

# Inter-provincial Differences in Power Sector Subsidies and Implications for the NFC Award

Umbreen Fatima and Anjum Nasim\*

## 1. Introduction

Power sector subsidies constituted 83% of the total federal government subsidies of Rs558 billion in 2012. Tariff differential subsidy (TDS) amounted to Rs464 billion (including arrears of Rs312.8 billion from previous years). TDS is provided to distribution companies (DISCOs) to cover the difference between the National Electric Power Regulatory Authority (NEPRA) approved tariff schedules, which can differ across DISCOs, and the uniform tariff schedule notified by the Ministry of Water and Power (MoWP) in all regions of the country.

The tariff approved by NEPRA takes account of DISCOs' revenue requirements, which factors in various elements of costs. In arriving at average tariff, NEPRA also takes into account transmission and distribution losses of DISCOs. The revenue requirements and T&D losses differ across DISCOs, and are reflected in NEPRA approved tariffs.

The fact that NEPRA approves different tariffs across DISCOs and MoWP sets uniform tariffs (by consumer groups) across all DISCOs, implies that each DISCO receives a different TDS from the federal government. The TDS to individual DISCOs translates into differential subsidies to provinces. By aggregating TDS by consumer groups across all DISCOs we can also calculate aggregate subsidy by consumer groups.

In this paper we calculate the subsidies provided to each of the ten DISCOs<sup>1</sup>, individual consumer groups and to the provinces. It can be argued that TDS effectively involves a reduced share of federal government in the divisible pool of taxes compared with the 42.5 percent approved under the 7<sup>th</sup> NFC award. We calculate the share of the four provinces in the divisible pool by factoring-in provincial shares in TDS for FY2011-12.

We outline the electricity tariff determination process (section 2), report on TDS by DISCOs, by consumer groups, and by provinces (section 3), consider changes in the federal/provincial shares

---

\*The authors are respectively Research Associate and Senior Research Fellow at the Institute of Development and Economic Alternatives (IDEAS). Their emails addresses are respectively: [umbreen.fatima@ideaspak.org](mailto:umbreen.fatima@ideaspak.org) and [anjum.nasim@ideaspak.org](mailto:anjum.nasim@ideaspak.org).

<sup>1</sup> These include the nine DISCOs, which are government-owned companies and KESC which is a privately owned company. Although Tribal Electric Supply Company (TESCO) was also created as a distribution company but it has not yet been licensed (see Government of Pakistan 2013).

in the federal divisible tax revenue if TDS is included in the divisible pool (section 4) and end with some concluding remarks (section 5).

## 2. Tariff Determination Process

The tariff setting process involves the following steps (Government of Pakistan, 2013): (1) DISCOs send their tariff proposals to NEPRA justifying their costs and revenue requirements, (2) NEPRA sets tariffs for various category of consumers for each DISCO based on its own assessment of costs and revenue requirements which can differ from the ones provided by DISCOs, and communicates it to the MoWP with the recommendation to notify the tariff, (3) The MoWP notifies a tariff schedule for the different categories of consumers, which is common across all DISCOs.

Typically MoWP notifies tariffs, for each consumer category, which are the minimum for that consumer category across all DISCOs.

In setting tariff rates for a DISCO, NEPRA takes into account various cost components of the distribution company. These components are explained below:

- (i) Power purchase price (PPP). This is the cost at which a DISCO is projected to purchase power. This cost consists of the generation cost and the cost of transmission by the National Transmission and Distribution Company (NTDC) of the total power that a DISCO is projected to purchase during the year.
- (ii) Net distribution margin. This margin is the difference between gross distribution margin and 'other income' of DISCOs. Gross margin consists of O&M cost, depreciation and return on asset base of DISCOs. 'Other income' includes amortization of deferred credit, meter and rental income, late payment surcharge, profit on bank deposit, sale of scrap, income from non-utility operations and commission on PTV fees and miscellaneous.
- (iii) Prior year adjustment (PYA). Each year there is an adjustment for previous year which is built into tariffs for that year. The 'shortfall' in the projected and the regulated-approved actual costs in year  $t - 1$  is recovered by including them in the tariff for period  $t$ . This adjustment is to account for (a) the difference between the projected and actual electricity units purchased by DISCOs from NTDC at notified tariffs, (b) the difference between the projected and actual distribution margins, (c) the difference between actual and notified previous year adjustment,<sup>2</sup> (d) difference between projected and actual 'other income', and (e) the difference between the projected and actual consumption mix.<sup>3</sup>

---

<sup>2</sup> Since in each year there is an adjustment for the previous year, there was a similar adjustment in year  $t-1$ . The tariffs in year  $t-1$  were calculated using projected purchase/sale of electricity units in year  $t-1$ . In setting tariff in year  $t-1$ , PYA was factored in the tariffs as well. Tariffs in year  $t-1$  were also set on the basis of projected purchases and sale by DISCOs. If actual electricity units purchased/sold were less than those projected then PYA in year  $t-1$  could not be recovered fully. The shortfall on that account is also factored into PYA for year  $t$ .

<sup>3</sup> NEPRA determines an average tariff after including all the relevant cost components and dividing it by projected sales. It then approves different tariff schedules for different category of consumers: residential, commercial, industrial and agricultural. There are also consumers who buy in bulk for further distribution. Each category of

NEPRA determines an average tariff after including all the cost components and dividing it by projected sales. The projected sales figure takes into account the transmission and distribution losses of the DISCOs. Thus in the case of LESCO, NEPRA projected its power purchase and sale in FY2012/13 to be 17,076 GWh and 15027 GWh respectively; allowing 12% as T&D losses. The total cost was estimated at Rs210,416 million. The average tariff was Rs 14.0025/kWh, which was obtained by dividing Rs210,416 million by 15027 GWh.

NEPRA then approves different tariff schedules for different category of consumers: residential, commercial, industrial and agricultural. There are also consumers who buy in bulk for further distribution. Each category of consumers are further distinguished by load requirement and offered separate rates. Rates are also distinguished by time of use (peak and off-peak).

The tariffs determined by NEPRA are reference tariffs. These reference tariffs are subject to monthly revision to adjust for difference in actual fuel cost component of PPP from the reference fuel cost, and subject to quarterly revision to adjust for: (i) capacity and transmission charges, (ii) impact of T&D losses on all the components of PPP, (iii) impact of extra or lesser purchases of units on account of PPP, and (iv) changes in variable cost component of PPP from the reference cost.

The process of tariff determination begins towards the end of a financial year and continues throughout the year. As shown in Table 1, NEPRA admitted tariff petitions for FY2011/12 as late as November 28, 2011. The NEPRA approval process takes several months and there is further delay in notification by MoWP. In FY2011/12 the Ministry notified a common tariff schedule around mid-May 2012, when the fiscal year was coming to a close. The arrears arising from delays in tariff determination and notification are recovered in the following year by setting tariffs at levels which allows recovery of such arrears from the previous year.

---

consumers are further distinguished by load requirement and offered separate rates. Rates are also distinguished by time of use (peak and off-peak). The tariff schedules assume a sales mix within the various categories and sub categories of consumers. The actual sales mix may be different from the assumed sales mix and this can also upset the total revenue of the distribution companies. There is an adjustment made on this account as well.

**Table 1: Dates of Tariff Petition Admission, Approval and Notification – FY2011/12**

<b>DISCO</b>	<b>Dates at which NEPRA admits/accepts tariff petition</b>	<b>NEPRA approval dates</b>	<b>Government notification dates</b>
<b>KESC</b>	-	-	<b>16<sup>th</sup> May, 2012</b>
FESCO	1 <sup>st</sup> November 2011	15 <sup>th</sup> March 2012	16 <sup>th</sup> May, 2012
HESCO	27 <sup>th</sup> September, 2011	8 <sup>th</sup> March, 2012	16 <sup>th</sup> May, 2012
GEPCO	6 <sup>th</sup> June 2011	13 <sup>th</sup> Dec 2011	16 <sup>th</sup> May, 2012
IESCO	24 <sup>th</sup> August 2011	19 <sup>th</sup> January 2012	16 <sup>th</sup> May, 2012
MEPCO	28 <sup>th</sup> June 2011	2 <sup>nd</sup> January 2012	16 <sup>th</sup> May, 2012
LESCO	14 <sup>th</sup> July 2011	10 <sup>th</sup> January 2012	16 <sup>th</sup> May, 2012
PESCO	22 <sup>nd</sup> July 2011	20 <sup>th</sup> January, 2012	16 <sup>th</sup> May, 2012
QESCO	12 <sup>th</sup> August 2011	10 <sup>th</sup> January 2012	16 <sup>th</sup> May, 2012
SEPCO	28 <sup>th</sup> November 2011	30 <sup>th</sup> March 2012	16 <sup>th</sup> May, 2012

Source: Determination of Tariff Petitions by NEPRA for various DISCOs and Notification of Schedule-II by the MoWP available at the NEPRA official website ( www. nepra.org.pk)

### **3. Tariff Differential Subsidy by DISCOs, Consumer Groups and Provinces**

As mentioned earlier, the tariff schedule notified by MoWP is common for all DISCOs although NEPRA approves different tariff schedules for each DISCO. The difference between the NEPRA approved tariffs and the tariffs notified by the Ministry is the tariff differential subsidy (TDS).

We calculate TDS for each DISCO and every consumer group for FY2011/12 by taking the difference between the NEPRA approved tariffs and the corresponding tariff notified by the Ministry of Water and Power (MoWP) for FY2011/12 and multiplying this difference by the sales mix projected by NEPRA. Since the MoWP notifies tariffs towards the end of the fiscal year (see Table 1), which then remain effective for most or all of the following financial year, this method basically involves calculating the difference between the NEPRA-approved tariffs for a fiscal year and the tariffs actually charged by DISCOs in the following year.<sup>4</sup> In the case of

<sup>4</sup> As mentioned earlier each year there is an element of cost built into NEPRA-approved tariffs which allows for prior period adjustment. Ideally TDS should be calculated based on actual realization of some of the projected variables, such as consumer mix, rather than the projected value of these variables. Thus, if the projected consumption of lifeline consumers is projected to be, say, 225GWh and the difference between NEPRA-approved tariff and MoWP tariff is Rs1 per KWh then the subsidy on account of lifeline consumers would be Rs0.225 billion. However, if the actual consumption is 250GWh, then TDS would be Rs0.250 billion instead of Rs0.225 billion. The difference of Rs0.025 billion is reflected in the tariffs in the following year. We can recalculate average per unit tariff each year by subtracting  $PYA_t$  from the total cost, and adding  $PYA_{t+1}$ . While it is possible to do so and recalculate average per unit tariff and the aggregate subsidy per DISCO, it is not possible to calculate the subsidies to individual consumer groups without data on actual realization of consumer mix, but this data is not available from NEPRA or other published sources. The difference between  $PYA_{t+1}$  and  $PYA_t$  ( $t = \text{FY2011/12}$ ) is less than 10.8 percent of the total costs in FY2011/12 from which average tariffs are calculated. Adjustment for these PYAs would

KESC, data on consumer mix is available for broad category of consumers groups from NEPRA (2012b) but unlike other DISCOs the breakup of consumption mix within each consumer group is not available for KESC. We approximated the consumption mix within a consumer group in KESC by assuming that the distribution within each consumer groups (e.g. industrial consumers) was the same as that of LESCO.<sup>5</sup>

### **3.1 Tariff Differential Subsidy Received by DISCOs**

The TDS for FY 2011/12 for all DISCOs is calculated in three steps: (i) the TDS per unit for every consumer category is calculated as the difference between the NEPRA approved tariff and the government notified tariff, (ii) the difference in the tariffs is multiplied by the sales mix projected by NEPRA for the FY 2011/12 to obtain TDS for each consumer category, and (3) The TDS for each consumer category that is calculated in the second step is aggregated over all consumer categories. See Appendix 1 for the calculation of this subsidy for one of the DISCOs, the Lahore Electric Supply Company (LESCO).

---

not make major difference to the overall TDS calculations and we have therefore disregarded these in our calculations.

<sup>5</sup> Thus if within LESCO the percentage of industrial consumers who faced B-1(a) tariff was 5.73 percent in FY2011/12 then we assume that of the total industrial consumption of 3342 GWh in KESC in FY2011/12, B-1(a) tariff applied to 5.73 percent of the total industrial consumption of KESC.

**Table 2: Tariff Differential Subsidy by Distribution Companies (DISCOs)**

<b>DISCOS</b>	<b>Subsidy(Rs. Billion)</b>	<b>No of Consumption Units (GWh)</b>	<b>Subsidy per Unit(Rs/kWh)</b>
IESCO	8.07	7940	1.02
SEPCO	14.42	3097	4.65
HESCO	16.02	3725	4.30
QESCO	19.46	4336	4.48
GEPCO	19.66	6754	2.91
FESCO	23.07	8921	2.59
LESCO	27.50	15437	1.78
MEPCO	35.77	10947	3.27
PESCO	41.85	8229	5.09
KESC	45.02 <sup>1</sup>	10279	4.38
<b>Total</b>	<b>250.84</b>	<b>79665</b>	

Sources: NEPRA (various issues) Government of Pakistan (2013b) and authors' calculations.

Notes:

<sup>1</sup>The aggregate units sold to each consumption subcategory was available for KESC from NEPRA (2012b), however information on the number of units sold to consumer sub categories was not available, therefore we projected the units consumed by the consumer subcategory for KESC taking LESCO as a reference case and used these to allocate the units to each consumer sub category. The projected units thus calculated are used in the TDS calculations. Figure reported by Government of Pakistan (2012a) for the amount of subsidy given to KESC as TDS is 84 billion in 2012-13 (revised figure).

The variation across DISCOs in terms of subsidy per unit (kWh) is quite striking, with IESCO receiving Rs1.02 per kWh and PESCO receiving Rs5.09 per kWh in terms of subsidy. Tariff differentials do not necessarily imply that some DISCOs are more efficient than others. One of the factors that may explain differences in costs is the difference in geographical concentration of customers, the resulting difference in transmission and distribution networks and their associated overhead and maintenance costs and line losses. Analysis of these issues is outside the scope of this paper.

### **3.2 Tariff Differential Subsidy by Consumer Group**

NEPRA distinguishes between different categories of consumers: residential, industrial, agricultural, commercial, bulk purchasers etc (see Appendix 1 for details). Within each category there are further sub-categories, e.g., residential consumers are subdivided into those with sanctioned load of less than 5kW and those with sanctioned load above 5kW, and within the former category, consumers are distinguished by the number of units consumed (up to 50 units, 51-150, 151-350 etc.). For each subcategory of consumers there is a NEPRA approved tariff and

a MoWP notified tariffs. Aggregating TDS for all subcategories within a consumer group and across all DISCO gives the aggregate subsidy by consumer groups. These are reported in Table 3.

Two sets of calculations are provided in Table 3 – one set excludes KESC and the other includes KESC. This is because, as explained above, the subsidies by consumer groups for KESC are based on an approximation and separating KESC subsidies allows us to see the per unit subsidies by consumer groups for DISCOs whose consumption mix is based on NEPRA projections and not on any approximation. It is worth emphasizing that the total consumption by a consumer group as well as its distribution within each consumer category can be different from the projected and therefore the aggregate subsidy by consumer group can be different from one reported in Table 3.

We observe that subsidy is provided to all consumer groups but the residential consumers receive the maximum subsidy, both in absolute terms and in per unit terms.

**Table 3: TDS by Consumer Categories**

Consumer Category	Excluding KESC			Including KESC		
	Subsidy (Rs. Billion)	No of consumption units (GWh)	Subsidy per unit (Rs/kWh)	Subsidy (Rs. Billion)	No of consumption units (GWh)	Subsidy per Unit (Rs/Kwh)
Residential	126.711	31891	3.97	149.8	36455	4.11
Industrial	36.01	19022	1.89	49.18	22364	2.20
Agricultural	28.65	9332	3.07	29.04	9466	3.07
Commercial	12.38	4994	2.48	17.15	6122	2.80
Bulk Supply	4.19	2224	1.89	6.9	3030	2.27
Others	-2.14	1993	-1.07	-1.25	2298	-0.6
<b>Total</b>	<b>204.74</b>	<b>69456</b>		<b>250.82</b>	<b>79665</b>	

Sources: NEPRA (various issues) and authors' calculations.

Notes: See notes at the end of Table 1.

### 3.3 Tariff Differential Subsidy by Provinces

The TDS by province can be calculated from the subsidy calculation given in Table 2 by identifying the DISCOs by their provincial location and adding up the subsidies of DISCOs located in a particular province. One of the distribution companies (IESCO) provides electricity to consumers in the federal capital, Islamabad, as well as four districts of Punjab (Rawalpindi, Jhelum, Chakwal and Attock). The other distribution companies in Punjab are LESCO, MEPCO, GEPCO and FESCO, those in Sindh are KESCO, HESCO and SEPCO; the companies in Khyber

Pakhtunkhwa and Balochistan are respectively PESCO and QESCO. The subsidies by provinces are given in Table 4 below.

**Table 4: Tariff Differential Subsidy for Provinces – FY2011/12**

<b>Provinces</b>	<b>Subsidy (Rs billion)</b>	<b>No of Consumption Units (GWh)</b>	<b>Subsidy per Unit (Rs/kWh)</b>
Punjab	114.06	49999	2.28
Sind	75.45	17101	4.44
KPK	41.85	8299	5.04
Balochistan	19.46	4336	4.48
<b>Total</b>	<b>250.82</b>	<b>79665</b>	

Sources: NEPRA (various issues) and authors' calculations.

Notes: See notes at the end of Table 1.

In absolute terms, Punjab is the largest recipient of TDS but the per unit subsidy it receives is about half that of Sind and Balochistan and about 45% of the per unit subsidy of KPK. Punjab's overall TDS subsidy is about 46% of the total TDS subsidy, which is considerably less than its share in the population (56%) and its share of divisible pool of tax revenues (51.74%) under the 7<sup>th</sup> NFC award.

#### **IV. Tariff Differential Subsidy and the National Finance Commission (NFC) Award**

National Finance Commission Awards are constituted after every five years, under Article 160 of the Constitution of Pakistan, as a revenue sharing arrangement between the federal and the provincial governments. The transfer of resources from the federation to the provinces under the NFC Award covers not only transfers from the divisible pool of taxes but also includes straight transfers e.g. royalty of crude oil and natural gas, gas development surcharge and excise duty on natural gas and GST on telecom and other services. However, for the purpose of present analysis we will compare TDS across provinces with the revenue sharing under the NFC award.

Under the 7<sup>th</sup> NFC award, the provincial share in the divisible pool of tax revenues was increased from 47.5% to 56% in FY2010/11, and to 57.5% from FY2011/12 till the end of the award. This leaves 44% of the divisible pool of taxes for the federal government in 2010-11 and 42.5% in each of the subsequent years of the 5-year award.

Once the federal and provincial share is determined, the next determination is for the intra provincial revenue shares. Under the 7<sup>th</sup> NFC award, Punjab's share of divisible pool of taxes is



51.74%, followed by Sind with a share of 24.55%, KPK with 14.62% and Baluchistan with 9.09%. Additionally KPK also receives 1% of the divisible pool because of the ongoing insurgency in the neighboring FATA region and its fallout on the law and order in KPK. This share of 1% is deducted from the provincial share first before any other allocation amongst the provinces. Table 5 provides a summary of the provincial shares and the budgeted amount to be received by the provinces in FY2011/12 along with their respective shares in the divisible pool.

**Table 5: Share of Provinces in the Federal Divisible Pool of Taxes**

	<b>Share (%)</b>	<b>Amount (Rs. billion) in 2011-12</b>
Punjab	51.74	530.81
Sind	24.55	251.86
KPK	14.62	149.99*
Balochistan	9.09	93.26
<b>Total</b>	<b>100.00</b>	<b>1025.91</b>

Source: Revenue Distribution Under 7th National Finance Commission (NFC) Award 2010, Finance Department Government of KPK

\*does not include 1% transferred to KPK on account of war on terror.

The increased fiscal space for the provinces created by the 7<sup>th</sup> NFC award was curtailed to some extent by the greater expenditure responsibilities that were devolved to provinces by the 18<sup>th</sup> amendment.

The last few years, particularly starting from FY2007/08, have seen a huge escalation in international price of oil. This has resulted in an increase in the cost of electricity generation, which is heavily dependent on imported fuel. The government did not adjust electricity prices to the higher cost of production and absorbed this in the form of subsidies, which has severely restricted the fiscal space of the federal government.

As we have noted, one of the objectives of the electricity subsidy by the federal government is to equalize the electricity tariffs by consumer groups, across all regions of the country which has resulted in differing degrees of subsidies across provinces.

The shares of provinces in TDS may be compared with the shares of provinces in the divisible pool of tax revenues under the 7<sup>th</sup> NFC award. The NFC award is an agreement on how major tax revenues should be distributed between the federating units and the centre. This spirit of this agreement will be violated if the centre uses its own share of tax revenues on province-specific expenditures in a manner that departs in a major way from the revenue sharing arrangement under the NFC award. Table 6 compares provincial share in divisible pool of taxes with the provincial shares in TDS in FY2011/12. The comparison suggests that in FY2011/12 Sindh and

KPK got a greater share of TDS than their share in the divisible pool of taxes and Punjab and Balochistan received a lesser share.

**Table 6: Comparison of Provincial Shares in Divisible Pool of Taxes and in TDS - FY2011/12**

	<b>Share in divisible pool of taxes (%)</b>	<b>Share in TDS (%)</b>
Punjab	51.74	45.47
Sindh	24.55	30.08
KPK	14.62	16.69
Balochistan	9.09	7.76
<b>Total</b>	<b>100.00</b>	<b>100.00</b>

Source: NEPRA (various issues) and authors calculations.

Another way of looking at this is to consider the relative share between the centre and provinces and between provinces if TDS were to be distributed between provinces as part of the revenue sharing arrangement under the NFC award.

Table 7 provides a summary of the changes in the centre/provincial shares and the inter provincial shares in FY2011/12 if divisible pool of taxes is adjusted for the TDS. If Rs251 billion of power subsidy were to be transferred to the provinces, the share of the centre goes down from 42.5% to 28.4% and the share of the provinces goes up from 57.5% to 71.6%. We find that as a result of the adjustment, the share of Punjab and Balochistan goes down to 50.50% and 8.83% respectively whereas Sindh and KPK gain from this arrangement as their shares go up to 25.64% and 15.03% respectively. It is also noteworthy that allowing for such adjustment in the divisible pool of taxes, the provincial shares will vary from year to year as the TDS is determined for each year unlike the constant provincial shares under the NFC award.

**Table 7: Shares of Centre and Provinces with and without TDS – 2011-12**

	Shares in 7 <sup>th</sup> NFC award (%)	Share in NFC award (Rs billion)	TDS (Rs. Billion)	Shares with TDS included in transfers (Rs billion)	Adjusted shares (%)
<b>Federal /provincial shares</b>					
Federal	42.5	758.28	-250.82	507.46	28.4
Provincial	57.5	1025.91	250.82	1276.73	71.6
<b>Total</b>	<b>100</b>	<b>1784.91</b>			
<b>Inter provincial shares</b>					
Punjab	51.74	530.81	114.064	644.87	50.50
Sindh	24.55	251.86	75.45	327.31	25.64
KPK	14.62	149.99	41.85	191.84	15.03
Balochistan	9.09	93.26	19.46	112.7185	8.83
<b>Total</b>	<b>100.00</b>	<b>1025.91</b>	<b>250.82</b>	<b>1276.73</b>	<b>100.00</b>

**Source:** Revenue Distribution Under 7th National Finance Commission (NFC) Award 2010, Finance Department Government of KPK and authors' calculations.

## V. Concluding Remarks

The inclusion of TDS in the revenue sharing arrangement between the centre and provinces provides a better perspective on resource allocation between the centre and provinces and across provinces. This form of representation of federal government expenditures allocation can be generalized to include not just the TDS subsidies but other federal government expenditures that can be similarly allocated to particular provinces. This would include subsidies provided to DISCOs for their losses. Other candidate for such allocation would be the expenditure on Benazir Income Support Program – the flagship social safety net program under the last PPP-led government.

There are other forms of resource transfers which are not fully reflected in the NFC award. The implicit subsidies on CNG and natural gas are also distributed differentially across provinces. A comprehensive view of such subsidies should be reflected in the next NFC award.

## References

Government of Pakistan. 2013a. *The Causes and the Impact of Power Sector Circular Debt in Pakistan*. [report] Islamabad: Planning Commission & USAID.

Government of Pakistan. 2013b. *Economic Survey of Pakistan*. [report] Islamabad: Ministry of Finance.

Government of Pakistan. 2012a. *Budget in Brief*. [report] Islamabad: Ministry of Finance.

Government of Pakistan. 2012b. *S.R.O 505 (I)/2012 Schedule-II of Tariff for FESCO*. [report] Islamabad: Ministry of Water and Power.

Government of Pakistan. 2012c. *S.R.O 508 (I)/2012 Schedule-II of Tariff for GEPCO*. [report] Islamabad: Ministry of Water and Power.

Government of Pakistan. 2012d. *S.R.O 504 (I)/2012 Schedule-II of Tariff for HESCO*. [report] Islamabad: Ministry of Water and Power.

Government of Pakistan. 2012e. *S.R.O 506 (I)/2012 Schedule-II of Tariff for IESCO*. [report] Islamabad: Ministry of Water and Power.

Government of Pakistan. 2012f. *S.R.O 507 (I)/2012 Schedule-II of Tariff for LESCO*. [report] Islamabad: Ministry of Water and Power.

Government of Pakistan. 2012g. *S.R.O 509 (I)/2012 Schedule-II of Tariff for MEPCO*. [report] Islamabad: Ministry of Water and Power.

Government of Pakistan. 2012h. *S.R.O 510 (I)/2012 Schedule-II of Tariff for PESCO*. [report] Islamabad: Ministry of Water and Power.

Government of Pakistan. 2012i. *S.R.O 503 (I)/2012 Schedule-II of Tariff for QESCO*. [report] Islamabad: Ministry of Water and Power.

Government of Pakistan. 2012j. *S.R.O 512 (I)/2012 Schedule-II of Tariff for SEPCO*. [report] Islamabad: Ministry of Water and Power

Government of Pakistan. 2012k. *S.R.O 502 (I)/2012 Schedule-I of Tariff for KESCL*. [report] Islamabad: Ministry of Water and Power.

Government of Khyber Pakhtun Khaw. 2010. *Revenue Distribution Under 7th National Finance Commission (NFC) Award 2010*. [report] Finance Department

National Electric Power Regulatory Authority. 2012a. *Determination of the Authority in the matter of Petition filed by LESCO for Determination of its Consumer end Tariff Pertaining to the FY 2012-13*. [report] Islamabad.

National Electric Power Regulatory Authority. 2012b. *State of Industry Report*. [report] Islamabad.

National Electric Power Regulatory Authority. 2011a. *Determination of the Authority in the matter of Petition filed by FESCO for Determination of its Consumer end Tariff Pertaining to the FY 2011-12*. [report] Islamabad.

National Electric Power Regulatory Authority. 2011b. *Determination of the Authority in the matter of Petition filed by LESCO for Determination of its Consumer end Tariff Pertaining to the FY 2011-12*. [report] Islamabad.

National Electric Power Regulatory Authority. 2011c. *Determination of the Authority in the matter of Petition filed by GEPCO for Determination of its Consumer end Tariff Pertaining to the FY 2011-12*. [report] Islamabad

National Electric Power Regulatory Authority. 2011d. *Determination of the Authority in the matter of Petition filed by MEPCO for Determination of its Consumer end Tariff Pertaining to the FY 2011-12*. [report] Islamabad.

National Electric Power Regulatory Authority. 2011e. *Determination of the Authority in the matter of Petition filed by IESCO for Determination of its Consumer end Tariff Pertaining to the FY 2011-12*. [report] Islamabad.

National Electric Power Regulatory Authority. 2011f. *Determination of the Authority in the matter of Petition filed by QESCO for Determination of its Consumer end Tariff Pertaining to the FY 2011-12*. [report] Islamabad.

National Electric Power Regulatory Authority. 2011g. *Determination of the Authority in the matter of Petition filed by HESCO for Determination of its Consumer end Tariff Pertaining to the FY 2011-12*. [report] Islamabad.

National Electric Power Regulatory Authority. 2011h. *Determination of the Authority in the matter of Petition filed by SEPCO for Determination of its Consumer end Tariff Pertaining to the FY 2011-12*. [report] Islamabad.

National Electric Power Regulatory Authority. 2011i. *Determination of the Authority in the matter of Petition filed by PESCO for Determination of its Consumer end Tariff Pertaining to the FY 2011-12*. [report] Islamabad.

Pwd.punjab.gov.pk. 2013. Population Welfare Department. [online] Available at: <http://pwd.punjab.gov.pk/> [Accessed: 3 Nov 2013].

## Appendix 1: Tariff Differential Subsidy Calculation for LESCO

Description	NEPRA recommended Fixed Charge (Rs./kW/M)	MoWP Notified Fixed Charge (Rs./kW/M)	MoWP Notified Variable Charge (Rs./kWh)	NEPRA recommended variable charge for LESCO	Sales Mix(GWh)	Installed Capacity*	Subsidy (Rs. millions)
<b>Residential</b>							
<b>a) For sanctioned load less than 5 kW</b>							
Upto 50 units	-	-	2	3	236		236
<b>Consumption exceeding 50 units</b>							
01-100 units	-	-	5.79	9.27	2270		7899.6
101-300 units	-	-	8.11	10.5	2414		5769.46
301-700 units	-	-	12.33	13.5	870		1017.9
Above 700 units	-	-	15.07	15.5	360		154.8
<b>b) For sanctioned load 5kW &amp; above</b>							
Time of Day(TOD)-Peak	-	-	13.99	15	5		5.05
Time of Day(TOD)-Off Peak	-	-	8.22	9.5	25		32
<b>Subtotal of Consumption Units</b>					<b>6180</b>		
<b>Subsidy Subtotal</b>							<b>1511.481</b>
<b>Commercial-A2</b>							
<b>a) For sanctioned load less than 5 kW</b>							
	-	-	14.77	15	689		158.47
<b>b) For sanctioned load 5kW &amp; above</b>							
Regular	400	400	9.72	14.5	383		1830.74
Time of Use(TOU)-Peak	<b>400</b>	400	13.2	15	39		70.2
Time of Use(TOU)-Off Peak	400	400	8.01	9.5	172		256.28
<b>Subtotal of Consumption Units</b>					<b>1283</b>		
<b>Subsidy Subtotal</b>							<b>2315.69</b>
<b>Industrial</b>							
B-1(a) upto 25KW (at 400/230 volts)	-	-	10.51	11.5	362		358.38
B-1(b) upto 25KW-TOU ( Peak)	-	-	13.99	15	11		11.11
B-1(b) upto 25 kW-TOU (Off-Peak)	-	-	8.22	9.5	55		70.4
B-2(a) exceeding 25-500KW(at 400 volts)	400	400	9.14	10	1232		1059.52

B-2(b) exceeding 25-500KW-ToU(peak)	400	400	12.77	15	59	131.5	7
B-2(b) exceeding 25-500KW-ToU(Off-Peak)	400	400	8.01	9.3	302	389.5	8
B-3 For all Loads upto 5000kW (at 11/33kv TOU (Peak)	380	380	12.68	14.7	405	818.1	4705.
B-3 For all Loads upto 5000kW (at 11/33kv TOU (OffPeak)	380	380	7.75	9.2	3245	25	193.8
B-4 For all loads(at 66.132 KV and above)-ToU(Peak)	360	360	12.37	14.5	91	3	916.7
B-4 For all loads(at 66.132 KV and above)-ToU(Off Peak)	360	360	7.46	9.1	559	6	
<b>Subtotal of Consumption Units</b>					<b>6321</b>		<b>8654.5</b>
<b>Subsidy Subtotal</b>							<b>5</b>
<b>Single Point supply for further distribution</b>							
C1(a) Supply at 400 Volts-Sanctioned load less than 5Kw		-	11.55	12	1	0.45	
Supply at 400 Volts-Sanctioned load 5Kw & upto 500							
C1(b) KW	400	400	10.35	11	41	26.65	
Supply at 400 Volts-Sanctioned load 5Kw & upto 500							
C1(c) KW TOU(Peak)	400	400	13.01	15	0	0	
Supply at 400 Volts-Sanctioned load 5Kw & upto 500							
C1(c) KW TOU(Off Peak)	400	400	8.01	9.3	2	2.58	
C2(a) Supply at 11,33 kV load upto and including 5000KW	380	380	10.25	11	324	243	
Supply at 11,33 kV load upto and including							
C2(b) 5000KWTime of Use(TOU)-Peak	380	380	12.6	14.7	6	12.6	
Supply at 11,33 kV load upto and including							
C2(b) 5000KWTime of Use(TOU)-Off Peak	380	380	7.75	9.2	24	34.8	
Supply at 66 kV & above sanctioned load above 5000							
C3(a) kW	360	360	10.1	11	38	34.2	
Supply at 66 kV & above sanctioned load above 5000							
C3(b) kW Time of Use(TOU)-Peak	360	360	12.18	14.5	0	0	
Supply at 66 kV & above sanctioned load above 5000							
C3(b) kW Time of Use(TOU)-Off Peak	360	360	7.35	9.1	0	0	
<b>Subtotal of Consumption Units</b>					<b>436</b>		<b>354.28</b>
<b>Subsidy Subtotal</b>							<b>8</b>
<b>Agricultural Tube-wells-Tariff D</b>							
SCARP	-	-	10	10	263	0	
Agricultural Tube-wells(Punjab and Sindh)	200	120	6.77	8	54	17500	66.42
SCARP & Agriculture 5kW & above-TOU (Peak)	200	200	13	14.5	54	17500	81
SCARP & Agriculture 5kW & above-TOU (Off Peak)	200	200	8	9.1	740	17500	814
<b>Subtotal of Consumption Units</b>					<b>1111</b>		<b>961.42</b>
<b>Subsidy Subtotal</b>							<b>2</b>
<b>Other Categories</b>							
Public Lighting-G	-	-	13.73	14.5	100		77



Residential Colonies-H	-	-	12.92	13.5	5	2.9
Tractio						
n-l	-	-	11	12.5	1	1.5
AJK						
Tariff-						
K	360	360	13.3	-	-	
Time of Use-(TOU) Peak	360	360	13.3	-	-	
Time of Use-(TOU) Off-Peak	360	360	7.92	-	-	
Rawat Laboratory	-	-	11.5	-	-	
<b>Subtotal of Consumption Units</b>					<b>106</b>	
<b>Subsidy Subtotal</b>						<b>81.4</b>
<b>Total subsidy(in millions)</b>					1543	2748
					7	2
<b>Total subsidy(in billions)</b>						27.48
						2

Source (NEPRA 2012a).

\*The only entry in this column is where the MoWP and NEPRA charges for capacity differ; all other entries are omitted for this column. In our calculations where the two tariffs are identical there is no impact on TDS calculation