

Proposed Programmatic Approach and Policy-  
Based Loan for Subprogram 2  
Islamic Republic of Pakistan: Energy Sector  
Reforms and Financial Sustainability

Circular Debt Impact on Power Sector Investment  
Supplementary Linked Document

March 2021

## **A. The Circular Debt Crisis—An Economic Impediment**

1. The issue of circular debt in the power sector has largely remained uncontrolled in Pakistan. There have been efforts by successive governments to reduce the circular debt; however, the issue remains. From PRs450 billion in fiscal year (FY) 2013, the circular debt was reported at PRs2.3 trillion as of 31 December 2020. The net annual circular debt flow for the year 2019–2020 remained at PRs538 billion, while it is projected at PRs2.58 trillion by 30 June 2021 (Appendix A). The current circular debt balance is equivalent to 5.6% of the country's gross domestic product (GDP) and represents 6.8% of Pakistan's general government debt.<sup>1</sup>
2. Circular debt is the net unfunded outstanding liability position of the power distribution companies (DISCOs) to the Central Power Purchasing Authority-Guarantee (CPPA-G), which further cascade into delayed settlement of payment obligations by the CPPA-G to the power generation companies (GENCOs). The cash gap at the CPPA-G triggers borrowings by Power Holding Private Limited (PHPL) to settle the CPPA-G's liabilities.<sup>2</sup> Average circular debt stock remains almost equally parked in the CPPA-G and the PHPL.
3. The Government of Pakistan owns major portion of the power sector's supply chain (Appendix B) through ownership of entities at the generation, transmission, and distribution legs. Accordingly, changes in the cash operating cycle within the power sector affect the debt position of the government to the external suppliers of fuel and nonfuel products and services.

## **B. Causes of Circular Debt**

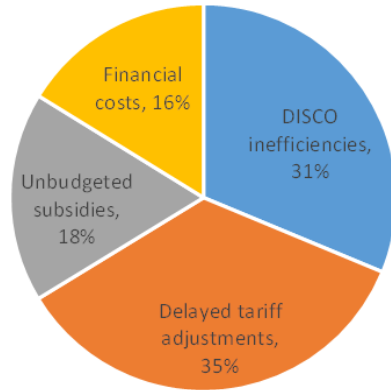
4. **What?**—Historically, the five key contributors to the circular debt flow have been (i) high cost of power generation eventually contributing to the DISCOs' collection and operational inefficiencies, (ii) pitfalls and delays in the tariff determination, (iii) high transmission and distribution losses and poor revenue collection by the DISCOs, (iv) partial (and often delayed) tariff differential subsidies (TDS) payment by the government to DISCOs and K-Electric, and (v) high financial costs on borrowings by the PHPL and expensive late-payment penalty charges on the CPPA-G payables.
5. **How?**—Certain elements within the power sector supply chain directly contribute to the circular debt flow, at varying levels of concentration (Figure 1).
6. **Inefficiencies of DISCOs.** DISCOs' collection and operational inefficiencies, together with aged receivables, trigger a stream of cash blockage at the distribution leg of the supply chain. The distribution network is operated through one private and 10 public sector DISCOs. The public sector DISCOs are cash-strapped due to multiple factors, triggering a cash gap across the supply chain, which necessitates additional financial costs in the form of commercial borrowings and late payment charges accruing to the GENCOs.

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<sup>1</sup> An understanding of the institutional setup and operating structure of Pakistan's power sector is needed for a comprehensive understanding of the circular debt crisis. Appendix A provides regulatory and operational setup of various institutions within Pakistan's power sector.

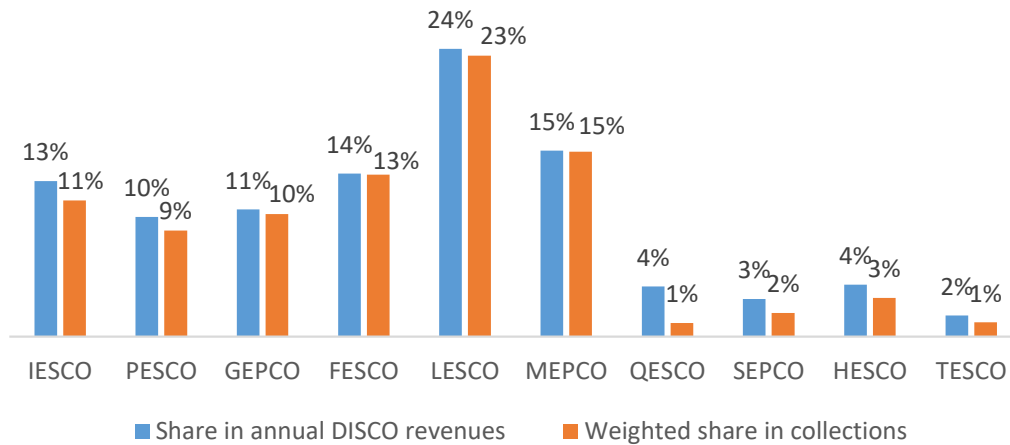
<sup>2</sup> The CPPA-G payables to GENCOs carry a late-payment charge of about KIBOR+4.5 percent; these costs induce additional arrears. The PHPL, a government-owned entity established for raising finance for the power sector, uses sovereign guarantees to borrow from commercial banks at 5–7 years maturity and KIBOR+1 percent. In recent years, the PHPL has used the borrowed funds to reduce the CPPA-G liabilities to GENCOs and the independent power producers (IPPs). Since 2009 to date, in a few special transactions, the government has issued bonds to convert the PHPL liabilities into public debt.

**Figure 1: Composition of Circular Debt Flow, 2019-2020**



DISCO = distribution company  
Source: Central Power Purchasing Authority.

**Figure 2: Sensitivity of Circular Debt to Billing Collections of Power Distribution Companies, Fiscal Year 2019**



DISCO = distribution company, FESCO = Faisalabad Electric Supply Company, GEPCO = Gujranwala Electric Power Company, HESCO = Hyderabad Electric Supply Company, IESCO = Islamabad Electric Supply Company, LESCO = Lahore Electric Supply Company, MEPCO = Multan Electric Power Company, PESCO = Peshawar Electric Power Company, QESCO = Quetta Electric Supply Company, SEPCO = Sukkur Electric Power Company, TESCO = Tribal Electric Supply Company.

Source: National Electric Power Regulatory Authority. 2020. [State of Industry Report 2019](#). Islamabad.

7. The consolidated recovery of DISCOs remained at 88.8% in FY2020, recording a deterioration of 1.5% (2019: 90.3%) from FY2019. DISCOs' collection efficiencies pose varying degree of sensitivity to the circular debt flow (Figure 2). Annual collection efficiency during FY 2019–2020 remained at 88.8% against the 100% allowed target of the National Electric Power Regulatory Authority (NEPRA), resulting in an approximate loss of PRs199 billion during FY2019–FY2020. A further PRs42 billion was lost during this period due to transmission and distribution (T&D) losses against the NEPRA notified average of 15.7%.

8. The coronavirus disease (COVID-19) pandemic has adversely affected the overall economic conditions, activity, and paying capacity of consumers. The CPPA-G estimates that the COVID-19-related issues contributed PRs235 billion to the circular debt flow during FY2019–FY2020.

Deterioration in collection efficiency and the T&D losses are likely to further deteriorate financial performance of DISCOs during FY2020–FY2021 and over the medium term.

9. **Delayed tariff adjustments.** End-consumer tariffs are notified with substantial delays and are affected by political and socioeconomic considerations. Tariffs are determined by the regulator (NEPRA) under the NEPRA Tariff Rules, 1998. Tariffs are structured to recover costs charged by GENCOs, energy charges, and DISCOs' margin to cover operation and maintenance (O&M) and administrative costs, depreciation, and rate of return. The government-notified rates often vary from the recommended tariffs and create a mismatch of costs and revenues, thus creating cash shortage for DISCOs. Further, the notification process is delayed by an average of 9–12 months. The mechanism of monthly fuel price adjustment has been introduced, to pass on the effect of fuel price variations to end-consumers, but operates with some delays.

10. Another dimension within the tariff determination structure is the difference in the basis used by the regulator and actual results. The NEPRA assumes 100% collection efficiency and T&D losses at 15.3% for determining the tariffs, while actual results vary. Accordingly, the tariffs are set at lower than actual cost recovery levels.

11. Further, high cost of electricity flowing through long-term energy purchase agreements with independent power producers (IPPs) and other capacity-based off-take terms with GENCOs inhibit opportunity to rationalize electricity purchase costs for DISCOs.<sup>3</sup> Issues related to quarterly and fuel-related tariff adjustments contributed PRs270 billion to the circular debt flow during FY2019–FY2020.

12. **Unbudgeted subsidies.** Government subsidies assumed in tariff determination remain partially unfunded. The unfunded government tariff differential subsidies contributed PRs135 billion in the circular debt flow during FY2019–FY2020. The budget allocation for government subsidy decreased from an earlier level of PRs240 billion to PRs120 billion during for FY2020–FY2021.

13. **Weak governance of DISCOs.** Governance issues at DISCOs affect the overall performance of distribution segment and cost structures. Although the public sector entities have been established as corporate entities, governance, accountability, and operational management remain weak.

### **C. Resolving the Circular Debt Crisis**

14. Resolution of the circular debt crisis has remained a focus during successive regimes as various regulatory, strategic, and operational measures have been undertaken from time to time. Some of the key measures are as follows:

15. **Adoption of the circular debt reduction plan.** The authorities adopted a comprehensive power sector circular debt reduction plan (CDRP) in November 2019, which contains measures over medium- to long-term horizons. The 2019 CRDP was prepared in consultation with development partners. The plan aims to reduce the annual flow of new circular debt to PRs50–PRs75 billion by FY2023 (compared against the flow of PRs466 billion generated in FY2019 and PRs538 billion in FY2020) and eliminate all new arrears by end of FY2023. Recognizing that cash shortfalls are the root of circular debt flows in the sector, authorities adopted a comprehensive

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<sup>3</sup> There is no analysis quantifying how much the high cost of power generation currently observed is contributing to the cash shortfalls reflected in the accumulation of circular debt.

approach with five pillars: (i) assuring quarterly tariff adjustments,<sup>4</sup> (ii) ensuring better-targeting and full-budgeting of subsidies, (iii) setting up enforcement to reduce losses, (iv) setting up enforcement to improve collections, and (v) introducing governance and institutional reforms in DISCOs.<sup>5</sup> Monitoring of the plan will take place through implementation reports published by the Ministry of Energy.

**16. Reduction of power generation cost.** The Pakistani Cabinet also adopted the following measures to reduce the cost of power generation in April 2020: (i) reduction in the return on equity (profit) of government-owned GENCOs; (ii) reduction in the return on equity (profit) of IPPs' projects and extension of debt tenors; (iii) elimination of dollar indexation of IPP's locally-funded equity when valuing project costs in the determination of tariffs of power producers; (iv) reduction in penalties and interest costs associated to late payment of payables, particularly the CPPA-G's; (v) decommissioning of old government-owned GENCOs and privatization of new government-owned power plants; (vi) nonrenewal of matured power purchase agreements (PPAs) with IPPs; (vii) renegotiation of purchase contracts for imported fuel; and (viii) postponement of new coal projects not achieving financial viability.

**17. Introduction of the competitive trading bilateral contract market model.** The government adopted measures to reduce the cost of electricity, including renegotiating rates with the IPPs and introducing the competitive trading bilateral contract market model (CTBCM). The CTBCM is envisaged as an instrument that will reestablish the dynamics of the power sector.

18. In August 2020, the Government of Pakistan signed memorandums of understanding with IPPs to commence renegotiations of PPAs, which followed regulations established back in 1994, 2002, and 2006.

**19. Restructuring of the Central Power Purchasing Agency-Guarantee's debt.** The debt restructuring is aimed at addressing the issue of annual debt servicing costs exceeding PRs100 billion. The plan envisages (i) the government to issue new guarantees in the tune of PRs200 billion to transfer the CPPA-G's payables to IPPs (which are fairly expensive) into the PHPL (whose borrowing costs are lower than CPPA-G's); (ii) the government (whose borrowing costs are even lower than the PHPL's) will absorb the PHPL into its budget, recognize the PHPL's liabilities as public debt, and take responsibility for servicing loans contracted by the PHPL; and (iii) the government will further reduce the stock of outstanding payables through proceeds obtained from (a) power assets privatization, (b) recovery of the stock of outstanding receivables, (c) imposition of debt-servicing surcharge,<sup>6</sup> and (d) rationalization of power sector subsidies.

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<sup>4</sup> Automatic quarterly adjustment of tariffs not only helps address the creation of circular debt flows going forward, but it also reduces the transaction costs and political negotiations between various stakeholders concerning the level and effective application of tariffs.

<sup>5</sup> Strengthening DISCOs governance and deregulating their activities are expected to enhance operational and financial performance.

<sup>6</sup> The power tariff includes a surcharge for servicing the PHPL loans that provides around PRs40 billion annually and covers half of the debt servicing payments. The remaining amount is covered by diverting power sector revenues, which often generates additional arrears.

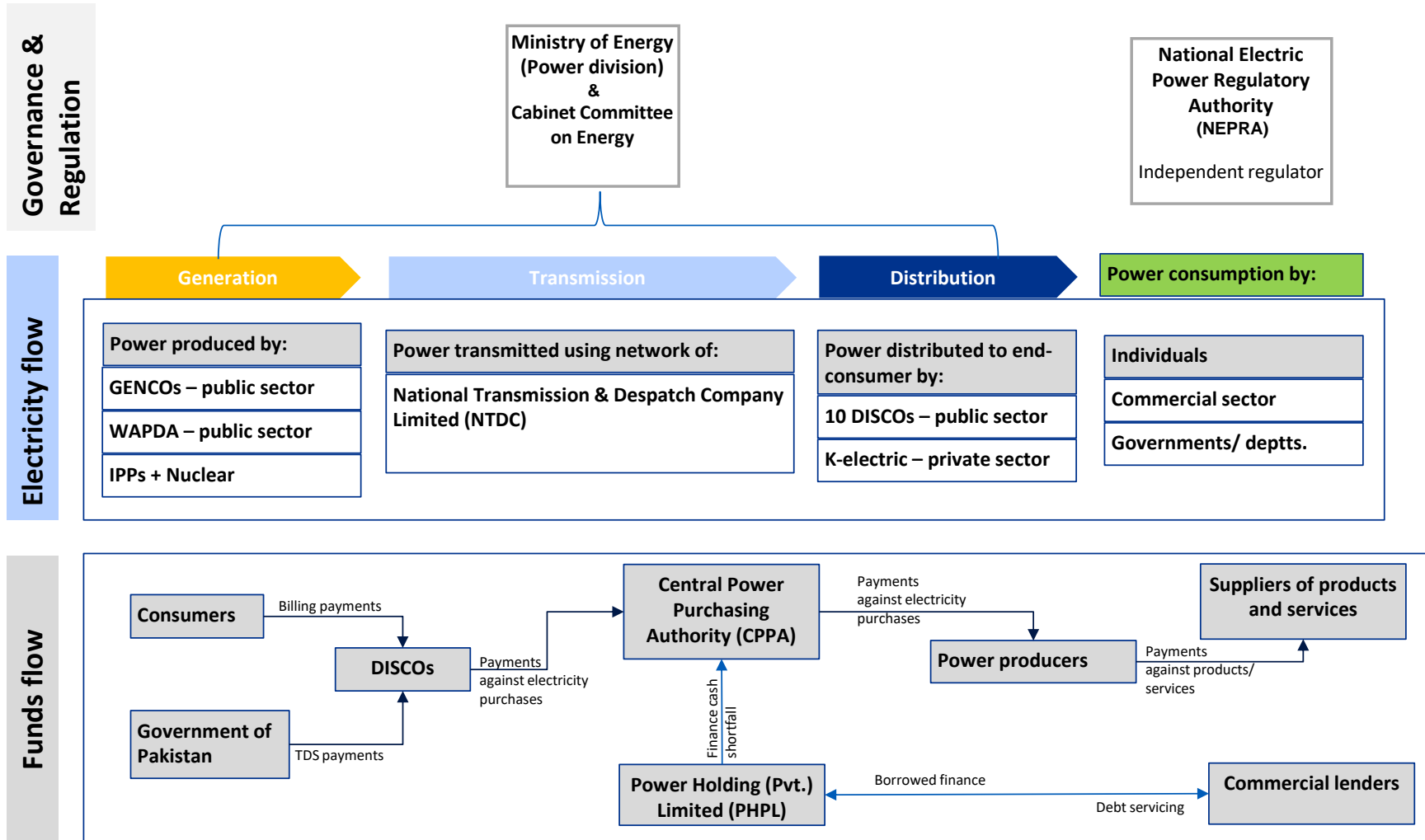
### Appendix A: Circular Debt Flow

Item	June 2020 (PRs billions)	December 2020 (PRs billions)	Projected June 2021 (PRs billions)
<b>Section A: Break-up of Circular Debt Balance</b>			
Payable to IPPs	1,038	1,225	1,510
Fuel payables	105	100	100
PHPL payables	1,007	977	977
<b>Total</b>	<b>2,150</b>	<b>2,303</b>	<b>2,587</b>
	<b>July 2019 to June 2020</b>	<b>July 2020 to Dec 2020</b>	<b>Projected July 2020 to June 2021</b>
<b>Net increase in circular debt flow</b>	<b>538</b>	<b>152</b>	<b>436</b>
	<b>July 2019 to June 2020</b>	<b>July 2020 to Dec 2020</b>	<b>Projected July 2020 to June 2021</b>
<b>Section B: Break-up of Circular Debt Flow</b>			
DISCOs under-recovery	199	(37)	58
Unbudgeted subsidies	135	41	197
Pending generation cost adjustments	270	121	151
DISCOs inefficiencies	42	8	59
IPP interest charges, delayed payments	55	42	92
PHPL mark-up	70	33	68
Nonpayment by K-electric	77	40	97
Unpaid subsidies	-	38	-
<b>Subtotal</b>	<b>848</b>	<b>286</b>	<b>722</b>
Less: Prior-year recoveries	(310)	(134)	(286)
<b>Net increase in circular debt flow</b>	<b>538</b>	<b>152</b>	<b>436</b>

( ) = negative, DISCO = distribution company, IPP = independent power producer, PHPL = Power Holding Private Limited, PRs = Pakistan rupees.

Source: Asian Development Bank.

### Appendix B: Regulatory and Operational Structure of Power Sector in Pakistan



DISCO = distribution company, GENCO = generation company, IPP = independent power producer, TDS = tariff differential subsidies, WAPDA = (Pakistan) Water & Power Development Authority.  
 Source: Asian Development Bank.