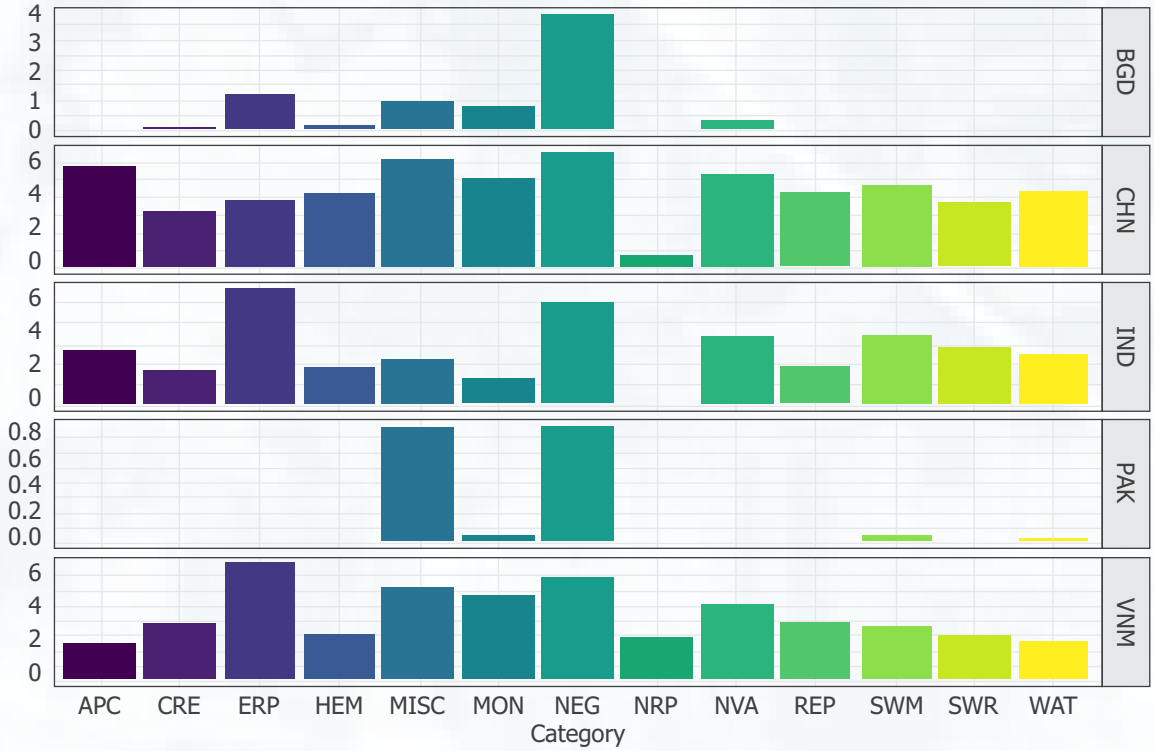
Non-tariff measures (NTMs) are another trade policy tool available to countries to manage the scale and content of their imports. Typically, technical NTMs cover such practices as labelling, inspection, certification, pre-shipment measures, testing and packaging for selected imports. The application of NTMS is usually compared through three metrics: coverage, frequency, and prevalence. Coverage is defined as the percentage of imports for which NTMs are reported, frequency as the percentage of output to which NTMs are applied, and prevalence as the average number of NTMs applied on each product.

Figure 2 shows the coverage ratio and the frequency index of the NTMs imposed on the imports of EGs for Pakistan and selected comparators. Non-environmental goods are labelled as NEG and shown in the figure for comparison purposes. Two results stand out: Pakistan reports the lowest coverage and frequency scores for NTMs (compare across vertical axis) and it applies NTMs to very few categories of EGs (compare across horizontal axis). The panel showing the results for Pakistan is striking for its relative emptiness compared to, say, China, Vietnam, and India.

Figure 2: Coverage and Frequency of NTMs on EGs

The same assessment emerges when one considers the prevalence score, as shown in Figure 3. Together with Bangladesh, Pakistan features the lowest prevalence scores across the five countries. The panels for Pakistan and Bangladesh are relatively empty, with scores emerging for only a few categories. Indeed, the only significant score for Pakistan is for the MISC category. Together with the previous chart, this suggests that NTMs are not an actively applied trade policy tool for EGs in Pakistan.

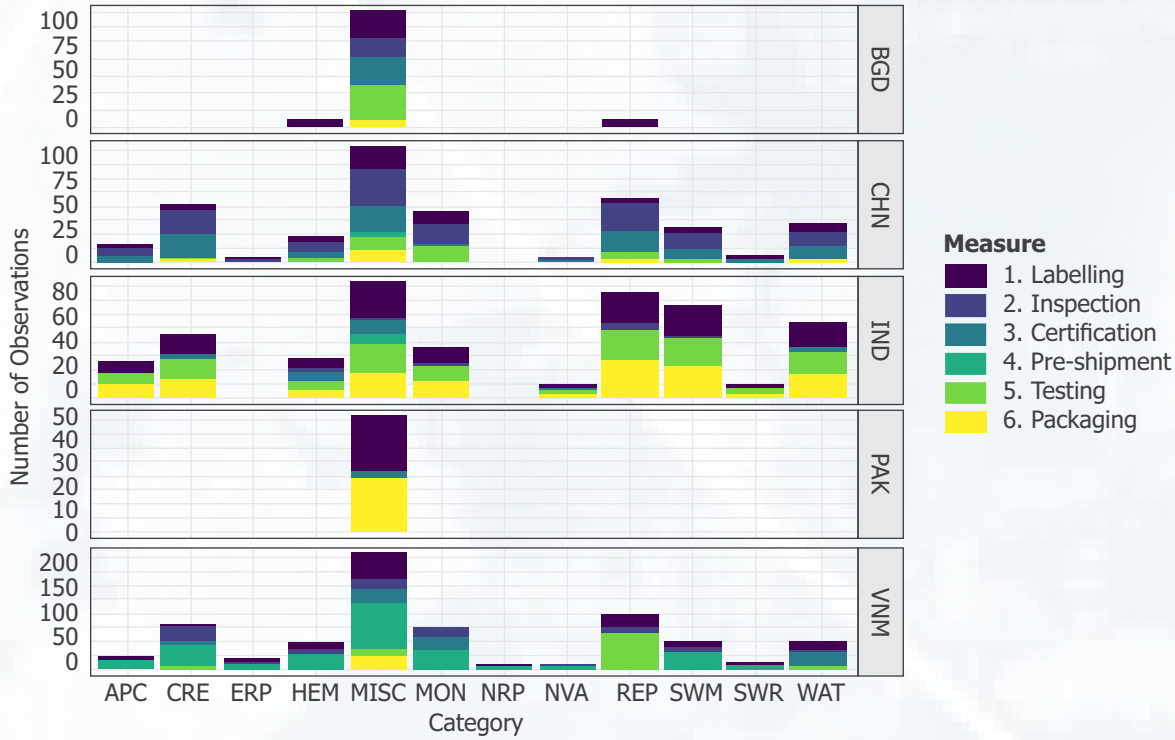
Figure 3: Prevalence Scores for NTMs on EGs



The lack of NTMs on EGs is emphasized again when we consider the most popular measures undertaken in Pakistan relative to comparators. This is shown in Figure 4. NTMs are applied in only one category, MISC, and only two measures are typically applied, namely, packaging and labelling. This stands in sharp contrast to the practices applied by comparators which often require testing and certification actions across a wide range of EGs.

Emulating other countries, both developed and developing, Pakistan should adopt a more active NTM policy to achieve its decarbonization goals. The emission value of carbon intensive imports should be clearly identified if Pakistan plans to meet carbon reduction goals. In this effort, Pakistan can be guided by the practices in place in other developing countries like India, Bangladesh, China, and Vietnam. In terms of specific NTMs, Pakistan should adopt labelling and certification requirements for a wide range of EGs and adopt energy efficiency standards for EG imports in line with its goals of reducing its overall carbon footprint.

Figure 4: Typical NTM Measures



Import of Coal

In its 2021 commitment, Pakistan indicated that it would ban the import of coal for the generation of electricity by 2030. A ban qualifies as an NTM. Depending on how this measure is implemented, it could have a notable impact on Pakistan's carbon emissions. However, in recent years, coal usage for electricity has been rising, albeit from a relatively low share in comparison to neighbors such as India. Five coal fired plants set up by independent power producers have added 4290MW of generation capacity since 2016 that could emit up to 19 million tons of carbon dioxide per year (see CDPR/IGC, 2022). While a moratorium on imported coal has been in place since 2020, some coal plants that were in the pipeline prior to 2020, are advancing to completion. Not all the coal fired generation capacity put in place since 2016 relies on imported coal, of course. Nevertheless, while banning the import of coal is easy enough to conceptualize, the

replacement of imported coal for the plants that use it requires a lot more preparation and financial planning than is presently evident. Indeed, it may require buying out the private owners of the plants which would in turn require the Government to have access to a substantial source of funds. Finally, it need hardly be said that the replacement of imported coal by domestic coal would not reduce emissions of greenhouse gases.

Selected Industrial Policy Actions

Broader industrial policy tools can also be useful to shape the path and content of economic development. Selected measures are noted below for three priority sectors: textiles, electric vehicles, and renewable energy. The first two of these have been noted as being of high priority in the NDC of 2021 while the third, textiles, is Pakistan's biggest export sector which is presently under pressure from importing countries of the European Union to comply progressively with the Cross Border Adjustment Mechanism (CBAM) under which imports must meet the same emission standards as domestically produced goods. Relevant information on some of these tools and sectors is available in UNCTAD (2023). Some measures noted below were highlighted in focus group sessions carried out by the CDPR team.

For the textile sector, the CDPR study recommends that tax and financial incentives be enhanced to help manufacturing units install renewable energy equipment to reduce their carbon footprint. It also recommends that a public agency be tasked with attesting carbon use at several stages of the supply chain for textiles. This will help textile firms meet digital tracing standards that are to be applied in their principal export markets. For electric vehicles and renewable energy, the study recommends that the Government (referring to both federal and provincial units) use the power of public procurement to set an example. Thus, the Government could commit to phasing out the use of gasoline-powered vehicles over time in its own fleet, using only electric vehicles as replacements. As an important consumer of cars and trucks, it can influence the speed at which the transition to less carbon intensive sources of automotive power is accomplished in the transport sector. Government could set a similar example in its use of electricity by committing to a phased transition from fossil fuel-based electricity to renewable energy in public buildings.

Selected References

CDPR (2024). Trade Policy Tools to Encourage a Shift Towards Green Technologies. Report sponsored by UKAID and presently under review by REMIT program.

CDPR/IGC (2022). Recent Developments in Climate Finance: Implications for Pakistan. Access at: Report Recent Development in Climate Finance - Implications for Pakistan-2.pdf

Ministry of Climate Change (2021). National Climate Change Policy (2021). Access at: https://mocc.gov.pk/SiteImage/Policy/NCCP%20Report.pdf

Sugathan, M., & Varela, G. (2021). Pakistan's policy options to make trade work for environmental sustainability. Access at: https://blogs.worldbank.org/endpovertyinsouthasia/pakistans-policy-options-make-trade-work-environmental-sustainability

UNCTAD (2023). Green Industrialization in Pakistan: Integrated Policy Strategies for a Sustainable Future. (2023). Access at UNCTAD: https://unctad.org/meeting/green-industrialization-pakistan-integrated-policy-strategies-sustainable-future

CDPR's new series "Insights for Change" contains think pieces that take an analytical approach to devising action oriented policy solutions. They are authored by economists and practitioners who are experts in their field. All views expressed are the author's own.

About the Author

Dr. Farrukh Iqbal has had more than thirty two years of analytic and management experience in the World Bank across a diverse range of countries and sectors. He holds a PhD from Yale University.

cdpr Consortium for Development Policy Research

IGC

This Activity is Supported by the International Growth Centre