

## The Present Price Increase of the Electric Power and its Reasons and Responsible Factors

There is an uproar in the country regarding the recent power rate increases and all sectors of society are crying against it. We shall broadly look into the phenomenon and see the core issues in it and ascertain who is responsible for this state and what can be done to reduce it or eliminate it completely. We are hearing all the time that the "subsidy" being given to the various sectors of the power consumers must be abolished and the true cost of power to be charged to the consumers which is going to reduce the "circular debt".

We must understand why is there a need of subsidy to begin with ,what are the figures involved in the subsidy, what is circular debt ,what are the causes that result in creation of circular debt ,is abolishing the subsidy the final answer or the only solution to this whole issue and if any alternatives exist to help solve this problem .

### Assessing the present impact of the power rate increase :

The circular debt is increasing by Rs 60 billion every month .

The largest proportion ie 84% of the subsidy is eaten up by the 0-300 unit/month consumers in the private sector . Alone they use Rs 165 billion per year as subsidy.

Last year a total subsidy of Rs 450 billion was given .It is Rs 165 billion envisioned in the budget in the on going budget.

Present increase of commercial bulk and industrial rates with reduction in subsidy will give Rs 169 billion to govt.

The increase in rates by reducing the subsidy of private consumers will give another Rs 200 billion to the govt in savings in the power sector . So out of Rs 450 billion the govt will save around Rs 396 billion leaving Rs 169 or so for the 300 unit subsidy needed. In other words it is all about reducing the circular debt and decreasing the subsidy.

### Effect on the Industrial Tariff:

While all this is very fine to read let us analyse the percentage increase for various sectors of the industrial tariff based on the unit price increases

Firstly there is a Rs 0.81 per unit equalization surcharge for all industrial users.

B1	46%	TOD	Peak Rate	35%	Offpeak	62%
B2	62%	TOD		47%	Offpeak	64%
B3		TOD		48%	Offpeak	68%
B4		TOD		52%	Offpeak	73% ←

The rate increase is a single effect. The cumulative effect of the sales tax , duties, income tax and FAS , etc will be separate and will compound to another 50%.on top of this rate increase. If any one is yet hoping for industrialization for this country please state how will this happen and also how the present ones will survive?

Now that we are clear on the present situation let us see the reasons of this circular debt which has prompted us to reach for the elimination of subsidy. It must be understood that because of the creation of the circular debt the honest are paying for the theft of others and the govt is

fleeing the honest bill payers on their account. The GOP and NEPRA are alone responsible for this state of affairs.

### What causes circular debt ?:

The primary causes of circular debt include:

Poor governance

Delays in tariff determination by an inadequately empowered regulator compounded by interference and delay in notification by the Government of Pakistan (GOP)

A fuel price methodology that delays infusion of cash to the power sector

Poor revenue collection by the DISCOs

Delayed and incomplete payment by the Ministry of Finance (MOF) on Tariff

Differential Subsidy (TDS) and Karachi Electric Supply Company (KESCL) contract payments

Prolonged stays on fuel price adjustments (FPAs) granted by the courts

Transmission and distribution (T&D) losses and theft.

There also are several secondary causes to circular debt, including

The need to improve the thermal efficiency of the GENCOs and for NEPRA to set tariffs based on actual vs. estimated heat rates

Inadequate budgeting of the TDS, which delays payment and increases financing Costs

Unfavorable generation mix of the GENCOs, due largely to the GOP's fuel allocation policy that diverts natural gas to other non-economic uses

Non-commercial/non-professional approach to load shedding; non-improvement in tariff terms and conditions; impact of court decisions that have delayed payments to the DISCOs

Late payment surcharges (LPS) paid by CPPA to the IPPs resulting from the inability of the DISCOs to fully pay CPPA; the GOP's neglect in promoting demand-side management, energy efficiency and renewable energy resources

The need to settle payment arrears (both disputed and undisputed) in a comprehensive manner; and the need for expanded authority of CPPA to collect payments from the DISCOs through formal and enforceable power purchase agreements (PPAs).

### Circular Debt Components :

TDS (tariff differential subsidy and what the MOF pays )	Rs 292 billion
Non Collections from Private Consumers	197 billion
Government	132 billion
NEPRA Tariff determination and GOP Notification delay	72 billion
NEPRA Allowed and Actual T and D losses	32 billion
KESCL Non Payment to CPPA	55 billion
Fuel Price Adjustment	52 billion

Now that this myth of the circular debt is fully analysed we must ask the govt that which of the above components have been settled or reaching to be settled and will not contribute towards the non emergence of the debt again. If the components are not being tackled and left to the forces then the result will be the same as today. In other words GOP, DISCO and the MOF are totally responsible for this mess and all of them have to be taken to the task .

The term "circular debt" is used somewhat differently by various entities in Pakistan.<sup>4</sup> In essence, the term "circular debt" is understood to be the amount of cash shortfall within the CPPA, which it cannot pay to power supply companies. This short fall is the result of (a) the difference between the actual cost of providing electricity and the revenue realized by the DISCOs from sales to customers, plus subsidies;<sup>5</sup> and (b) insufficient payments by DISCOs to CPPA out of the revenue realized since they give priority to their own cash flow needs. According to estimates, **the circular debt at the end of FY 2012 was Rs872.41 billion, representing approximately 4% of the national nominal GDP.**

#### NEPRA and its contribution to the circular debt :

### **THERMAL INEFFICIENCIES OF GENERATION COMPANIES**

GENCO tariffs are based on the heat rates of generating units. **The heat rate is defined as the amount of fuel consumed for each unit (kWh) generated.** Over time, as efficiencies of generating units have declined, heat rates have increased. The higher the heat rate of the plant, the greater the amount of fuel consumed per unit of electricity generated. There are some allegations of fuel thefts at the GENCOS, which also results in lower efficiency. However, for tariff determination, **NEPRA uses lower heat rates versus the actual GENCO rates** Consequently, **the price of power delivered by the GENCOs is underestimated as it does not reflect the true cost of fuel to the GENCOs. This reduces the GENCOs' income, resulting in cash flow difficulties, which causes the GENCOs to postpone maintenance and other essential expenses, including payment to fuel suppliers.** A heat rate audit needs to be conducted to establish new benchmark heat rates for NEPRA to use for tariff determinations. Until this audit is conducted, NEPRA cannot update its heat rate figures for use in setting tariffs for the DISCOs.

**Fuel theft and fuel adulteration has been recognized now as a common problem at the GENCOS, which also results in lower efficiency. Due to lack of adequate fuel quality assessment tools at the GENCOs, any adulteration of fuel received by GENCOs by fuel providers cannot be detected. In addition, poor fuel storage and handling facilities further deteriorate fuel quality, resulting in lower fuel efficiency and deterioration of plant machinery.** total fuel costs of the GENCOs amounted to Rs124 billion<sup>35</sup> which account for 94%<sup>36</sup> of the operating budget of the GENCOs, comparatively, fuel management costs amount to less than 1% of the operating costs.

### **GOVERNANCE BY NEPRA**

The procedure for tariff determination is lengthy, resulting in tariffs that are non-compensating by the time they are put in force. Similarly, NEPRA's administration of fuel price adjustment charges is ex post facto with a significant time delay, thereby failing to cover the rising fuel costs for the power producers resulting in a distorted price signal to customers. NEPRA members are nominated by the provinces and appointed by the federal government. While professional standing of appointees is one of the qualifications for appointment, nominations are driven by various personal and political considerations. Consequently, **NEPRA is subject to pressure from political and executive quarters in the performance of its functions and generally lacks the professional competency needed to effectively perform its regulatory functions.** Moreover, NEPRA's inability to move beyond the single buyer model in which CPPA is the sole purchaser of power from the power producers and sole seller to the DISCOs needs to be strengthened. This lack of ability inhibits movement towards a competitive power market where power producers and customers are empowered to make direct arrangements to buy and sell electricity on a competitive basis. **The regulator is short of qualified technical staff and has to increasingly depend on contract and seconded government staff, which often creates a conflict of interest.** A review of the numbers and composition of its staff and subsequent realignment to ensure that staffing matches the needed capability should be done. In addition, the perks and benefits structure for the staff at NEPRA also needs to be reviewed. NEPRA could not retain the professionals it has had as they eventually

moved on, having been offered better packages elsewhere in the country. **NEPRA also lacks effectiveness in enforcing accountability of the DISCOs, particularly with respect to reducing T&D loss levels, and meeting performance standards and license conditions as set out through the investments allowed through the tariff petitions filed and performance targets set. In addition, the public does not clearly understand the regulator's role and rationale, resulting in consumers' confusion and unrealistic expectations.**

## **FUEL PRICE ADJUSTMENTS**

Delays in NEPRA's application of the FPA mechanism contributed Rs33.19 billion<sup>12</sup> to the circular debt in 2012. The FPA is a mechanism through which monthly variations in fuel costs, as compared with the reference amount determined in the NEPRA tariff, are passed on to the end user. **The FPA mechanism adds to circular debt during periods of rising fuel costs by delaying this adjustment value by two to six months. This creates a cash shortage for the power producers for energy already delivered.** The current FPA method is to bill consumers after the fact using historical cost and an annual reference amount **as opposed to using projected fuel consumption and cost.** This leads to fuel adjustments that swing radically each month and creates consumer unrest. **The current method does not include a process for looking ahead as global fuel price conditions change or the country's fuel mix ratios differ from the reference values**

## **IMPACT OF HIGH TRANSMISSION AND DISTRIBUTION**

### **LOSSES**

DISCO T&D losses for FY 2012 contributed Rs22.78 billion<sup>25</sup> to the circular debt. NEPRA determines distribution margins based on targeted T&D losses set for each DISCO. However, many DISCOs fail to achieve these targets. **In Pakistan, approximately 50% of aggregate distribution losses reported by DISCOs are non-technical.** Excess losses result in less than NEPRA-determined revenues for the DISCOs, as less energy is provided to end-use customers. This results in an increase in circular debt, assessed technical losses among the DISCOs ranged between 8% and 15%, identifying a potential opportunity for performance improvement through investments in network upgrades, installation of state-of-the-art metering systems such as AMRs, low tension (LT) capacitors, and other technical measures. **Reducing average T&D losses for all the DISCOs by 1% in FY 2011 would have resulted in savings of over Rs7 billion<sup>27</sup> in power purchase costs, and would have provided enough power to serve an additional 2.6 million residential consumers, and reduced load shedding by 110 MW.** Ideally, if Lahore Electric Supply Company (LESCO), Gujranwala Electric Power Company (GEPCO), Faisalabad Electric Supply Company (FESCO), and Islamabad Electric Supply Company (IESCO) keep their losses below 10% while Multan Electric Power Company (MEPCO), PESCO, HESCO (including SEPCO), and QESCO bring down their T&D losses to 15%, DISCOs revenue would increase by approximately Rs50 billion from the following DISCOs

This reduction in losses can release 78428 MW of power generating capacity with a value of Rs75 billion (which is equivalent to investing in the same amount of new generation capacity, as well as aid in the reduction of load shedding. **Even if they had complied with NEPRA's FY 2012 targets for T&D losses, DISCOs revenues would have improved by approximately Rs22 billion.** In the long-term, T&D losses need to be brought into alignment with **international standards of about 7% of total generation.** Doing so would **reduce system losses by about 10.3 billion kilowatt-hours and save about Rs75.3 billion.** In addition to this, **the losses are unrealistically reduced through parking of units or overbilling. This results in creation of unrecoverable receivables or billing disputes and results in eventually lowering of average sale rate.**

The NTDC also failed in keeping its transmission losses for the 500/220 kV transmission network within NEPRA-approved limits. Had the high transmission losses been restricted to the regulatory target, the accumulation of circular debt in FY 2009, FY 2010, and FY 2011 could have been reduced by Rs11 billion and over 40 MW capacity released, reducing load shedding by this amount.

## **PAYABLES TO THE CENTRAL POWER PURCHASING AGENCY FOR POWER PURCHASED**

CPPA, which currently is part of NTDC, purchases power from generators on behalf of the DISCOs. It then is responsible for making payments to the generators by billing and collecting the cost of power delivered every month to each DISCO. **Currently, CPPA's power sales to the DISCOs are not secured, since formal PPAs between CPPA and the DISCOs do not exist. CPPA needs to complete and put into force formal and enforceable PPAs with the DISCOs.** Payables to CPPA for power sold to the DISCOs are the result of the cumulative effect of the primary and secondary causes of the circular debt discussed above, and the fact that **DISCOs give priority to meeting their own expenses from revenue collected, passing on only the residual amount to CPPA.** This residual amount is less than the cost of power recovered and billed by the DISCOs. **The current trend of the DISCOs' insufficient payments to CPPA is intensified by the increased cost of generation in FY 2012, resulting from rising fuel prices. NEPRA allowed power generators to bill CPPA for fuel adjustment charges incurred in FY 2011, but the DISCOs were directed to recover the FY 2011 fuel adjustment charges in FY 2012, resulting in a mismatch in costs incurred and revenue collected.** This current situation of increasing DISCOs payables to CPPA will not improve unless **CPPA is made autonomous and is covered by guarantees for full payment for the cost of power it purchases on behalf of the DISCOs.** This, in turn, will require that all the primary and secondary causes of circular debt are addressed.

Role of GOP in creating the circular debt :

### **GOVERNANCE**

Poor governance is at the heart of the issue of circular debt. Governance needs to improve at all levels, i.e. government, corporate, and regulatory.

### **GOVERNANCE AT THE FEDERAL AND PROVINCIAL GOVERNMENT LEVEL**

The federal government is both the majority owner as well as a large customer of the power sector. As owner, **it retains the prerogative of ultimate decision-making regarding customer tariffs.** Unfortunately, as a political entity, the government is influenced by both political and socio-economic considerations. **These often overshadow commercial decision-making,** and result in a reluctance to pass on the full cost of electricity to customers. Other political and external factors typically result in interference in DISCO operation, including **overstaffing, compromise of merit-based staff performance, lack of transparency in procurement, uneconomic investments,** etc.

At the provincial level, governments generally are not proactive in the resolution of issues such as the reconciliation of electricity bills, payment of tubewell subsidies arrears, arrears of provincial departments, and arrears due to court orders. In addition, **the failure to accept responsibility for the problems stemming from the allocation of power shortages to different provinces continues.** If, for example, the issue of bill reconciliation with the Sindh government, the gap created by the Balochistan governments' lack of responsibility for payment of tubewell subsidies, the arrears of Rs19.79 billion<sup>9</sup> in the Province of Khyber Pakhtunkhwa (KPK), and the tariff rate issue for Azad Jammu & Kashmir (AJK) were resolved, a significant portion of circular debt could be substantially reduced. The federal government has the responsibility to develop the legal framework for the sector, for example, with respect to electricity theft and overall sector governance. For example, a legal remedy is needed to protect DISCOs from revenue loss due to the courts' stay orders, preventing them from enforcing supply agreements when they disconnect defaulting customers or in cases where a consumer is caught stealing electricity.

**The government also is responsible for appointing power companies' BODs, providing them with policy guidelines, and monitoring their performance.** However, political and bureaucratic influences continue to hamper the government's performance in this regard. This results in **reduced competence and lack of independence of Board members and poor management and operational performance of the DISCOs.** Likewise the government

embarked on the process of appointment of professional Chief Executive Officers (CEOs) of the DISCO about a year back. However, in spite the fact that the entire process has since been completed, except for Peshawar Electric Supply Company (PESCO), no other company has a CEO appointed through the selection process. Lack of political consensus on hydropower development and generation planning has led to increased dependence on imported fuel or furnace oil and, as a result, **an unbalanced power generation mix that has necessitated customer subsidies. As subsidies are not allocated appropriately, benefits extend to those beyond the targeted customer sector. The financial, accounting, and data systems related to the Ministry of Water and Power (MWP) and MOF subsidies are not well managed and require significant improvement.**

Moreover, **the government-provided fuel subsidy has led to the direct government allocation of fuel among consuming sectors of the economy, thus further distorting energy markets and contributing to shortages of fuel to generate power and to the circular debt problem.** Allocations are mainly based on political considerations rather than on economic benefits. In the short term, **the GOP needs to allocate fuel to the various sectors of the economy based on the highest value to the economy. In the long term, fuel prices need to more accurately reflect market prices and to be allocated throughout the economy based on competitive market principles.** In addition, GOP support for development of domestic energy sources, such as hydro and other renewable energy resources and natural gas, would help to reduce dependence on imported fuel. Federal and provincial governments are responsible for NEPRA appointments. **Yet by amending or misinterpreting the NEPRA Act's appointment provisions, unqualified persons have been appointed to NEPRA. The GOP also needs to augment NEPRA's authority to move from the present single buyer model for the power sector to a multiple buyer/seller model.** In addition, reform initiatives such as privatization of the DISCOs need to be accelerated and completed in a timely manner. In brief, the GOP's failure to create and maintain an enabling environment for the efficient operation of companies and the effective regulation of the sector has led to many of the problems impacting circular debt.

## **DELAYS IN TARIFF DETERMINATION AND NOTIFICATIONS**

Delays in tariff determination and notification contributed Rs72.19 billion<sup>11</sup> to the circular debt for FY 2012. **Tariff determinations for all nine DISCOs were delayed for nine months** and it took an additional month for the notification to be published. Consumer tariffs in 2011-12 were largely based on 2010-11 tariff values whereas the actual fuel cost for 2012 was 52% higher than the previous year. **Without new tariff values from NEPRA and the GOP, the DISCOs had no chance to receive the necessary cash required to meet their monthly wholesale power cost.** Once NEPRA determines the tariff, the GOP reviews it and officially notifies a tariff after modifications as deemed appropriate. Although NEPRA has reduced the time it takes to determine tariffs, the determination procedure still takes many months. **In addition, tariff setting lacks independence, as the GOP notification process often results in a delay and/or reduction in the tariff due to political considerations.**

## **POOR REVENUE COLLECTION**

Poor revenue collection contributed Rs86.9 billion to the circular debt in 2012. Five of the DISCOs had good collection rates while the other **four** (Hyderabad Electric Supply Company – HESCO, Sukkur Electric Power Company – SEPCO, Peshawar Electric Supply Company – PESCO, and Quetta Electric Supply Company – QESCO) contributed Rs72.14 billion or **83%** of the total uncollected amount.

## **POOR COLLECTION FROM PRIVATE CONSUMERS**

**Non-payment of electricity dues by private consumers is one of the largest contributors to circular debt.** The problem is not uniform across the country as some DISCOs have good track records while others display poor collection efficiency. **Of the Rs197 billion receivables from private consumers at the end of FY 2012, 73% is attributable to PESCO (including Tribal Areas Electric Supply Company (TESCO)), HESCO (including SEPCO), and QESCO.**

The financial impact of not recovering the remaining 13% is estimated to be around Rs86 billion, or equal to 41 days of furnace oil costs for thermal power plants. The main factors contributing to the increase in receivables include the DISCOs' lack of accountability, political interference, failure to disconnect defaulting customers, lack of modern technology for metering and revenue collection, and fear of reprisal from protesting customers upon disconnection or replacement of meters. Moreover, the high tariff (particularly with reference to the consumers' ability to pay) is, in some cases, encouraging collusion among consumers.

## **INSUFFICIENT PAYMENT BY PROVINCIAL GOVERNMENTS AND AZAD JAMMU & KASHMIR GOVERNMENT**

DISCOs supply electricity to various provincial government departments, schools, hospitals, police stations, water and sewerage facilities, and offices, some of which are perpetual defaulters. Reasons for inadequate payment vary from region to region and department to department but, typically, Defaulters attempt to justify non-payments on the following grounds:

Non-reconciliation of billing between the DISCO and the concerned government Department

Shortage of funds due to insufficient budget allocations to concerned departments.

Despite the fact that DISCOs have a prescribed procedure for bill correction and reconciliation, government departments tend not to follow these procedures and thereby delay payments. Over the last few years, provincial and federal governments have been unable to reconcile the figures for electricity bills due from provincial governments. **DISCO receivables from the provincial governments and AJK were Rs100.48 billion<sup>18</sup> as of June 30, 2012, accounting for 11.5% of the total circular debt at the end of FY 2012.**

## **INSUFFICIENT PAYMENT OF TARIFF DIFFERENTIAL SUBSIDY BY THE MINISTRY OF FINANCE**

The TDS reflects the government's policy of applying a uniform tariff across all the DISCOs. **The GOP's annual budgeted line item for this subsidy totaled Rs50 billion<sup>20</sup> for FY 2012, while the DISCOs claims for the same period amount to Rs156 billion. The outstanding balance of the TDS to be paid by the MOF was Rs106.02 billion<sup>22</sup> at the end of 2012, which adds to the circular debt.** NEPRA determines the electricity tariffs based on the revenue requirement of each DISCO to meet all costs and to earn a suitable profit. **There is significant difference in the tariffs for each category of customer and across the various DISCOs.** The government has the power to notify either the differential tariff determined by NEPRA or a modified (lesser) tariff, with the government assuming payment of the difference. This is known as the TDS. **The underlying concept is that the DISCO must ultimately receive revenue as allowed by NEPRA, either from the customers or with the support of a state subsidy. Since the government has adopted a policy of uniform tariff across the country (generally the minimum rate for each category of customer applied for by any of the nine DISCOs), the TDS owed by the GOP on an annual basis is substantial. In addition, the government, historically, has not provided the required TDS in a timely manner.** The MOF is responsible for paying the TDS to CPPA on behalf of the DISCOs. CPPA, then credits the DISCOs' accounts against the amount they owe to CPPA. The MOF has provided an amount of Rs1.290 trillion to cover the TDS from 2006-07 through 2011-12 to CPPA. This amount includes a loan of Rs312 billion<sup>24</sup> that was made to the DISCOs to cover their costs, which has been made a part of Pakistan's national debt. This loan was obtained by the DISCOs to pay their power purchase cost to CPPA, as the government did not fully provide the required amount of subsidy to the DISCOs for the prior years. **The adjustment of this amount (i.e. Rs312 billion) against the subsidy claims of the DISCOs has yet to be made.** Therefore, CPPA has not yet provided the details of how the total amount of the Rs1.29 trillion payment has been credited to the accounts of the DISCOs. This is mainly held up due to a lack of information on how the amount of this TDS is to be adjusted for the Rs312 billion loan, which has now been picked up by the GOP. The MOF has recently decided to have the subsidy claims of the DISCOs verified through a chartered accountant firm, which will further delay resolution of this issue. The concept of a uniform tariff regime needs to be objectively revisited. Because of legal constraints, no consumer can be charged at a higher rate than that determined by NEPRA. Therefore, for each consumer category, the GOP arrives at a uniform tariff based on the lowest tariff determined by NEPRA for any DISCO. This results in a subsidy based on political considerations rather than on need. **A more**

**targeted subsidy aimed at low-income consumers and applied to a base level of consumption needs to be established.** This would target the subsidy to where it is needed most and would likely reduce the total amount of the subsidy, as those with higher income or higher consumption levels would be excluded. As a first step, the four top performing DISCOs (i.e. IESCO, FESCO, GEPCO, and LESCO) should be allowed to explore corporate privatization to remove them from the uniform tariff base. Once achieved, this would significantly reduce the circular debt.

## **RECOMMENDATIONS**

Specific reform elements at the GOP level include:

NEPRA needs to be made truly independent; its authority to move from a single buyer to a More competitive market structure enhanced, the professional and technical requirements for members and staff strengthened, its enforcement authority increased, the composition of its technical staff reviewed and revised, and a comprehensive capacity building and training effort initiated.

Tariff and subsidy disputes between the provincial governments and CPPA and the DISCOs need to be resolved, either by negotiations or arbitration.

Legislation declaring electricity theft a punishable crime with penalties ranging from fines to imprisonment. Special courts should be constituted to swiftly handle and dispose of energy theft cases.

The selection criteria and methodology for appointment of DISCO' BODs needs to be improved. Members of the BODs need to have high professional and technical capabilities; be independent of political influence; have full authority for decisionmaking at the DISCOs, and receive training to effectively monitor performance and enforce accountability of DISCO management and staff.

Eliminate the uniform tariff and gradually move towards differential tariffs based upon true costs.

Improve the fuel allocation policy in the short term to allocate fuel to the highest value uses e.g., assign a high priority to the power sector in the allocation of natural gas, and in the long term eliminate fuel allocation so that fuel use is based on competitive market forces. Allocation of cheap fuel should be on the basis of its larger economic effect rather than political reasons.

Formulate policies and plans to promote hydro power and other domestic sources of energy that will assist in balancing the electricity supply portfolio.

As gas resources are already depleting and hydro power needs considerable lead time, and also since there is a significant availability of thermal based generation capacity within the Country, therefore there needs to be an urgency to implement coal conversions at the available thermal power plants.

Renewables as cheap fuel source with less dependency on imported fuel should be considered a priority. The advantage with renewables power generation is that the fuel spread is virtually all across the country and resultantly small to medium power plants can be built at load centers with the added advantage of being environmental friendly.

Government/provincial government receivables to be paid as per other customers and a mechanism of billing disputes to be reviewed within three months and no option to file with the courts for the next five years.

Implement a strong program of energy conservation and demand-side management.

## **REGULATORY LEVEL**

The system of annual tariff determination for all companies (DISCOs, NTDC, and GENCOs), needs to be reformed. There are time delays in tariff filings and determination, a lag in recovery of cost increases, and a mismatch between the timing of tariff determinations for various



Segments of the sector. NEPRA should institute a system of multi-year tariffs to overcome these issues and allow NEPRA time to focus on other regulatory functions.

There is a considerable time delay in determination and implementation of the fuel adjustment charge. NEPRA should adopt a system of prospective fuel prices in tariff determination and Make correcting adjustments on a more timely basis.

NEPRA needs to have the authority to gradually move from a single buyer model to a multiple buyer/seller/open access model for the power sector.

FPA mechanisms for DISCOs should be improved to eliminate the time lag for determination and billing of FPA to customers.

Aggressively monitor the performance of power companies to enforce compliance with their license/tariff conditions/determinations.

Tariffs and their terms and conditions need to be restructured.

Out-of-the-box thinking for commercial governance. There are several commercial governance models available in the utility businesses that have turned loss-making entities into profit-earning ones.

#### **CORPORATE LEVEL**

The DISCOs are owned by the government and therefore do not operate on a commercial basis and are unduly subject to political influence. To overcome this situation, the DISCOs should be corporatized and then privatized. Privatization is a long-term goal, but policies and procedures to accomplish it need to begin now. Transparency and openness in the privatization process is essential, and the privatization process should be managed by a reputable international consulting firm.

Each DISCO should be managed at corporate level by a professionally selected top management. This team must be tasked with clearly defined JDs and KPIs. There must be a clear corporate vision and demonstrated business plans for running the DISCO.

Top management must assign realistic targets with time lines to the operational management. Such targets should be made a part of the annual performance reviews (APRs) of the operation officers. The APRs should be a sliding scale and should identify and reward good performers and reprimand non-/poorer performers.

DISCOs should be given realistic targets for losses, recovery, quality, quantity, safety and customer services.

Implement a comprehensive energy loss reduction program in each DISCO, especially in PESCO, HESCO, QESCO, and SEPCO where distribution losses are relatively high. This program should focus on reducing technical losses to permissible technical operating limits, depending on investment available, and reducing non-technical losses initially to NEPRA's given targets.

Design and implement programs focused on energy efficiency and demand-side management through tariff-charging appropriate to the usage

Enforce electricity supply contracts, disconnecting defaulting customers without discrimination.

Implement a comprehensive revenue collection and theft prevention program in each DISCO, especially in HESCO, SEPCO, PESCO, and QESCO where revenue collection is relatively low as compared to FESCO, GEPCO, LESCO, MEPCO, and IESCO. Features of the program

Should include, but not limited to the, following: – Replacement of electromechanical meters with modern metering technology and digital AMR systems.

Business processes reengineering to improve management control and customer service.

DISCOs must have improved visibility programs through better information technology solutions like emails, improved database management, AMRs and real time information of key commercial elements such as billing and recovery. Technology is available in the market. It only needs to be brought in.

Load shedding needs to be recognized and prioritized on a commercial basis across all DISCOs. The benchmark should be 11KV feeder losses and recovery percentage.