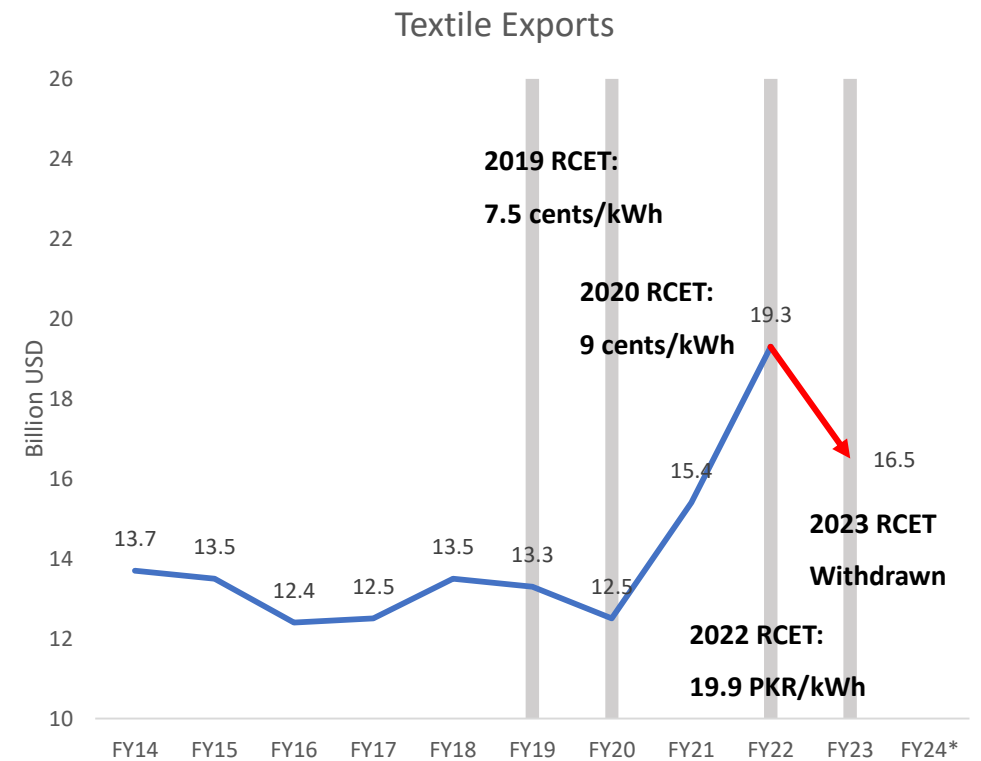


Economic Implications of Unrealistic UoSC leading to Uncompetitive Power Tariffs

27 November 2023

Regionally Competitive Energy Tariffs in 2019-2022 stimulated tremendous growth in textile exports

- **Textile exports increased from \$12.5 bn in FY20 to \$19.3 bn in FY22**, an increase of 54% in only 2 years.
- **Approx. \$5 billion fresh investment** at 60:40 debt equity in **upgradation and expansion of production capacity** for an additional \$5 billion annual export capacity and 0.3-0.5 million new jobs.
- **Notable shift in textile export basket towards high value-added goods**; lower exports of yarn and grey cloth.
- **For every 1 unit of cotton input, value added exports increased from 2.5 units to 3.9 units in last 3-4 years.**
- **Textile exports declined by 15% to \$16.5 bn in FY23 as RCET was withdrawn** amid a larger macroeconomic crisis.



Source: APTMA

9 cents/kWh power tariffs for exporters can provide a significant boost to the economy

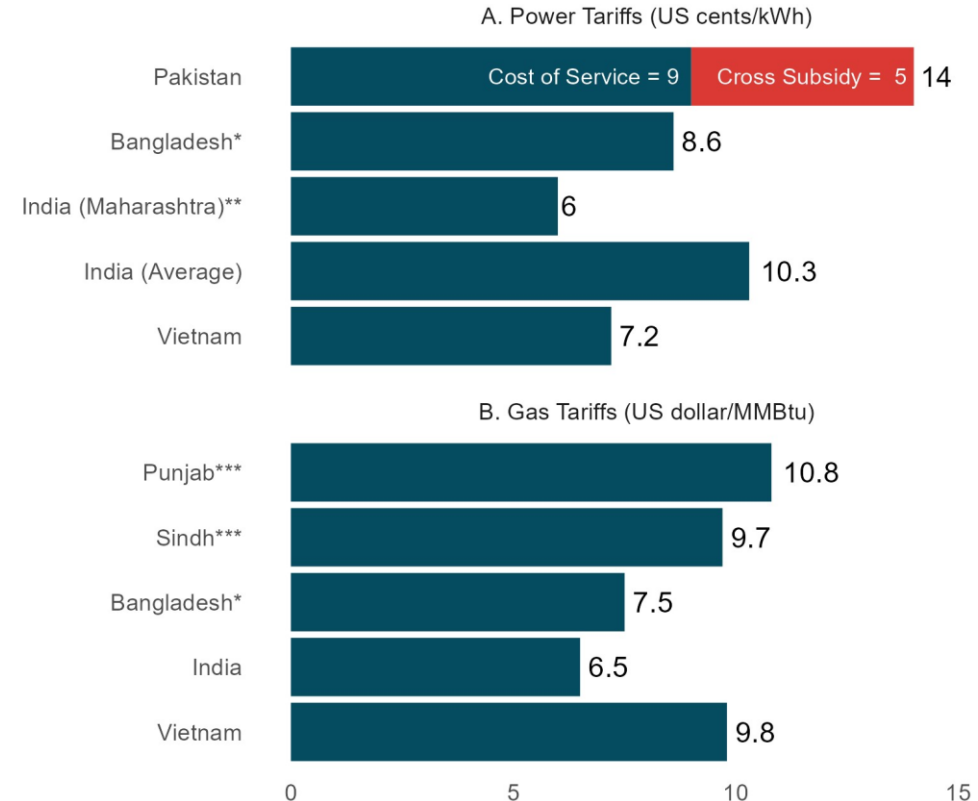
- **Increase of up to 51% in textiles and apparel exports** with current installed capacity—i.e., an **additional \$9 billion** in export earnings against \$16.5 billion in FY23.
- **Approx. 30% of closed production units can reopen with a revival of around 8 million jobs.**
- **A favorable environment for 1000 new garment plants** to increase domestic value addition in exports, making way for:
 - **Over \$5 billion in investment**
 - **An additional \$20 billion in annual exports**
 - **1 million new jobs**
- Will incentivize a **shift away from captive power generation, reducing industrial gas consumption, increasing grid consumption by up to 3,000MW, and reducing capacity payments to power producers.**
- **Stimulate significant economic growth.**
- **Improve foreign exchange inflows, reduce outflows, shore up reserves.**
- Provide **additional stability to the exchange rate with positive spillover to inflation, interest rates** and other macroeconomic indicators.

Supporting empirical evidence from economic literature

Study/Country	Findings
Khobai et al (2017)/South Africa	1% increase in power tariffs reduced growth by 0.036%
Uri & Boyd (1997)/Mexico	1% increase in gasoline and electricity prices reduced manufacturing output by 0.31% and consumption by 0.56%.
Alvarez & Valencia (2016)/Mexico	1 st. dev. reduction in electricity prices increased manufacturing output by 2.8%.
Kwon et al. (2016)/South Korea	2% higher electricity prices reduced manufacturing output by 7%.
Duavin (2014)/Multiple	High energy prices caused ToT deterioration & REER depreciation.
Barteková & Ziesemer (2019)/Europe	10% increase in electricity prices decreased FDI by 0.33-0.60% of GDP.
Chan et al. (2017)/Multiple	1% increase in electricity price reduced exports by 0.07-0.1%.
PIDE (2021)/Pakistan	1% increase in electricity price reduced investment in textile sector by 0.11%.
Reenergia (2022)/Pakistan	RCET increased textile firms' employment by 4.2%, output by 3.9%.
PIDE (2023)/Pakistan	1% increase in electricity tariffs reduced textile exports by 0.5% and other manufactured exports by 0.4%. Firm-level investment declined by 0.33% and sales revenue by 0.51%.

Regionally Uncompetitive Energy Tariffs Make Exports Globally Uncompetitive

- Current **power tariffs for industrial consumers contain a cross subsidy of approx. 5 cents/kWh** to non-productive sectors of the economy.
- **This makes power tariffs for Pakistan's exporters twice the average faced by competing firms in regional economies.**
- Following the gas price reform, **gas prices are also well above regional levels.**
- **Cost of captive generation using gas has been equalized to price of grid electricity** that includes various economic inefficiencies.
- **The same objective is better achieved by removing the cross subsidy from power tariffs.**
- **When extracted from export sectors, cross subsidies and other market inefficiencies are a tax that creates distortions and results in exports getting priced out of international markets.**



* 80 percent of the industry in Bangladesh is energized by cheap gas.

** Maharashtra is the Indian hub for textile and apparel manufacturing.

*** Gas tariffs for Punjab and Sindh based on revised gas pricing for November 2023.

Source: APTMA calculations; petrolprices.com data.

Textiles & apparel businesses have become unprofitable

- **At 9 cents/kWh, energy costs are 12-18% of total input costs** across the textiles value chain.
- At the lower bound, **an increase in power tariff from 9 cents/kWh to 14 cents/kWh increases share of energy in total input costs to 23.33%.**
- **This reduces average profitability from 8.61% to 1.00%,** based on 2022 financials of 12 major textile exporters.
- Actual impact on diverse set of exporters is likely to be heterogenous and several times higher in magnitude.
- In a high-volume-low-margin business such as textiles, **such a drop in profitability will cause firms to exit the sector leading to a severe loss exports volume and value.**

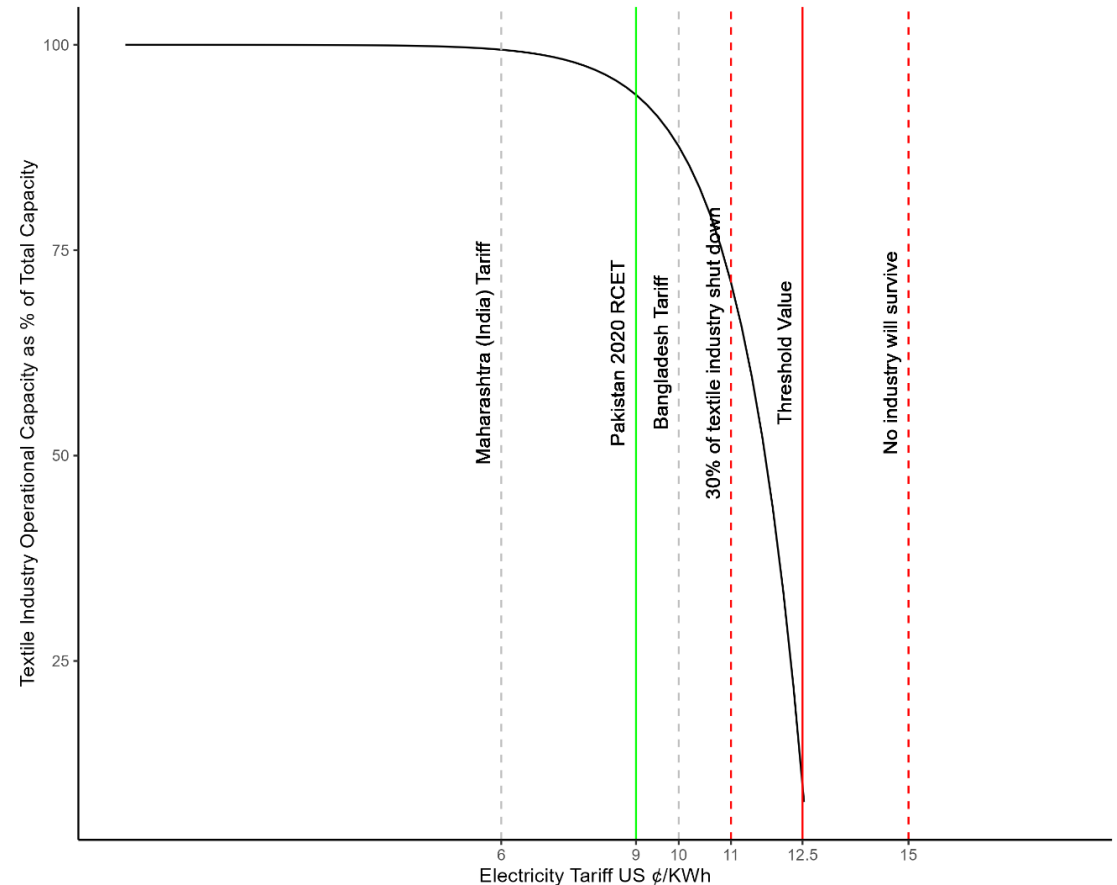
High power tariffs are crowding out the export sector (I)

- **Firm decision to export is based on a cost function including** costs of fixed capital, raw material, wages and **various overheads like electricity.**
- **Firm only exports if total cost of production < international prices.**
- **If cost of an input increases beyond a threshold** that pushes total cost of production above international prices, **firm cannot compete and exits the export sector.**
- **When multiple firms face same dynamics, export sector is crowded out with significant implications for aggregate economy.**

High power tariffs are crowding out the export sector (II)

- **Threshold value of power tariffs above which export sector is crowded out is approximated at 12.5 cents/kWh.**
- **As tariffs increase above 9 cents/kWh, expansion of existing units and opening of new units is halted, and existing production is exponentially reduced.**
- **When tariffs reach 1.5x RCET, firms become fully uncompetitive and shut down in due course.**
- **Current applicable tariff of approx. 14 cents/kWh will induce large reduction in number of firms operating in the textiles and apparel sector.**

Power tariffs > 12.5 cents/kWh crowd out the textile sector



Source: APTMA calculations based on PIDE (2021), Reenergia (2022)

This has severe implications for the overall economy (I)

The textiles & apparel sector contributes 60% of export earnings and employs 40% of the labor force. Exit of firms will:

- **Reduce export earnings, and economy may no longer be able to meet import bill and external financing obligations.** This will **increase need for external borrowing, increase future debt servicing, heighten risk of BoP crises and sovereign default.**
- **Reduce GDP and govt. revenue, potentially putting economy in a recession;** reduce fiscal space for development expenditures, **increase govt. borrowing & debt servicing.**
- Cause **loss of employment** and **affect livelihoods of millions of households.**
- Effects can **spillover to other sectors like cotton and retail** through backward and forward linkages. This can cause **loss of output, investment and employment in these sectors.**

This has severe implications for the overall economy (II)

- **Spillover to power sector.** Reduction in industrial power consumption will **increase capacity payments to power producers, increasing tariff burden on residential and agricultural consumers.**
 - **Power consumption of textiles and apparel firms on LESCO network saw a y-o-y decline of 49 percent in October 2023; 36% y-o-y decline on MEPCO network.**
- **Negative effects on wages and consumption can further reduce govt. revenue from income and sale tax.** Increased unemployment will also **increase demand for welfare spending.** Simultaneous **reduction in revenue & increase in expenditures will further widen fiscal deficit.**
- **Potential collapse of stock market and loss of public savings if large publicly listed firms are forced to reduce/seize operations.**
- **Will reduce foreign and domestic investment with further implications for external sector stability and overall economic growth.**

Policy Recommendations

- Ideally, exporters should be provided with a **separate power tariff category that excludes economic inefficiencies** like cross-subsidies and stranded costs.
- **B2B contracts with wheeling charge at 1-1.5 cents/kWh, all inclusive.**
 - **Hybrid Bulk Power Consumers (BPCs) concept for B2B and grid supply without any penalty on exit of BPCs from grid supply.**
 - This will allow the export sector to build up its own power supply and improve competitiveness in international markets.
- **Increase cap on solar net-metering for industrial consumers from 1MW up to 5MW .**
 - This will add 5,000 MW of solar energy at the point of usage, with no upfront investment or guarantees from the government.
- **Incremental consumption of electricity by industrial consumers should be encouraged by introducing an incremental electricity package.**

Wheeling & solar net-metering support transition to net-zero emissions

- The EU **Carbon Border Adjustment Mechanism (CBAM)** will become functional in 2026; applicable to textiles and apparel following 2030.
- **Exports to the EU will face an effective import duty depending on the emissions** generated in their production across the value chain.
- To maintain **export competitiveness in European markets under CBAM requires an immediate shift towards zero emissions:**
 - Increase cap on solar net-metering for industrial consumers from 1MW up to 5MW will increase availability of clean energy at point of usage without any costs to the government.
 - B2B contracts with wheeling at 1-1.5 cent/kWh, all inclusive, will allow captive/cooperative generation of clean energy like geothermal.