Tariff Reforms to Break the Debt Cycle

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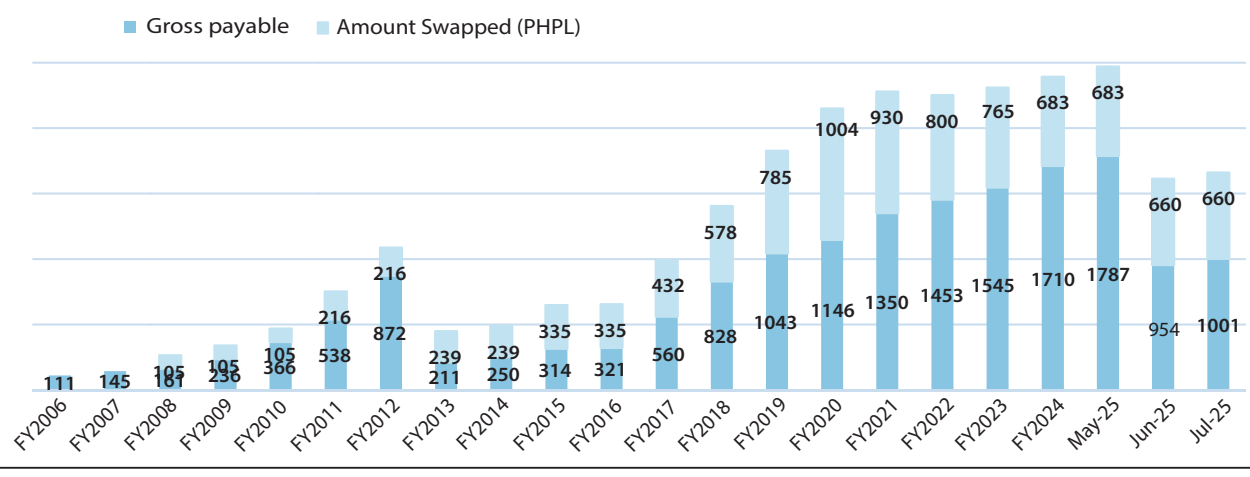
Pakistan's power sector, despite its inordinate installed capacity and multifarious reform attempts, continues to bleed both financially and in meeting its obligations towards investors and consumers.

The sector's chronic ailment, circular debt (CD), has metamorphosed into a structural crisis, rising from Rs. 0.1 trillion in FY2006 to Rs. 2.5 trillion as of May 2025 (Chart 1), equivalent to roughly 2.3% of GDP. This, mind you, is in a country already trapped in a debt spiral, with a 70.2% debt-to-GDP ratio *(Ali & Ijaz, 2025)*.

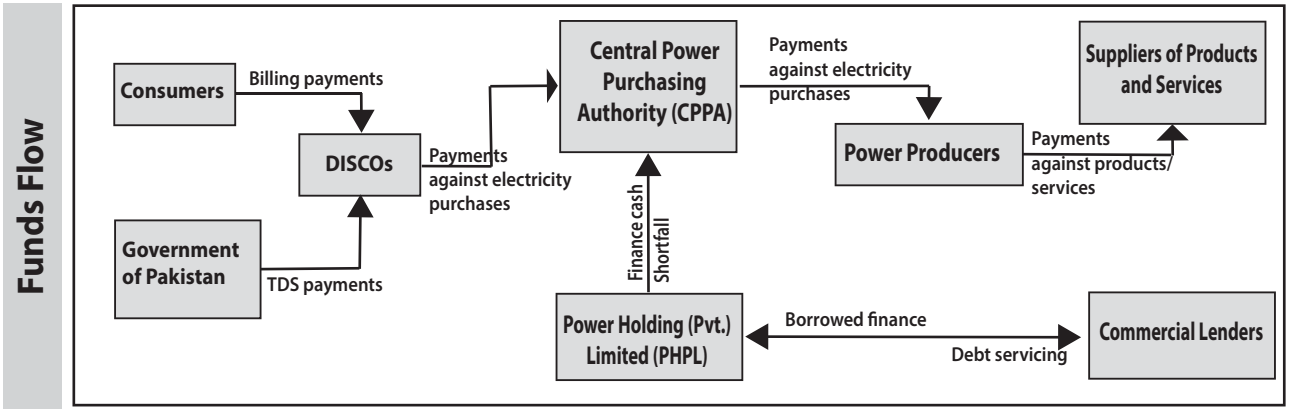
CD reflects more profound distortions rooted in the citadel of political economy; distortions that have created inefficiencies in tariffs, governance, and market design. This collective burden, caused by the wrongdoings of a few, continues to grip the macroeconomy, already caught in a boom-bust cycle.

The manufacturing sector's weakness is evident in trade data, with stagnant exports since FY22 and a trade deficit of USD 3.3 billion in September 2025, the highest since August 2022. Imports also rose to USD 5.8 billion, the highest during that period *(BR Research, 2025)*. A 10% increase in consumer demand is estimated to result in a welfare loss of about USD 13 billion *(Malik & Mustafa, 2024)*.

Chart 1. Circular Debt- Power Sector (PKR Billion)



Source: Malik (2020), NEPRA and Power Division Reports



Source: ADB

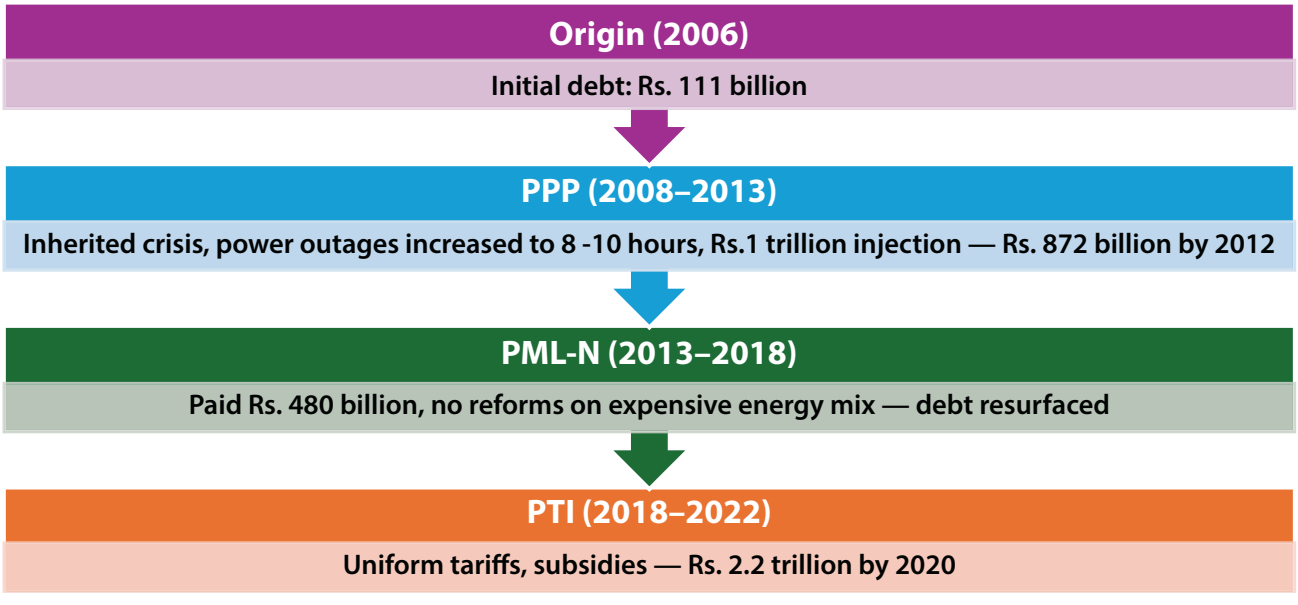
The term "circular debt" refers to a sequence of unpaid obligations that disrupt the flow of revenue. The accumulation of unpaid amounts over time increases fiscal pressure, reduces investment in necessary sector upgrades, raises inflation due to higher electricity tariffs, and causes financial losses for state enterprises.

The issue of CD in Pakistan is attributable to a complex interplay of factors rather than a single cause, highlighting deep-rooted systemic problems. The outdated grid infrastructure results in technical losses, while an inefficient governance structure leads to theft and low recovery rates. Planning failures have increased production costs and capacity payments, exacerbating financial challenges. A critical yet frequently overlooked factor is the distortionary tariff design, which generally requires support from government budgets.

Policymakers often perceive CD as merely an accounting issue and respond by injecting funds through budget assistance or bank loans. However, these measures only maintain operations without addressing the underlying causes, which worsens the CD. Influenced by the IMF, another strategy has been to raise electricity tariffs to balance accounts. Since the onset of CD, tariffs have increased more than tenfold, with a 192% surge in the last six years alone, significantly contributing to financial losses and aggravating the situation (Chart 2). Over the years, several debt management plans were implemented, but the outcome remained essentially unchanged, as CD continued to rise.

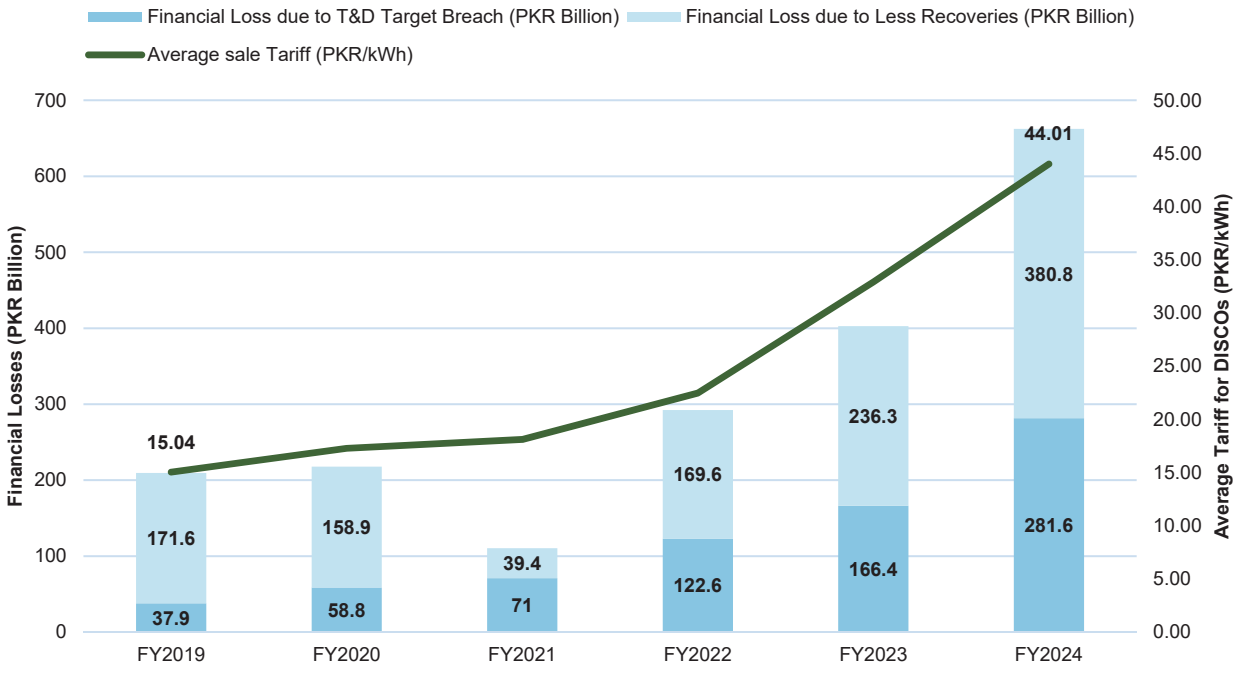
The latest 2025 plan, endorsed by the IMF, involves a Rs. 1.225 trillion Islamic financing arrangement with 18 commercial banks, the largest in Pakistan's history. The financing will settle Rs. 659 billion in liabilities of Power Holding Private Limited (PHPL) and clear arrears owed to IPPs. The debt will be repaid over six years through quarterly installments, with an annual cash flow commitment of Rs. 310 billion.

Figure 1: The Debt Spiral through Time



Source: Malik (2020)

Chart 2. Tariff Increase and Financial Loss (addition to CD)



Source: NEPRA Reports

The Debt Service Surcharge (DSS) in electricity bills will cover these repayments, ensuring no immediate extra costs for consumers.

However, the plan does not address the main issues causing CD, such as poor tariff design and inefficiencies in the power supply chain *(Malik, 2025; Ali, 2025)*. Pakistan has informed the IMF that the power sector will lose Rs. 535 billion this fiscal year, 35% more than last year, due to system inefficiencies, while resisting a strict CD reduction plan *(Rana, 2025)*.

Consumer-end tariffs exhibit a high degree of sensitivity to losses within the transmission and distribution systems. Rising prices weaken consumers' ability to pay, fueling poverty, theft, and payment delays that add to arrears. The recent surge in PV and BESS adoption further worsens this dynamic, as more consumers move off-grid, eroding recoveries and intensifying the power sector's financial strain *(Malik & Ali, 2025)*.

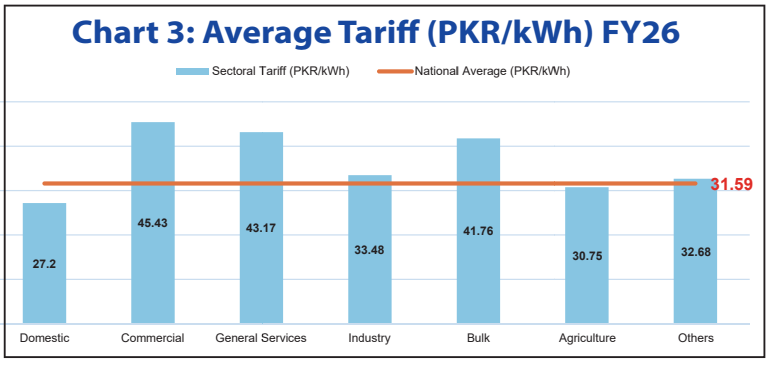
For businesses and industries, this may lead to a switch to alternatives, which in some cases results in the shutdown of economic activities and decreased grid demand, ultimately increasing capacity payments. It is crucial to note that tariff design is more critical than the tariff rate itself. Increasing tariffs alone may exacerbate the issue of CD. Tariff adjustments during peak demand, such as summer, result in unexpected bill spikes, further increasing challenges for consumers

Non-Cost-reflective Tariff

The current tariff methodology is complex, with many layers of charging and adjustments. It involves averaging costs across the entire value chain to determine total revenue for the utility, including fuel, operations, capacity charges (payments for contracted capacity regardless of dispatch), and financial charges arising from system losses. This average price does not accurately reflect the actual expenses incurred for different customer groups. Consequently, it can be discriminatory, for example, against industrial consumers who end up paying charges they do not contribute to *(Malik et al., 2023)*.

The current tariff system relies on cross-subsidies. Domestic users, who account for 89% of total consumers, are subsidized at the expense of productive sectors, distorting market signals and increasing non-productive energy use. Beyond that, even among domestic consumers, about 86% (61% lifeline and protected, and 25% unprotected in the first two slabs) are cross-subsidized by the remaining 14% of unprotected and TOU consumers.

The slab-based approach, meant to help lower-income households, often ends up unfairly benefiting higher-income households. A comparison of electricity sales in the domestic sector for FY23 and FY26 shows an aggregate estimated decrease in sales of about 10%.



Source: NEPRA Tariff Determination, July 01, 2025

Table 1: Domestic Sector

		Units Consumed (GWh)		Govt. Notified Tariffs (PKR/kWh)	
		FY23	FY26	FY23	FY26
Protected	0-50	634	338	3.95	3.95
	51-100	253	381	7.74	7.74
	001-100	8918	12287	7.74	10.64
	101-200	2286	2965	10.06	13.01
Unprotected	001-100	3440	3199	13.48	22.44
	101-200	7047	6450	18.58	28.91
	201-300	12587	10306	21.47	33.1
	301-400	7158	4886	24.63	37.99
	401-500	3953	2499	26.09	40.2
	501-600	2287	1414	27.01	41.62
	601-700	1462	858	27.65	42.76
	700 or more	3702	2027	31.12	47.69
	TOU Peak	519	578	33.23	46.55
	TOU Off-peak	2358	2630	26.91	40.63

Source: NEPRA Tariff Determinations - July 01, 2025, and July 22, 2022.

However, the number of units sold in the protected (including lifeline) category has increased by about 32%, compared to a decrease of 24% in the unprotected group. Not all unprotected groups have shifted to TOU (or opted for net-metering), as it increased by only 11%.

86% of households in this category are not necessarily poor or from a lower-middle-income background. In urban areas, these consumers, typically using 0 to 300 units, often live in congested neighborhoods. This congestion raises concerns about power theft and increased line losses. Additionally, many households have two or three meters to divide their load and stay within the lower billing slab.

However, all these are old phenomena, which cannot explain the change in share over the last three years, as illustrated in the above table. Probably, consumers opting for rooftop solar, which is behind the meter, are the reason behind the increase in units in the unprotected category.

The current progressive tariff structure unfairly burdens compliant consumers without solar options. Applying different marginal costs (MCs) for the same product complicates economic decisions. Although intended to help low-income populations, it creates a conflict between efficiency and equity, leading to deadweight loss compared to direct cash transfers to those in poverty.

The prevailing tariff structure, rooted in a 1960s load suppression model, is outdated *(Cheema et al., 2022)*. As of March 2025, the total installed capacity is 46,000 MW, with about 90% from 'take-or-pay' power plants. However, more than 50% of this capacity remains inactive for four to five months each year, adding to the capacity payment burden. Currently, capacity purchase costs account for approximately 50% of consumer electricity tariffs, excluding taxes. Decision-makers face two choices: either transfer the burden of capacity payments to consumers dependent on the grid, or include it in arrears.

The misalignment between pricing and demand, caused by significant cross-subsidization, has shifted electricity consumption towards the subsidized domestic sector, projected to account for about 50% of total usage in FY26, compared to 24% for industry. This tariff strategy raises concerns, as it undermines the industry's competitiveness in the global market.

Over the years, while there have been some adjustments to the slab-based approach, the core tariff design and its inefficiencies have persisted, worsening with rising tariffs. In FY14, the system shifted from an all-slab to a previous-slab benefit, raising rates for slabs above 200 kWh and increasing overall tariffs to reduce subsidies for wealthier households. In FY22, the government redefined the slabs, established a "protected" consumer category, and eliminated the previous slab benefit for unprotected residential customers, leading to billing based solely on the current slab's rate.

Uniform Tariff Policy

The government enforces a uniform electricity tariff across all regions, with any differences funded through a tariff differential subsidy (TDS) to Distribution Companies (DISCOs), even if they are privatized. The National Electricity Policy 2021 supports this approach.

In FY26, Rs. 1.04 trillion is allocated to the power sector, with approximately 44% of the allocation going to TDS. Energy subsidies have been a significant drain on resources, totaling approximately Rs. 8.2 trillion since FY07, with over 65% of this amount being TDS.

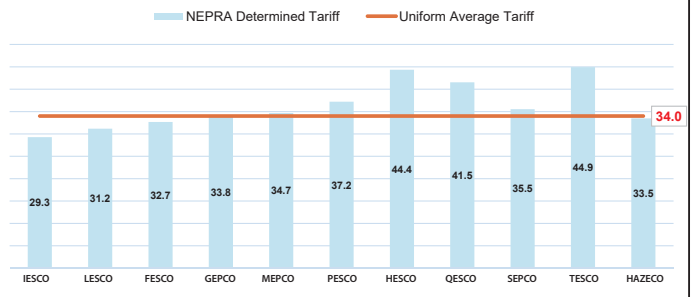
Uniform national tariffs worsen distortion in the power sector. Efficient DISCOs such as IESCO, GEPCO, and FESCO cross-subsidize loss-making ones like PESCO, SEPCO, HESCO, and QESCO, undermining efficiency incentives. True tariff reform must therefore go beyond periodic price hikes to address structural inequities. Without this, Pakistan's energy system will remain unaffordable, unsustainable, and unaccountable.

Electricity bill - to generate revenue

Electricity bills often pose challenges for consumers due to various levies, duties, and surcharges that increase their financial burden. These bills have become a vehicle for the Federal Board of Revenue (FBR) to collect taxes.

A surcharge of Rs. 3.23 per kWh (up from Rs. 0.23 per kWh last year), intended to address interest payments on CD held in PHPL and now, under the new plan, to assist in repaying bank loans, shifts risks from utility operators to consumers. This increases costs for compliant users and can potentially lead to inefficiencies in the distribution system. The imposition of excessive taxes on electricity bills further aggravates the existing challenges faced by the electricity distribution sector.

Chart 4: Tariff Across DISCOs (PKR/kWh)



Source: NEPRA Tariff Determination, July 01, 2025.

Lack of transparency

Apart from variations in cross-subsidies, fixed charges are incorporated without being clearly requested by DISCOs in their petitions. Some of these amounts are not clarified during public hearings but are still included in the final tariff notifications. Industrial stakeholders have expressed concerns about the unpredictability of FCAs, noting that NEPRA data is often inaccessible and incomplete.

Conclusion

In Pakistan, Circular Debt stems from deep-rooted governance issues, operational inefficiencies, and ineffective policies. The simplistic approach of merely increasing tariffs or injecting funds overlooks the complex realities of the sector's challenges. Although policymakers attempt to manage rising tariffs through subsidies and cross-subsidies, financial constraints make subsidies no longer feasible, and cross-subsidies are distortionary, further worsening the CD problem.

The tariff structure in Pakistan is primarily shaped by political factors rather than actual costs. Implementing MC-based pricing for all consumers would ensure they pay based on the actual cost of electricity supply to them, maximizing revenue and reducing inefficiencies.

Eliminating tariff-based subsidies and cross-subsidies is vital for fiscal discipline. Given the excess capacity and declining demand, managing consumption through MC pricing can ensure financial sustainability and improve industrial competitiveness.

Removing subsidies from the power system requires a strong support mechanism for vulnerable populations. The Benazir Income Support Program (BISP) effectively provides targeted financial assistance, ensuring help reaches those in need while minimizing leakage through transparent, data-driven identification methods.

Consumers can only benefit in terms of service quality and affordability when there is competition in the market. Competition will not exist if inefficient and efficient DISCOs are treated the same and charged a uniform tariff. Switching from a uniform tariff to differentiated rates across distribution companies will boost efficiency, as tariffs will reflect the actual service costs in different regions.

Improving governance in DISCOs and implementing tariff reforms are crucial for reducing financial leakages, enhancing utility performance, and promoting a consumer-centric power sector.

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