

# Energy Crisis in Pakistan

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Pakistan grapples with a persistent and debilitating energy crisis. The nation, with its burgeoning population and ballooning energy demand, faces a critical juncture due to an acute shortage of power supply. Short-sighted policymaking, imprudent fuel mix and a dearth of investment have landed the energy sector in a quandary. Resultantly, the country is ensnared in a web of circular debt and its economy is teetering on the brink of collapse.

Industrial productivity and the common citizen have taken massive blows of this dire situation alike. It is imperative upon the state to take up the herculean task of ironing out all the obstacles in the way of energy reforms, and reprieve the power sector from its unending woes.

The looming energy crisis can be traced back to over two decades ago. In 1994, Pakistan was facing power shortages



of approximately 2000<sup>↑</sup> <sup>megawatts</sup> during peak load times. <sup>Therefore,</sup> the government announced an investor-friendly policy to develop Independent Power Producers (IPPs) based on oil, coal and gas. Resultantly, the fuel mix of the country was altered. The government of that time was inclined towards this strategy particularly because of the controversies surrounding key proposed hydropower projects. This policy decision paved way for the contemporary energy crisis in Pakistan.

<sup>currently,</sup> <sup>↑</sup> The overall energy shortfall stands at a staggering 8500 Megawatts, whereas the requirement is 28,500 Megawatts. These figures are baffling, considering that Pakistan's total installed power generation capacity is 39,772 MW. Moreover, the country has <sup>a</sup> massive



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potential to generate electricity: an estimated wind potential of 50,000 Megawatts; hydropower potential of 60,000 Megawatts, and a solar potential of 40 Gigawatts. It has abundant resources to not only satiate its own energy needs, but also export to energy-deficient countries. Nevertheless, the country has been unable to capitalise on its surplus energy supply due to many reasons.

Firstly, the installation of IPPs disproportionately increased the share of thermal energy in the fuel mix. Currently, 61% of electricity is generated by oil, coal and gas. Hydel energy and renewable sources have been brushed aside, contributing a meagre 21% and 3% electricity to the national grid respectively. The heavy reliance of thermal sources makes the country vulnerable to price



shocks and supply interruptions as Pakistan imports 40% of this primary energy supply.

The underlying vulnerability led to the exacerbation of energy issues<sup>of Pakistan</sup>. In the backdrop of Russia-Ukraine crisis, Pakistan's long-term LNG suppliers broke off all deals to tap into the lucrative European markets. Resultantly, gas prices in Pakistan increased by more than 150% in 11 days after the invasion of Ukraine. Moreover, oil prices soared after Saudi Arabia, an OPEC kingpin decided to cut oil production by one million barrels per day in June 2023. Hence, geopolitical events have significantly increased oil costs for Pakistan and it spent <sup>a whopping</sup> \$13 billion on oil imports in FY 2022-23.

To add fuel to fire, Pakistan's energy



production and distribution framework is plagued with a myriad of issues.

IPPs were installed under a two tariff <sup>regime</sup> as a de-risking initiative. The

regime entails a payment of both "energy" as well as "capacity". The

capacity payment mechanism is a fixed revenue stream for an IPP and a permanent liability on the government.

Moreover, the payments are fixed in "dollar terms". Consequently, the government

paid Rs 142 billion to IPPs in June 2023

and the capacity payment has doubled

to Rs 2153 billion in September 2023

due to sharp depreciation of Rupee against

the US Dollar.

The Distribution companies (DISCOs) are

heavily affected by <sup>a shabby</sup> infrastructure and

incessant power theft. The transmission

and distribution lines, and transformer

networks have not been upgraded



vis-a-vis the increase in electrical supply. Resultantly, transmission and distribution losses were recorded as 27% by National Electric Power Regulatory Authority (NEPRA) for FY 22-23. In addition, the Power Division reported an energy theft of over Rs 500 billion in 15 months. These phenomenon derail the revenue collection and cost recovery process of DISCOs.

Inept policy frameworks and organizational inefficiencies have triggered a plethora of <sup>negative</sup> consequences in Pakistan, among which the most pressing is the predicament of circular debt. The DISCOs are unable to make timely payments due to low recovery from end consumers and T-and-D losses. Resultantly, the flow of funds to IPPs and fuel suppliers is halted simultaneously. As a last



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resort, the government intervenes to settle the outstanding dues, and the vicious cycle continues. As of June 2023, Pakistan's power sector's circular debt was an astonishing Rs 2.31 trillion or 3% of GDP.

The issue of circular debt spawns a myriad of interconnected issues. The end consumer bears the <sup>of a crippled power sector</sup> brunt in the form of expensive electricity. Heavy tariffs, surcharges and tax rates are amalgamated to calculate the cost of one unit of electricity. At present, the aforementioned cost is Rs. 65 per unit. Resultantly, Pakistan has one of the most costly electric production in the region. In contrast, India and Bangladesh are producing electricity at just Rs 6.29 and Tk 8.25 per unit respectively.

Perhaps the most adversely affected



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entity in this entire scenario is the industrial sector. Large scale Manufacturers (LSM) and small and Medium Enterprises (SMEs) have taken the toll of the crippling energy sector alike. The paucity of funds due to circular debts leads to deliberate operation of plants at "low capacity". Consequently, the system grapples with a shortfall of 8500 Megawatts. Pakistan's industry suffers annual losses of \$18 billion due to this shortfall, and has lost \$82 billion between 2007 and 2020 according to the World Bank. In 2023 alone, 1600 textile factories have ceased operations and exports have decreased by 15%. All the aforesaid predicaments can be attributed to expensive electricity and electricity shortfall due to circular debt.

Pakistan's grave energy crisis has



its economy on chokehold. The prevalent circular debt feeds into the "Balance of Payment" quagmire which has dragged the country to the brink of default. The current account Deficit (CAD) currently stands at \$17.4 billion as of 2022. The imbalance has been largely stemmed out of the rising energy import prices.

It is sine qua non to reform the energy sector before the grave circular debt and balance of payment crisis turns into a lethal brew of default and uncertainty. The aforesaid has also been enshrined by the IMF as a conditionality of its \$3 billion deal. Moreover, it is also in line with "Sustainable Development Goal 7" that emphasizes sustainable and modern energy as a part of "Vision 2030".



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In the immediate term, Pakistan needs to renegotiate with IPPs particularly in domains of "capacity payment" <sup>"duration" ↓ "to pay"</sup> and "transactions in dollars". Moreover, it should retire the IPPs and Generation companies (GENCOs) which have completed their term. This step is likely to address the current "Rs 100 billion" interest charge and "Rs 2153 billion" capacity payment dues of the country to IPPs.

DISCOs need to be empowered to aptly recover costs from consumers and severe punishment should be inflicted upon defaulters. Simplification of the FIR registration is significant in this regard. It is disheartening that only 528 people have been arrested in 2023 inspite of 20,000 FIRs. The presence of Assistant Commissioners and Assistant Superintendents should be made non-obligatory and senior DISCO officers should be



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given the <sup>authority</sup> to register FIR against power theft independently.

The most significant and herculean task, however, is reforming the energy fuel mix. It is a long-term project which requires efforts from all stakeholders.

As mentioned earlier, Pakistan is rife with renewable energy sources. Wind corridors along the belt of Sindh and Balochistan can generate 50,000 Megawatts alone. Solar power of 40 Gigawatts can <sup>even</sup> cater to the needs of neighbouring countries in addition to Pakistan if harnessed properly. The country aims to produce 60% of its electricity from renewable sources by 2030. This is in accordance with Pakistan's Alternative and Renewable Energy Policy (ARE) 2019.

The construction of dams is the panacea



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for the current energy crisis. From the energy generation viewpoint, the best era in Pakistan was the 1960s when Tarbela, Mangla and Warsak dams were built, and the Kalabagh project was actively taken up. However, politicization of this essential dam along with similar projects has derailed the construction of Hydro power plants. It is high time to deal with non-state actors and opponents with an iron hand and pursue hydel energy programs. Pakistan should follow the lines of the US to produce cheap <sup>power</sup> hydel. It generates electricity at a cost of 0.85 cents per kilowatt-hour, about sixty times cheaper compared to thermal energy.

In addition, Pakistan needs to directly reform its energy infrastructure. Currently, its transmission and



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distribution systems need \$ 8 billion investment by 2025. The forum of CPEC can be utilized to give a facelift to the current power supply network. It has already added 8000 Megawatts to the national grid. Phase wise improvement in transmission lines of DISCOs and smart technologies <sup>in collaboration with CPEC</sup> can be implemented to harness the benefits of many power plants installed as part of its development initiatives.

To conclude, Pakistan's energy crisis remains a formidable challenge with far-reaching implications on its economy, <sup>and the common citizens</sup> ~~and the common citizens~~. The causes, ranging from frail policy frameworks to mismanagement in the energy sector, have landed the country into a vicious cycle of circular debt, thereby impacting the industry and in turn the economy. Prudent energy



reforms including <sup>diversifying</sup> the energy fuel mix and investment in infrastructure are essential to avert a complete economic breakdown and reinvigorate the power sector on sustainable lines.

Good  
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