

DISCUSSION PAPER

RENEGOTIATING THE FUTURE

A Call for Reforming Independent
Power Producers (IPPs)





Authors

Rimsha Rehan and Manzoor Ahmed Alizai

Reviewers

Shaheera Tahir and Muhammad Badar Alam

Designer

Shafaq Nasir



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Overview

Independent Power Producers (IPPs) have become the Achilles heel of Pakistan's power sector, affecting the overall economic outlook of the country. Despite being introduced to address power shortages and increase efficiency, IPPs have instead contributed to soaring electricity costs, crippling public finances, and entrenching a culture of profiteering and undue influence on the policymakers.

The first IPP was commissioned in 1997 and since then there have been numerous litigations and disputes primarily involving lucrative returns and profits enjoyed by IPPs[1]. The power purchase agreements (PPA) under which these returns were promised have been a major point of contention owing to being excessive and unfair to electricity consumers who end up paying these returns through electricity tariffs. This has contributed to the accumulation of massive circular debt, which has crippled the power sector's financial viability, making it difficult for distribution companies to pay IPPs.

These lucrative returns were made possible by the two-part tariff offered to IPPs, Capacity Purchase Price (CPP) i.e fixed payments made to a power plant for maintaining its availability to produce electricity, regardless of whether the electricity is produced or not, and Energy Purchase Price (EPP) which refers to the variable payments made to a power plant for the actual amount of electricity generated and delivered to the grid. This incentivized IPPs to get promised returns irrespective of the actual generation or delivery of electricity.

If we delve deeper into the ownership of these power plants, we identify that within the installed generation capacity, 52% are state-owned power plants. As per the State of Industry Report 2024, the Capacity Purchase Price (CPP) for FY 2024-25 illustrates that the government share in CPP is 36%, followed by the CPEC projects which stand at around 33% and the rest will be privately owned IPPs established under the 1994, 1995, 2002, and 2006 policies.¹

Surplus Capacity: A Strain on Pakistan's Power Sector

All the IPPs as well as other power plants in Pakistan, have a collective installed capacity of over 41,000MW, significantly exceeding the base load demand of 12,000-12,500MW. Consequently, more than half of this idle capacity, including peaking plants, receives capacity payments despite being inactive for most of the year. Due to contractual obligations, this surplus capacity has been a major source of financial strain on the power sector. In hindsight, it was illogical to prioritize additional capacity to meet summer demand peaks under the same contractual clauses framed for baseload power plants.

Although this excess capacity is arguably essential to accommodate varying loads, even if it remains idle for most of the year, case studies from other countries suggest that contractual agreements should differ between

¹ https://file.pide.org.pk/pdf/pideinpress/pip-corporate-window-ipp-and-capacity-payments.pdf?_gl=1*1kdiz07*_ga*ODQ1OTIwNTIxLjE2NzQx-OTYzMDc*_ga_T5TLWHEVW9*MTcyMzQ0NzcyNC4xNC4wLjE3MjM0NDc3MjQuNjAuMC44ODI3NjQ5OD

peaking plants and take-or-pay (baseload) power plants to ensure a more efficient and sustainable power sector.

The financial burden of IPPs’ returns have been staggering, with capacity payments reaching Rs. 2.1 trillion in FY 2023-24 and projected to rise to Rs. 2.8 trillion by FY 2024-25, according to the Central Power Purchasing Agency (CPPA). IPPs continue to enjoy a dollar-indexed guarantee with a return on equity (ROE) of 12%, down from the previous 18%. However, this rate remains high by global standards, perpetuating the cycle of contentious profits and financial strain on the power sector.^{2 3 4}

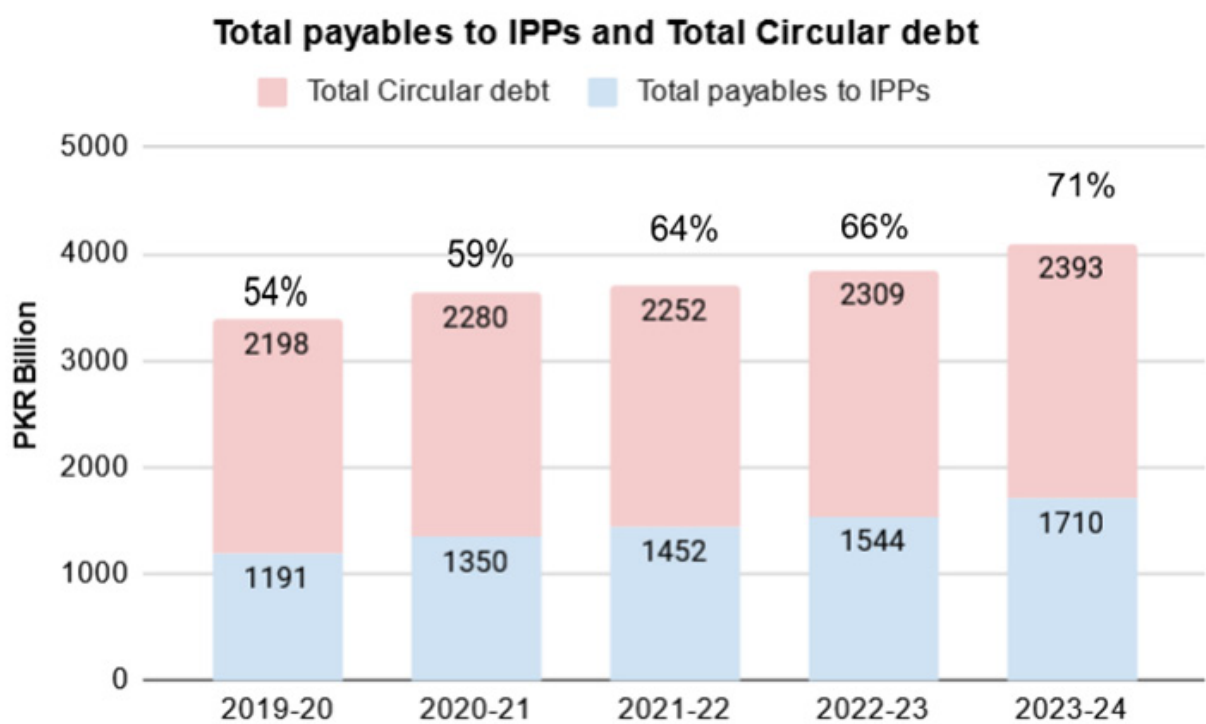


Figure 1 : Total Payables to IPPs and Circular Debt Ratio

Source: Author’s own calculations (State of Industry Report, 2024)

As seen from figure 1, the ratio of total payables to IPPs to total circular debt of Pakistan has been continuously increasing; from 50% share in total circular debt in 2018-19 to a staggering 71% in 2023-24.

The Two-Part Tariff Trend

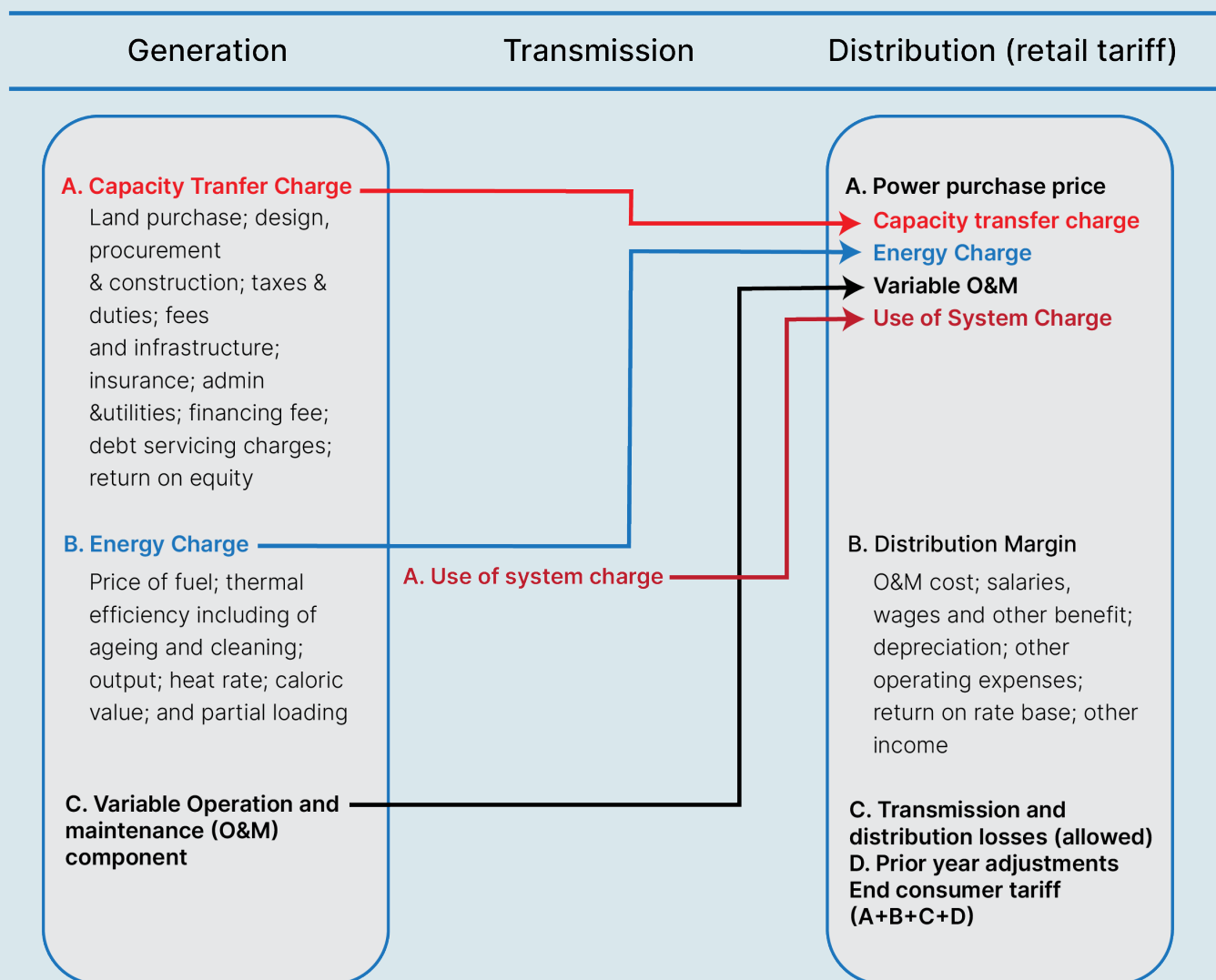
Consumer end electricity tariffs comprise various components, including the Energy Purchase Price (EPP), a variable component that encompasses the price of fuel, thermal efficiency (including the effects of ageing and cleaning), output, heat rate, caloric value, and partial loading. Additionally, the Capacity Purchase Price (CPP), a fixed component, covers land purchase, design, procurement, and construction costs, as well as taxes,

² <https://www.nation.com.pk/28-Feb-2024/circular-debt-reaches-rs5-42-trillion-capacity-payments-to-ipps-jump-to-rs2-trillion>
³ <https://ksestocks.com/blog/ipps-capacity-payments-projected-to-rise-by-33pc-to-rs2-8tr-in-next-fiscal-year/>
⁴ <https://aptma.org.pk/the-burgeoning-burden-of-capacity-payments/>

duties, fees, infrastructure, insurance, administration, utilities, financing fees, debt servicing charges, and return on equity. Capacity charge and energy charge along with use of system charge and variable operation & maintenance (VO&M) make up the total power purchase price.

This power purchase price, added to Distribution margin, T&D losses and prior year adjustments collectively form the end-consumer tariff as illustrated below.⁵

Box Item 1. Tariff Components at various Stages of Power Supply-Chain



Historically, EPP dominated tariffs, but CPP has been increasingly taking a larger share. This shift is evident in the rising proportion of capacity charges in electricity bills, which surpassed Energy Charges in 2019-20, accounting for 58% of the total cost. Although energy charges briefly regained dominance in 2022, constituting around 60% of the tariff, capacity charges have again begun to rise. In 2024, capacity charges CPP is increasingly taking a larger share, rising from 40% in FY22 to 61% in FY24 and projected to 62% in FY25 leaving energy charges at 38%. This growing dominance of fixed charges in the tariff structure is making electricity increasingly unaffordable for end consumers.^{6 7}

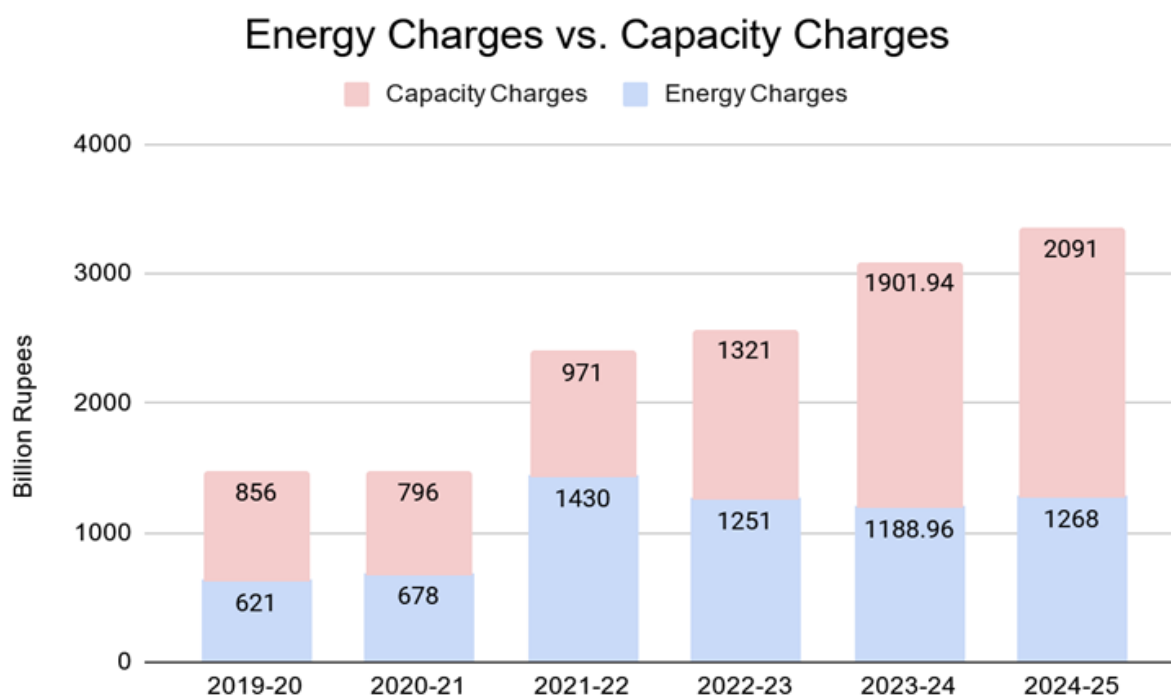


Figure 2: EPP vs CPP for IPPs

Source: Author's own calculations (State of Industry Report 2024)

⁶ <https://www.brecorder.com/news/40307052/the-burgeoning-burden-of-capacity-payments>

⁷ <https://tribune.com.pk/story/2468045/capacity-payments-to-haunt-power-users>

Myths Busting

Types of IPPs

IPPs by ownership type:

Among various generation plants, it is assumed that only IPPs receive capacity payments. However, many government-owned power plants and Chinese plants also receive substantial capacity charges, which are paid in USD. The following figures precisely illustrate this information:

Capacity Charges by Ownership

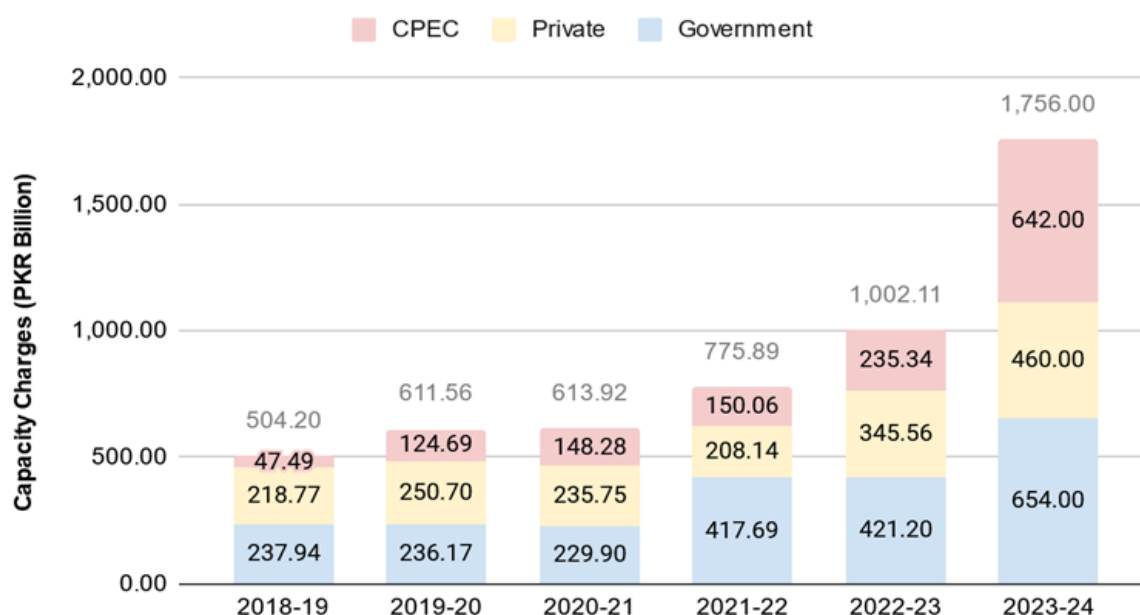


Figure 3: Capacity Charges by Fuel Type

Source: Author's own calculations (State of Industry Report, 2024)

As seen from the figure above, the government paid a cumulative amount of approximately Rs 1.7 trillion in capacity purchase price to the IPPs in which a major chunk is also taken by government-owned plants (accounting for 36% of the total payment) in FY 2023-24. Whereas, privately owned power plants' share has been consistently rising in the last 5 years from Rs 218 billion in FY 2018-19 to more than Rs 460 billion in FY 2023-24.

The Government of Pakistan (GoP) has exacerbated the electricity crisis by permitting private entities to earn excessive profits without justification. Additionally, the GoP has directly contributed to the crisis in two ways: first, by allowing new government-owned projects to receive the same excessive benefits as those given to Independent Power Producers (IPPs); second, by imposing burdensome taxes on electricity consumers. Neither of these actions is justifiable.

For instance, the Auditor General of Pakistan's 2022-23 report highlighted that Central Power Generation Company Limited (CPGCL), the state-owned holding company for generation companies, made an unjustified claim of Rs. 19.5 billion in capacity payments. These payments were based on dependable capacity without accounting for the fact that one generation unit had been damaged and out of operation for 16 months, while another unit had been burned.⁸

IPPs by Fuel type:

The following graph represents the capacity charges given to IPPs by fuel type. As depicted in the figure, IPPs are getting an exorbitant amount of capacity payments each year and have been rising consistently for the last 7 years reaching a record high of Rs 1901 billion in FY 2023-24 alone. In particular, thermal-based plants constitute the highest share in terms of capacity charges with getting approximately 76% share (Rs 1455.34 billion) out of the total payment in 2023-24.

According to NEPRA data, the overall utilization rate for thermal power capacity, which includes coal, gas, LNG, and oil, was only 40% in FY 2018-19 and further declined to just 34.68% in FY 2022-23.⁹ The fixed capacity payments for Thar coal power plants are calculated based on an assumed utilization rate of 85%. As a result, the power surplus becomes a costly burden for both the government and consumers in Pakistan. Coal power plants, which might be operating at only 40% capacity, are being compensated for 85%, thus increasing the average electricity cost for everyone. In April 2020, government also highlighted that fixed capacity payments to power generators could reach an unsustainable level of \$9.2 billion (Rs1.5 trillion) per year in the coming years as more capacity payments are added which has proven to be true.

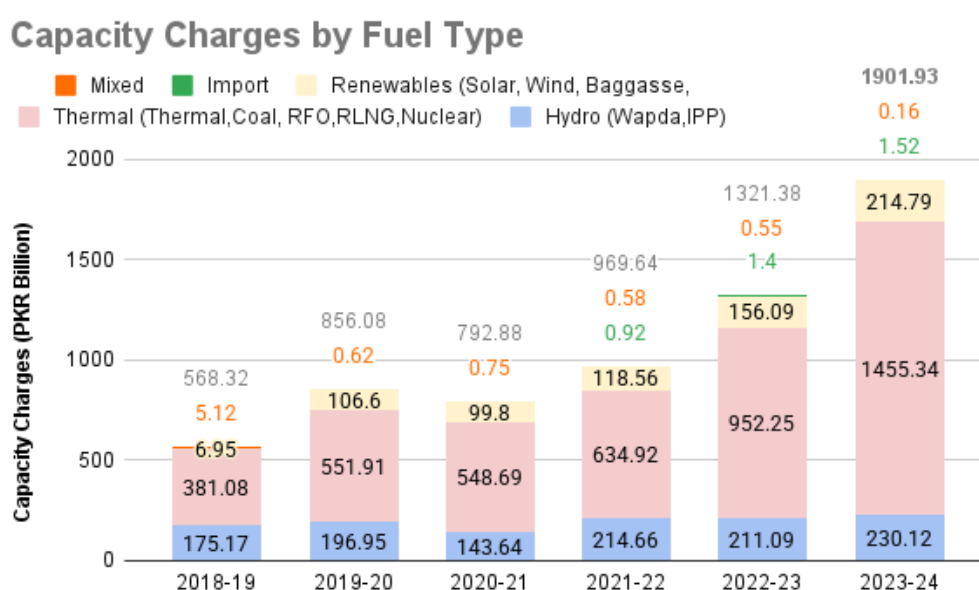


Figure 4: Capacity Charges by Fuel Type

Source: Author's own calculations (State of Industry Report, 2024)

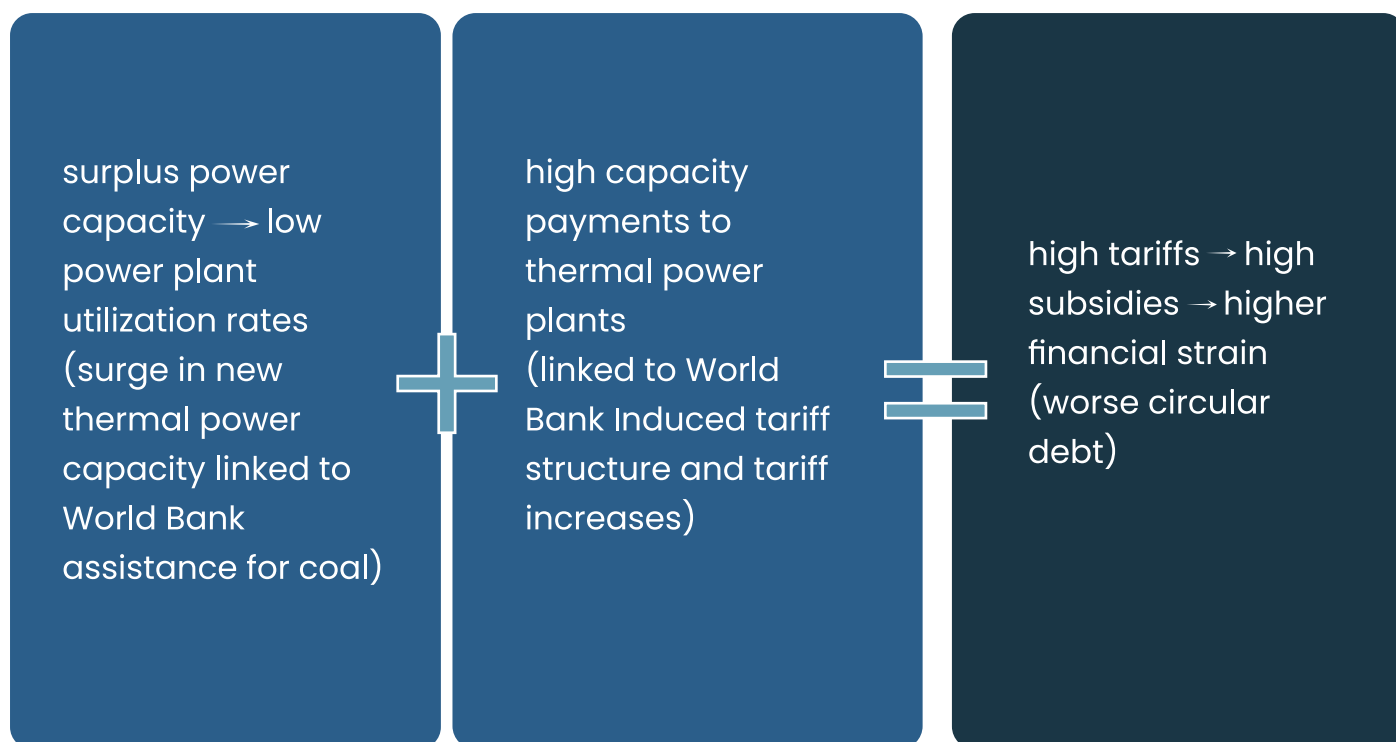
⁸ <https://agp.gov.pk/>

⁹ <https://nepra.org.pk/publications/State%20of%20Industry%20Reports/State%20of%20Industry%20Report%202024.pdf>

MDBs : World Banks role with IPPs¹⁰

In the late 1980s and early 1990s, the World Bank played a pivotal role in the establishment of Hubco, Pakistan's first independent power producer (IPP). Today, Hubco stands as the country's largest IPP and holds equity stakes in three of the new Thar coal-to-power projects.

Box Item 2. Pakistan's Energy Sector Financial Deterioration linked to world bank assistance



Instead of reducing government subsidies by incorporating all generation costs into consumer tariffs as the World Bank had intended, the government has had to partially offset the capacity payments with increased subsidies to shield consumers and the broader economy from unaffordable and uncompetitive electricity prices. According to the power ministry, the government paid over \$2.99 billion (PKR 470 billion) in power subsidies in 2020, a significant rise from \$573 million (PKR 90 billion) in 2018.¹⁰

¹⁰ <https://www.urgewald.org/en/shop/world-bank-helps-develop-asias-largest-coal-field>

Possible Solutions & Way Forward

To counter these issues the following measures are proposed:

- **Forensic Audit of IPPs**

Conduct a comprehensive forensic audit to assess and recover excess profits made by IPPs at the expense of consumers and the economy. Evaluate power supply claims versus actual delivery to ensure accuracy and transparency.

- **Re-assessment of Tariff Regimes**

Changing power purchase agreements from “Take or Pay” to “Take and Pay” models to reduce unnecessary financial burdens. Award take or pay contracts exclusively to baseload power plants to ensure efficient use of resources. The citizens also seek to declare past electricity policies void due to their non-compliance with competitive bidding processes. Before renegotiating agreements with Chinese IPPs, it is essential to initially renegotiate with local IPPs and discontinue capacity payments to state-owned power plants. Before Nepra, government-owned projects like WAPDA and KESC received tariffs based on cost recovery, without additional returns. However, the 1998 Nepra Tariff Rules introduced a two-part tariff, including capacity charges for debt servicing, returns, and fixed costs. Despite completing their lifespan, inefficient government-owned generation companies (Gencos) from the 1980s remain operational, incurring high workforce costs while idle. Instead of retiring them, they continue to receive capacity payments, raising questions about the justification for such payments.

- **Policy Overhaul**

Prioritize efficiency, competition, and affordability in electricity generation and distribution.

Retire older/inefficient government-owned GENCOs and IPPs.

End unsustainable dollar indexation and convert to local currency.

Encourage electrification of energy uses, such as electric vehicles, cooking, air and water heating.

- **Financial Relief and Restructuring**

Allow power producers to repay debts over a longer period and adjust tariffs accordingly. Therefore, lower interest rates and longer repayment periods for long-term projects would provide a greater financial relief.

- **Assessment of Past PPAs for Identification of Root Causes**

PPAs play a vital role in energy projects, defining key terms such as project costs, tariffs, plant efficiency, technology, and location. It is crucial to carefully craft these contracts because, in the long term, their contractual obligations have far-reaching consequences for the country. Review past PPAs under policies introduced in 1994, 2002, and 2015 for expertise and consequences, as they have led to inefficient and costly power generation. Additionally, we need to renegotiate with local IPPs before Chinese IPPs whereas, it is imperative to discontinue capacity payments to state-owned power plants (paid in USD), which have completed their lifespan and incur high workforce costs while idle. 46 IPPs

that were commissioned before 2015 have already renegotiated their PPAs. This happened after the special Power Sector Inquiry Report 2020. However, these renegotiations did not include the CPEC projects (which were commissioned under the 2015 policy) which now contribute significantly to total capacity charges.

In conclusion, the IPP agreements have become a significant obstacle to Pakistan's economic progress, perpetuating a cycle of debt, inefficiency, and exploitation. To break free from this cycle, Pakistan must adopt a comprehensive approach that includes halting new power plant establishments, extending debt repayment periods, retiring inefficient government-owned GENCOs and IPPs, and ending unsustainable dollar indexation. Additionally, incentivizing the industry to switch to grid electricity until the CTBCM becomes operational, encouraging the electrification of energy use, and conducting a thorough audit of IPP operations and finances are crucial steps toward reform. By renegotiating existing agreements, promoting transparency and accountability, and prioritizing sustainable energy solutions, Pakistan can reduce its reliance on IPPs, decrease the financial burden of capacity payments, and create a more equitable and efficient energy system. By implementing these measures, Pakistan can pave the way for a sustainable and prosperous future, ensuring a reliable and affordable power supply for generations to come.



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Policy Research Institute
for Equitable Development



www.priedpk.org



+92 51 8440512



Second Floor, Plot No. 5-N. Sitara Market, G-7/2 Islamabad