

An Alternative Proposal to the new electricity tariff structure of the Ceylon Electricity Board

Energy Forum

441/6, High Level Road, Gangodawila, Nugegoda. Tel. 5524613/ 5532188/2817710,

Introduction

The anticipated loss of the Electricity Board this year under the existing tariff structure is Rs.42 billion. The Primary reason for this is the rising price of petroleum. It is inappropriate for the Government to grant subsidies to cover such losses because levies would then be recovered from even those without electricity in order to pay the bills of those with electricity. Therefore we agree that the electricity tariff structure should be amended.

But the following shortcomings could be observed in the proposal put forward by the Ceylon Electricity Board.

Domestic Sector

The Electricity Bill of certain poor and middle class consumers who consume less electricity has increased by about 88% whilst the electricity bill of affluent consumers who consume an excessive quantity of electricity has increased by such a small proportion as 20%. Therefore this proposal of the Ceylon electricity board has put the poor consumers from the frying pan into the fire.

Hotel and General Service Sectors

In both these sectors the unit cost of electricity of small consumers has been increased by Rs.8.10. But the unit cost of major hotel sector consumers has not been increased whilst the unit cost of major general service consumers has been increased by only Rs.2.30.

Industries Sector

The unit cost of electricity of only small industrialists in this sector has been increased by Rs.1.50 whilst the unit cost of electricity of large scale industrialists has not been increased even by 1 cent.

On the whole the new electricity tariff structure of the Ceylon Electricity Board is a system which fattens the purse of the rich whilst emptying the pocket of the poor. We wish to remind that this is a policy that totally contravenes the "Mahinda Chinthanaya" and the policies of the present Government. The proposed new electricity tariff structure seems to be seeking to mislead the general public of this country as well as the political authorities.

The Energy Forum is submitting this alternative proposal in order to rescue the Ceylon Electricity Board and to show a way that will not make the Board incur a loss

of 42 billion instead of this unreasonable tariff structure which hits the poor man in his stomach.

The principle solution for resolving the financial crisis of the CEB is to encourage the consumers to conserve energy so that it is possible to reduce the generation of the power using oil. The electricity tariff should be formulated in such a way that the rich should fill the increase in the electricity bill. This can be done by applying an aggressive tariff increase to the higher electricity consuming consumers. This will encourage either for them to conserve energy or to have their own power plants.

According to the alternative proposal of the Energy Forum there is no need to increase the electricity charges of the consumers who consume below 30 units per month. This group constitutes 28% of the domestic sector consumer community in the country. Further there is also no need to heavily burden 75% of the consumers to recover the estimated losses of CEB. All that is needed is to make a slight increase in the electricity charges of only 44% within that category. This is only half of the increase proposed by the Ceylon Electricity Board for this category. It is instead suggested through this proposal to charge the real cost from affluent consumers who waste electricity for luxury activities.

The electricity generated by hydro electric power at present is sufficient to satisfy the basic needs of the people. But the Electricity Board has had to generate electricity using oil to satisfy the needs of a small section of the people who consume electricity excessively. Therefore an effort is being made through this alternative proposal to reduce the subsidy that is being given by the Electricity Board to affluent consumers at the expense of the poorer consumers. It is further expected thereby to reduce the units of the Electricity generated with oil by motivating the affluent customers to conserve energy through an increase in Electricity charges that will affect their purses. This is only one proposal that can be submitted. There are many proposals that could be submitted to change the Electricity tariff structure in a manner that is more suitable to our country than the one submitted by the Ceylon Electricity Board. What is necessary is to decide on what policies such amendments should be made to the Electricity tariff structure. If not the proposed tariff of the CEB which favors the affluent will be adopted.

Background

The anticipated loss that would be incurred by the Electricity Board according to the existing Electricity tariff structure during this year is about Rs. 42 billion (Table No.01).

Table No. 01 Expenditure & Income status of the Ceylon Electricity Board

Year	Expenditure(Rs. billion)	Income(Rs. billion)	Shortfall(Rs. billion)
2006	85.24	69.94	(15.30)
2007	109.73	86.07	(23.66)
2008	135.12	92.65	(42.47)

About 62% of Electrical energy due to be generated would have to be generated by thermal power according to the estimates (Table No.2) of the Electricity Board.

Table No. 02 Units of Hydro & Thermal electricity expected to be generated

Generation	Units of electricity expected to be generated in 2008 (Giga watt hrs)	%
CEB - Hydro	3,600	35%
Mini - Hydro	315	03%
CEB - thermal	2,228	22%
Private - thermal	4,171	40%
Anticipated total generation	10,314	100%
Wastage	(1,650)	16%
Total number of electricity units to be sold	8,664	84%

The summary of anticipated expenditure for the year 2008 is accordingly as follows (Table No. 03).

Table No. 03

Expenditure	2006 (Rs. Billion)	2007 (Rs. Billion)	2008 (Rs Billion)	2008 (%)
Purchase from private power producers	41	55	68	50%
Expenditure for fuel of CEB Thermal power	16	25	33	25%
Generation O&M	4	5	6	04%
Transmission O&M	1	1	1	01%
Distribution regions O&M	7	9	10	07%
Corporate O&M	2	1	2	01%
Short term loans & interest	2	2	2	01%
Depreciation	12	12	14	11%
Total Expenditure	85	110	136	100%

Accordingly, it would become clear that approximately 75% of the expenditure is for obtaining thermal power. This would not be a temporary phenomenon as the prices of oil and coal would continue to increase. Therefore it would not be wise for the government to grant subsidies to overcome this situation. That is because the poor sections of the population that do not get Electricity would thereby be made to subsidize the privileged sector with Electricity through the taxes that they pay to the government. Therefore the decision taken by the Ceylon Electricity Board to amend the Electricity tariff is an important one.

The existing Electricity tariff structure

Electricity is mainly consumed by the domestic, Industrial, hotel and general services sectors. Different tariff structures are applicable to each sector.

The number of units of Electricity consumed by each of such sectors and the income obtained there from is as seen in Table No. 04 below.

Table No. 04

	GWh (for 11 months)	Present income Rs million (for 11 months)	GWh (%)	Percentage income (%)
Domestic	2,542	23,878.94	32%	28%
Religious	40	351.07	1%	0%
General Purpose	1,447	22,982.06	18%	27%
Hotel	118	1,925.76	1%	2%
Industries	2,576	24,190.36	32%	28%
LECO	1,119	10,864.07	14%	13%
Street Lamps	101	1,209.60	1%	1%
Total	7,944	85,401.86	100%	100%

Thus it is evident that at present the industrial and domestic sectors are basically being subsidized by the general purpose sector.

The proposals of the Electricity Board to increase Electricity tariff

The basic changes according to the present proposals put forward by the Electricity board are as seen in Table No. 05 below.

Table No. 05 The consumption pattern of the sectors and the proposed income

	Proposed income (for 11 months) Rs. billion	Proposed income (%)	GWh (%)
Domestic	38.05	30%	32%
Religious	0.46	0%	1%
General Purpose	34.43	27%	18%
Hotel	1.93	2%	1%
Industries	33.64	26%	32%
LECO	16.61	13%	14%
Street Lamps	1.94	2%	1%
Total	127.05	100%	100%

This shows that according to the new proposal the 2 % subsidy that was hitherto given by the general purpose sectors to the domestic sector has been reduced and that this benefit has been passed on to the industries sector. But the basic reason for this change is not clear.

Domestic sector

Table No. 06 Present tariff structure & proposed new structure of CEB

Category	Present tariff structure		Proposed new tariff structure of CEB	
	Price of a kWh (Rs.)	Fixed charge per month (Rs)	Price of a kWh (Rs.)	Fixed charge per month (Rs)
0-30	3.00	60.00	3.00	90.00
31-60	4.70	90.00	5.00	90.00
61-90	7.50	120.00	7.50	90.00
91-180	14.00	180.00	12.00	90.00
181-360	19.80	240.00	18.00	90.00
361-600	19.80	240.00	30.00	90.00
>600	19.80	240.00	40.00	3000.00

There is one important fact that should be understood in reading the figure in the above table no 06. That is that although the first few units of the consumers in domestic sectors with a high level of consumption were charged at the rate applicable to the lower categories that concession has been withdrawn according to the new proposal of the Electricity Board. This is a very good proposal. But we should be mindful of this difference in comparing the second and fourth columns of this table. Here the fixed charge of those consumers has been reduced in order to control to some extent the large increase in the monthly electricity charges. In addition thereto the unit cost of consumers in the 91- 360 unit category too has been reduced.

The fixed charge of the consumers with the least consumption level has been increased and a fuel adjustment charge has also been newly introduced to this category of consumers.

The percentage by which the electricity bill of the domestic category and the unit cost charge from the consumers in the respective categories according to CEB proposed tariff structure are as seen in table no.07 below.

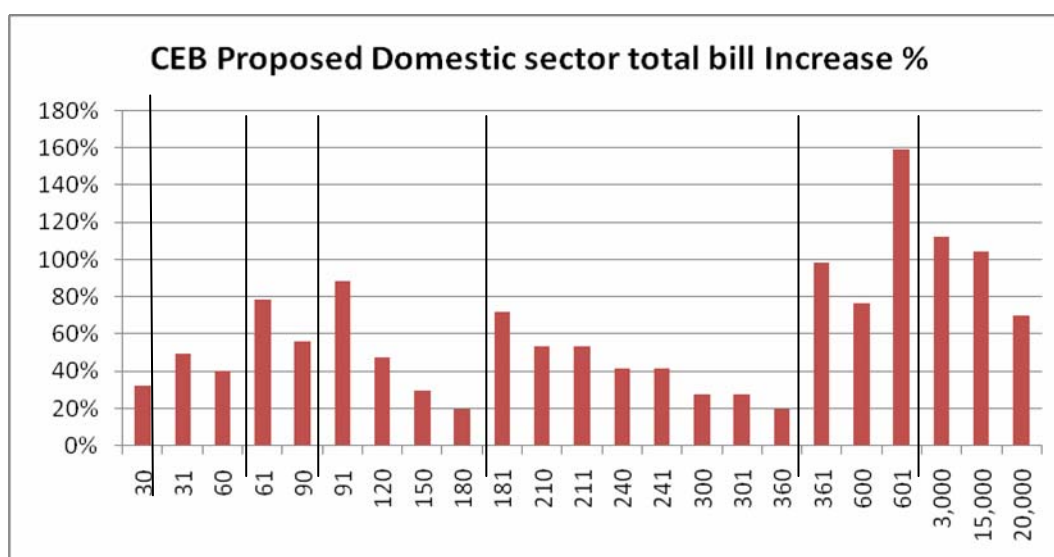
Table no.07 Increment of the tariff in the domestic sector proposed by the CEB

Monthly Consumption (kWh)	Percentage increase of the CEB proposed tariff (%)	The unit cost of electricity of the monthly bill under the CEB proposed tariff structure (Rs)
30	32.0%	6.60
31	49.4%	8.90
60	40.2%	7.50
61	78.2%	10.48
90	56.3%	10.00
91	88.2%	15.39
180	19.8%	14.90

Monthly Consumption (kWh)	Percentage increase of the CEB proposed tariff (%)	The unit cost of electricity of the monthly bill under the CEB proposed tariff structure (Rs)
181	72.2%	22.10
360	19.6%	21.85
361	98.3%	36.25
600	76.7%	36.15
601	158.9%	52.99
3,000	112.1%	49.00
15,000	104.0%	48.20
20,000	69.7%	48.15

The effect thereof when depicted graphically is as seen in Graph 01 below.

Graph 01: Percentage increase in charges proposed by CEB for the domestic Sector

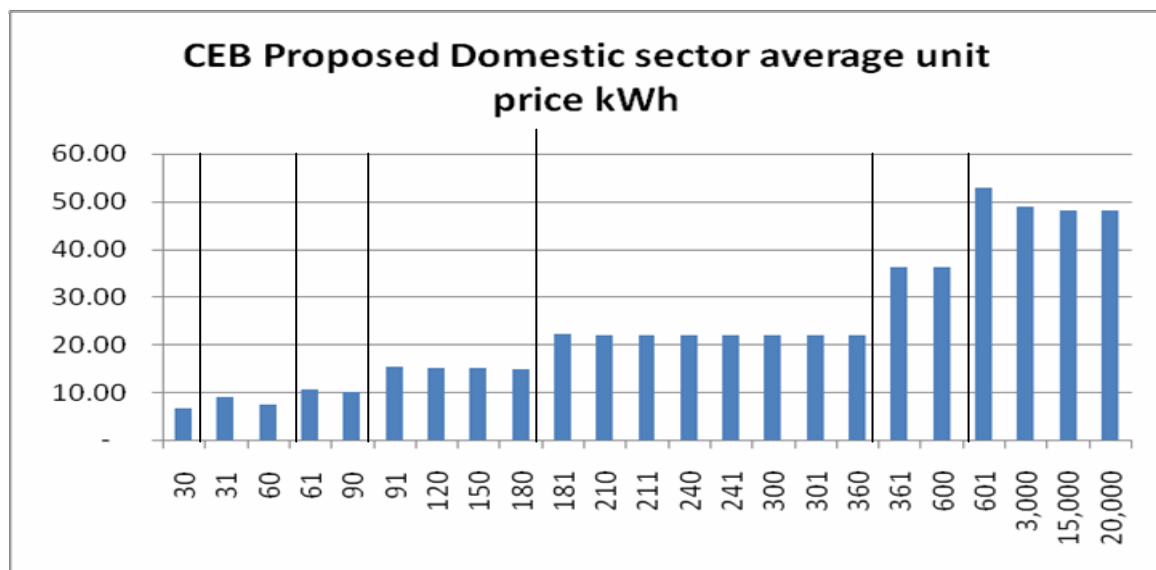


This shows that there is no systematic pattern in the pattern in the percentage increase in charges. The increase in charges of consumers who consume 180 units & 360 units remains at the lowest level of 20% whilst the percentage increase in charges of even the households with very little consumption of the electricity has been increased by a greater percentage. For example the increase in the electricity bill of a household which consumes 91 units is 88%.

The percentage increase in charges is relative to the existing tariff structure. It is inappropriate to give attention to only the percentage increase in charges as there are shortcomings in the existing system. Therefore the total unit cost charged for the respective categories too should be examined.

The total average unit cost for the various categories according to the proposed new tariff structure of the CEB is as shown in the graph 02 below.

Graph 02: CEB proposed Domestic sector average unit price



The vertical lines show the stages at which categories are separated. This shows that even if the consumption in the domestic sector increases, the final unit cost would not increase in a corresponding manner.

General Purpose, hotels and industries sectors

Table No. 08: Proposed tariff increment of the general services, hotel and industries

	Increase in unit cost	Increase in fixed charge	Increase in kVA costs	Increase in fuel adjustment charge
General services				
GP1: Small	8.10	240.00		0%
GP2:Medium	3.20	2520.00	720.00	0%
GP3:Large	2.30	2540.00	540.00	0%
Hotels				
H1: Small	8.10	240.00		0%
H2:Medium GP	3.20	2520.00	720.00	0%
H2: Medium 1	0.00	2600.00	690.00	0%
H3: Large 1	0.00	2620.00	590.00	0%
Industries				
I1: Small	1.50	240.00		20%
I2: Medium	0.00	2600.00	690.00	20%
I3: Large	0.00	2620.00	590.00	20%

The greatest increase in unit cost of the general services hotel and industries sectors has been made in the small consumer category.

However, in these sectors the fixed charge and the maximum capacity (kVA) charge have been increased for consumers with a high consumption level. But that increase would not be felt so much by the high consumption category because those institutions consume a large numbers of units.

The fuel adjustment charge was hitherto not levied from industries. This time it has been decided to charge a 20% fuel adjustment charge from industries too. On the whole the heavier burden has been placed on the small scale consumers in this time's increase of electricity charges. It is not clear how those sectors would be affected thereby.

The alternative proposal

We believe that the Ceylon electricity Board should take steps to earn the full proposed income in year 2008 in order to function without a loss. This alternative proposal ensures that the CEB will get the same revenue per annum as targeted by the proposed CEB tariff.

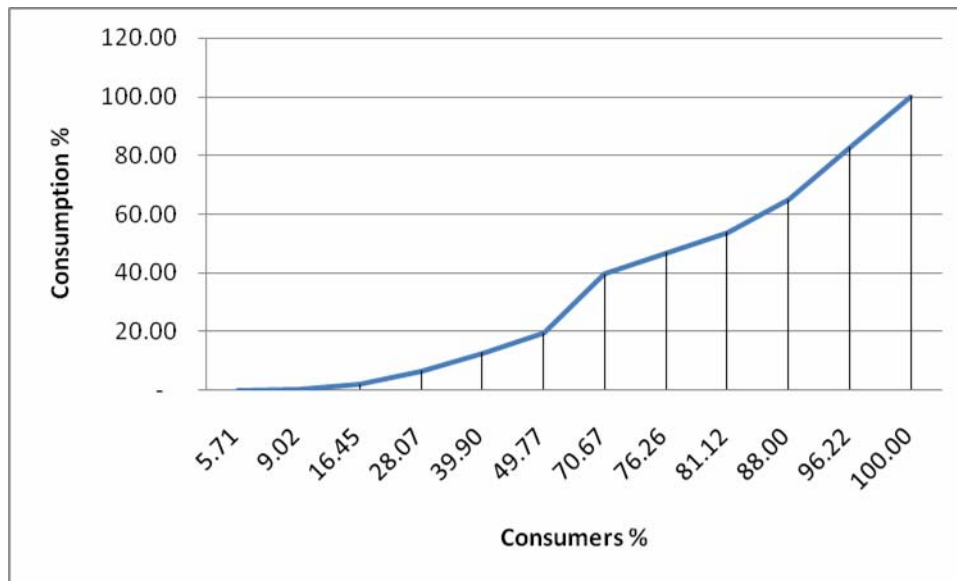
It has been decided to remove the concessionary rate for the initial units from persons who consume more electricity in the domestic sectors. This is a good proposal.

Attention seems to have been given to one more basic factor in this time's revision of charges by the electricity board. The CEB has decided to bridge the gap between the lower consuming segment unit price and the average unit cost calculated based on the total cost and the total units generated irrespective of whether it is generated from hydro or oil. That is to increase the charges systematically for categories that have a rate lower than the normal cost of a unit of electricity. This is a debatable issue.

Electricity is a basic need just as much as a luxury service. This has to be decided according to the equipment used. Generally a household needs about 45 units of electricity in order to meet the maximum needs without any excessive consumption. A middle class household generally needs about 105 units of electricity per month. It is the responsibility of the government to provide electricity accordingly at an affordable charge to meet the basic needs of people with a low income level.

There is a serious disparity as regards consumption of electricity in the domestic sector. 50% of consumers, whose consumption of electricity is low, consume only 20% of the total domestic consumption. On the other hand 20% of those who engage in excessive consumption, consume 50% of the total domestic electricity consumption. About 40% of the electricity generated at present is obtained from hydro electric power. This is sufficient to meet the needs of about 75% of the needs of the consumers. The balance 60% electricity has had to be generated from oil in order to meet the needs of about 25% of the consumers whose electricity consumption is at an excessive level.

Graph 03 - Consumption disparity



The average unit cost of electricity has increased due to the generation of electricity from oil on account of the consumers engaged in excessive consumption. Therefore the poor consumers have had to pay a higher price for electricity on account of the excessive consumption of affluent consumers. Therefore there is a need to accept as a policy that low cost hydro power should be used to meet the basic need of the people in order circumvents this situation. This can be done according to the "wheeling principle" which is one of the latest concepts in the energy sector adopted in developed countries. This principle was introduced to encourage renewable energy. Here the renewable energy power producers negotiate with the potential consumers who are willing to purchase renewable energy power at a higher price for the sake of encouraging environmentally friendly technologies. The transmission company using the wheeling principle agrees to complete the transaction according to the agreement between power producer and the identified consumer. If the consumer is an industrialist, he can label his product as an eco friendly product, produced using renewable so that he can sell the product at a higher price to environmental conscious consumers.

We can adapt the same principle in a different way to address this issue of inequality in Sri Lanka. Here we can assume that the hydro power units are sold to the low electricity consumption groups and the thermal power is generated for satisfying the wants of the higher consuming groups.

Table 09: Alternative tariff proposal for the domestic sector

Category	Present tariff structure		Proposed new tariff of CEB		Tariff of the alternative proposal	
	Unit cost per (Rs. per unit)	Fixed charge (Rs. per month)	Unit cost per (Rs. per unit)	Fixed charge (Rs. per month)	Unit cost per (Rs. per unit)	Fixed charge (Rs. per month)
0-30	3.00	60.00	3.00	90.00	3.00	60.00
31-60	4.70	90.00	5.00	90.00	4.70	60.00
61-90	7.50	120.00	7.50	90.00	7.00	90.00
91-120	14.00	180.00	12.00	90.00	10.00	110.00
121-150	14.00	180.00	12.00	90.00	14.00	180.00
151-180	14.00	180.00	12.00	90.00	15.00	180.00
181-210	19.80	240.00	18.00	90.00	17.00	240.00
211-240	19.80	240.00	18.00	90.00	20.00	240.00
241-270	19.80	240.00	18.00	90.00	24.00	240.00
271-300	19.80	240.00	18.00	90.00	24.00	240.00
301-330	19.80	240.00	18.00	90.00	30.00	240.00
331-360	19.80	240.00	18.00	90.00	32.00	240.00
361-600	19.80	240.00	30.00	90.00	35.00	240.00
>600	19.80	240.00	40.00	3000.00	45.00	240.00

According to this alternative proposal too, there is no need to give the initial units at a concessionary price to consumers with high electricity consumption. There is also no need to change the fixed charge.

Table 10: Impacts of alternative tariff proposal (Domestic sector)

Monthly consumption	Alternative proposal price increase (%)	The unit cost of electricity based on the monthly bill under the Alternative proposed (Rs)	The unit cost of electricity based on the monthly bill proposed by CEB (Rs)	Unit price differences between Alternative proposal & CEB
30	0.0%	5.00	6.60	-1.60
31	11.4%	6.64	8.90	-2.26
60	6.5%	5.70	7.50	-1.80
61	44.2%	8.48	10.48	-2.00
90	25.0%	8.00	10.00	-2.00
91	61.6%	13.21	15.39	-2.18
120	25.9%	12.92	15.15	-2.23
150	55.6%	18.00	15.00	+3.00
180	52.7%	19.00	14.90	+4.10
181	69.3%	21.73	22.10	+0.37
210	50.2%	21.54	22.03	-0.49
211	74.7%	25.14	22.03	+3.11
240	61.1%	25.00	21.98	+3.02
241	91.6%	29.80	21.97	+7.83
300	72.4%	29.60	21.90	+7.70
301	114.1%	36.80	21.90	+14.9
360	113.9%	39.07	21.85	+17.22

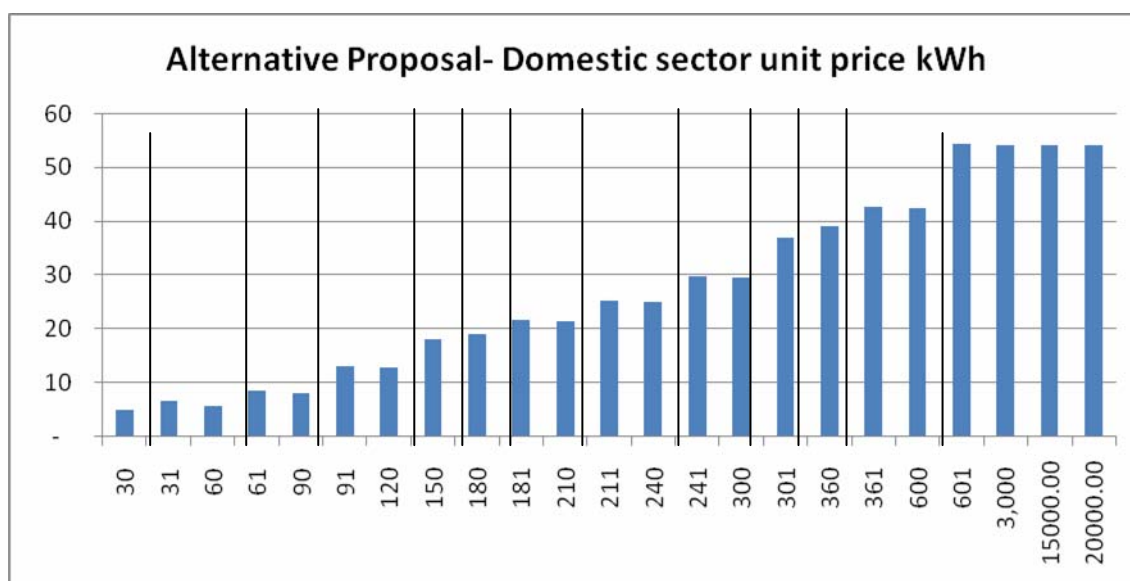
Monthly consumption	Alternative proposal price increase (%)	The unit cost of electricity based on the monthly bill under the Alternative proposed (Rs)	The unit cost of electricity based on the monthly bill proposed by CEB (Rs)	Unit price differences between Alternative proposal & CEB
361	133.4%	42.66	36.25	+6.41
600	107.2%	42.40	36.15	+6.25
601	165.8%	54.40	52.99	+1.41
3,000	134.1%	54.08	49.00	+5.08

According to this proposal there is no need to change the chargers at all in the 0-30 consumption category. That is, there would be no increase in charges for 28% of the consumer in the domestic sector. The charge of the 30-60 category too would be increased by a maximum of 11.5%. Thus this revision will not affect 58% of the consumers with low consumption in this sector.

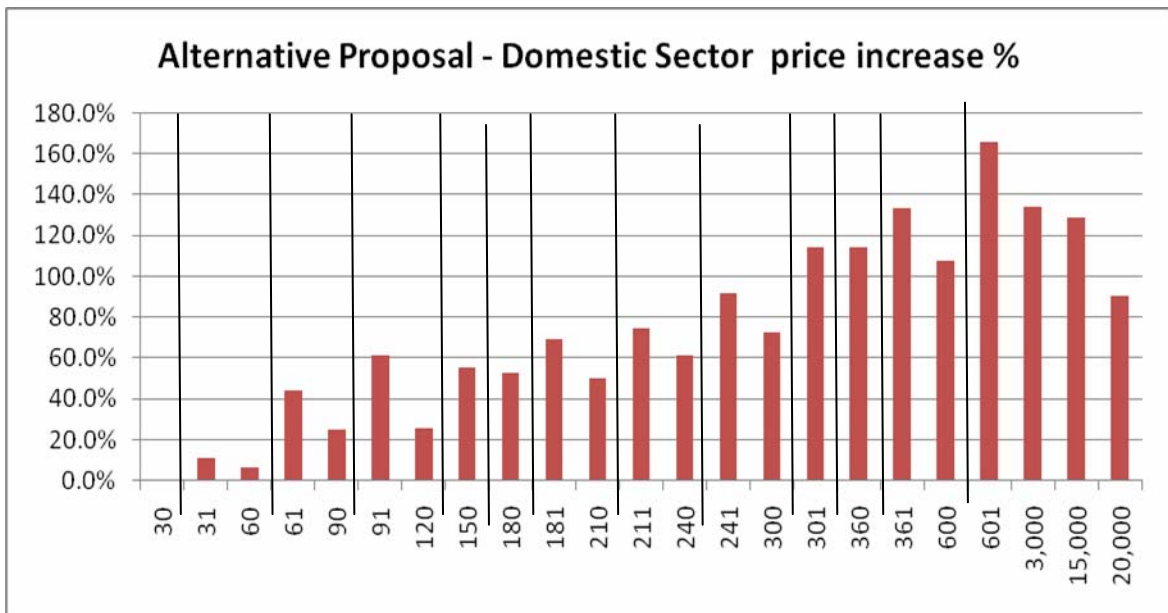
It is however being proposed hereby to increase the number of categories in the existing 90-240 category in order to motivate them to conserve electricity. The disparity that exists in the increase of electricity charges could thereby be leveled.

An impact of this alternative proposal is shown as in Graph 04 below.

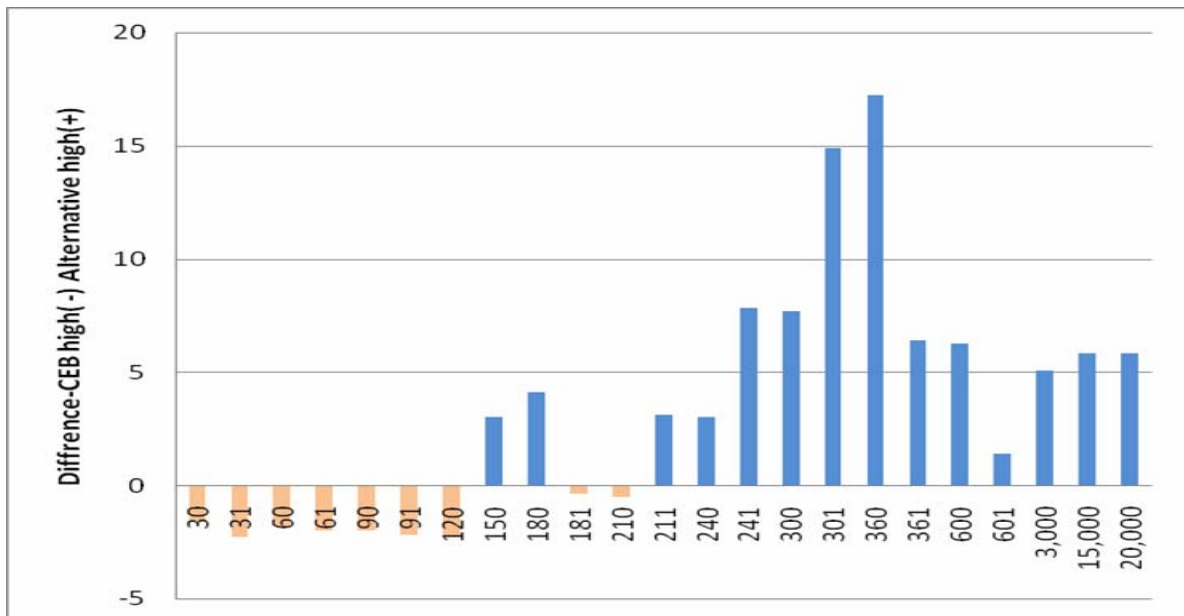
Graph 04: Alternative proposal -Domestic sector unit price



Graph 05: Alternative proposal -Domestic sector price increase %



Graph 06: Alternative proposal -Domestic sector price increase %



This alternative proposal shows that there is not only one solution to resolve the financial problem of the electricity board but there are other combinations as well. Similar alternative proposals could be prepared for the industries and other sectors too. The present proposal put forward by the Electricity Board is of a manner that would place a heavier burden on small entrepreneurs. More information about the various categories of consumers in the industries and general purpose sectors is required in order to examine whether that is appropriate. It is clear that the small and medium enterprises cannot compete with the larger enterprises as the SME has to pay for electricity at a higher price. Hence it is necessary to establish a level playing field for the industries, hotels and the general purpose.