

Retail Tariff Restructuring Plan

Fact Sheet



Introduction



Eskom is proposing changes to its tariffs for implementation from 1 April 2021, and the full details are contained in the retail tariff plan restructuring document.

The main objectives of the retail tariff plan are to:

- optimise customer response and use of the system by revising pricing signals to reflect the current system;
- change time-of-use (TOU) rates and times;
- simplify tariff options, such as removing inclining block tariffs (IBT);
- rationalise municipal tariffs; and
- modernise tariff structures in light of evolving customer needs and technology.

The multi-year price determination (MYPD) approved 2019/20 forecast volumes and cost splits for the three Eskom licensees were used in the cost-to-serve study and for the design. The MYPD methodology is developed for the regulation of Eskom's required revenue. It forms the basis on which the National Energy Regulator of South Africa (NERSA) evaluates the price adjustment applications received from Eskom.

Tariffs were updated based on the cost-to-serve study and will include pricing signals. Tariffs will be modernised to reflect the changing technology environment, such as reflecting fixed costs more accurately and also recovering the cost of providing standby capacity (grid and energy).

Refer to the full retail tariff plan document for the details of the rates and further explanations. Note that all the rates are in 2019/20 rand values and will be updated based on the NERSA decision for approved changes and also as part of the price increase process to 2020/21 rand values. The changes being proposed to Eskom's tariffs are as follows:

1. Updating all charges using:
 - a) the approved volumes, new cost splits, and cost allocation methods based on the 2019/20 NERSA approved revenue requirement and volumes; and
 - b) an updated cost-to-serve (CTS) study
2. Aligning changes in the TOU ratios (peak, standard, and off-peak) and TOU periods (swapping peak periods and introducing a standard period on Sundays) with the wholesale rates
3. Increasing the Distribution fixed-charge network charges component weighting, with a commensurate reduction of the variable charge weighting for all tariffs with network charges
4. Increasing the low-voltage charges for urban LPU, thereby reducing the LV subsidy for larger supplies
5. Removing IBT for Homepower and Homelight
6. Introducing a residential time-of-use tariff called Homeflex plus a new offset rate for those with small-scale embedded generation (SSEG)
7. Basing service charges on the number of points of delivery (PODs) and not accounts
8. Rationalising and combining the municipal tariffs into only three tariff categories

What are the economic drivers for the proposed changes to the tariffs?

2

The following are the main drivers for changes to be made to Eskom's tariffs:

Customer needs – considering the reduction of cross-subsidies, removing of inclining block tariffs due to customer unhappiness, accommodating embedded generation by allowing wheeling, and promoting flexibility in tariffs.

Competition – requiring modernising and updating of tariffs to accommodate changes to the way the grid is used due to embedded generation and also providing the correct economic signals (such as removing IBT) in light of small-scale embedded generation (SSEG).

Smart working – introducing TOU tariffs for residential customers plus compensating for energy exported (net billing).

Technology and the green economy – unbundling tariffs to reflect the impact of the changing energy environment on network usage, revenue recovery, and system usage.

Efficiency and recovery of costs – requiring tariffs to be updated to reduce volume risk and to reflect costs, using the latest cost-to-serve study (cost allocation and segmentation exercise) to more transparently reflect energy, network, and retail costs.



Tariff design process followed

3

Tariff design is not just about reflecting costs; it is also about reflecting price signals that drive consumption behaviour to increase system and cost-efficiency. Price signals are forward looking and based on improving sustainability. The types of price components put together in a tariff package form the tariff structure. The ideal tariff structure would, therefore, follow the cost structure.

A cost-reflective tariff structure has all cost components reflected separately and charged according to the appropriate cost driver per appropriate rate unit. How customers are charged in a tariff is often dependent on simple practicalities, such as:

- sophistication of customer needs;
- metering costs;
- affordability;
- impact of changing from the existing tariffs;

- revenue risk (departing from the cost driver); and
- fairness.

In order to determine what the unit should be in the tariff structure, the most appropriate cost driver for a particular cost needs to be established. The following are the most common cost drivers:

- R/customer/month or R/customer/day charge – typically for fixed costs such as network, customer service, and administration costs
- R/kVA – typically for network costs
- c/kWh – typically for active energy costs, returns, and costs that are more variable in nature

When Eskom makes changes to tariffs, this starts with a cost-to-serve (CTS) exercise, from which cost-reflective rates are derived. Tariff design takes place based on specific objectives, and then the approval process is followed. The process of tariff change and the design process are further explained in Figure 1 below:

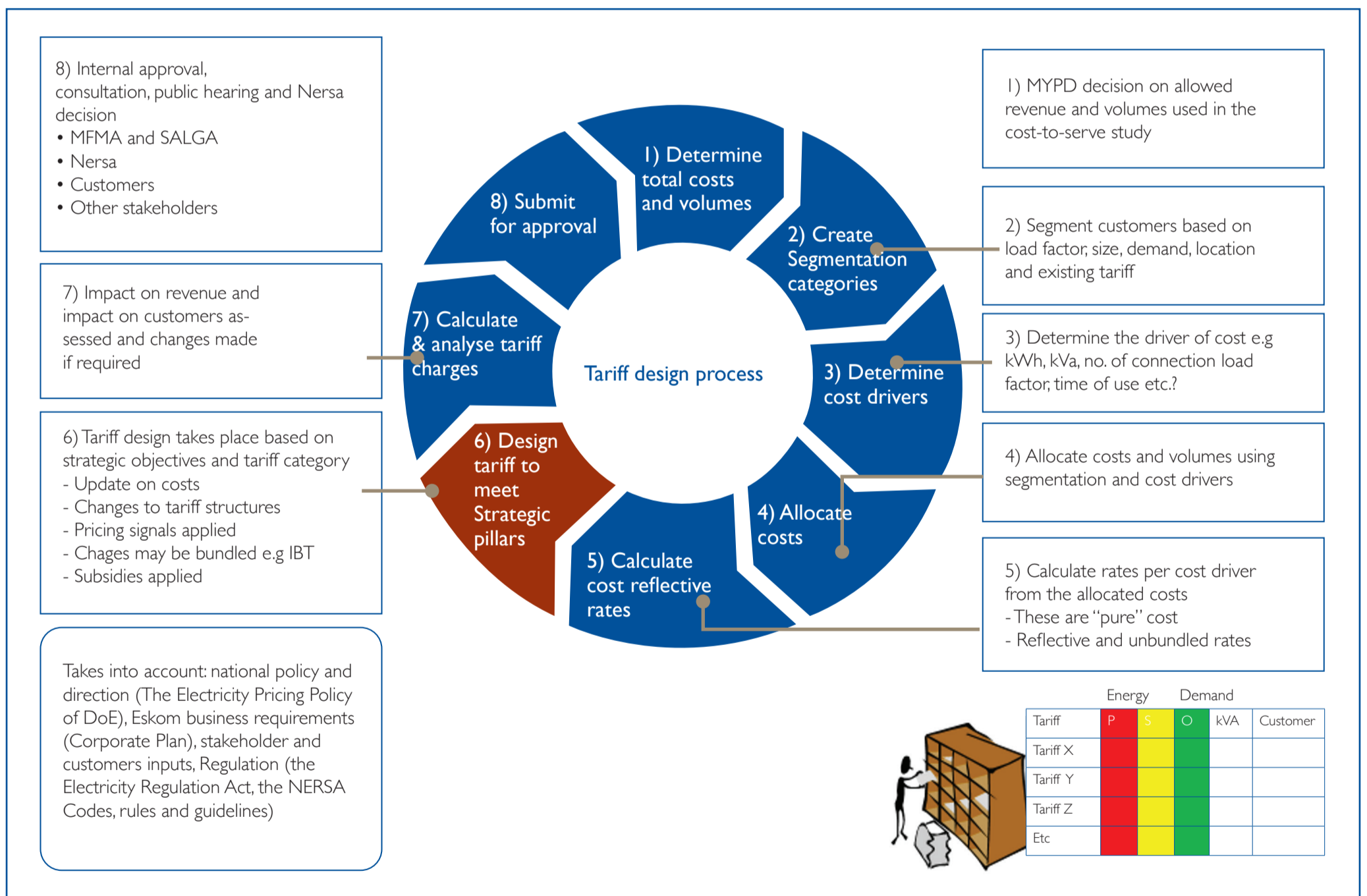


Figure 1: Tariff change process

The basis used for the tariff design is as follows:

- The MYPD approved 2019/20 forecast volumes and cost splits for the three Eskom licensees were used in the CTS and for the design.
- The forecast energy volumes and costs were repacked in the CTS and allocated into the restructured TOU volumes.
- Distribution asset values were updated based on new asset values.
- Transmission and Distribution loss factors were updated based on representative network studies.
- At this stage, no changes have been made to the transmission zones for loads.



Proposed changes to TOU rates and periods

4

Time-of-use (TOU) tariffs comprise 80% of Eskom sales. These tariffs have peak (most expensive), standard (medium), and off-peak (cheapest) hours and charges as well as a winter/summer differential. The present TOU charges were last changed in 2005 and no longer reflect the current system and customer requirements. As a result, the current price signals and TOU hours are not optimal for managing the system. Therefore, it is proposed that the TOU hours and TOU prices be changed to:

- meet the Eskom System Operator's requirements to optimise the operation of the power system;
- provide the right economic signals that promote economic efficiency;
- improve financial sustainability by increasing efficiencies in operating costs; and
- incentivise growth and sales for the benefit of customers and Eskom.

The changes to the TOU tariffs that will apply to all customers who are currently on TOU tariffs, if approved by the National Energy Regulator of South Africa (NERSA), are:

- updating the energy rates with the CTS. This results in the energy rates increasing due to higher increases over time to Eskom Generation costs (and reducing Distribution and Transmission cost);
- increasing the evening peak to three hours (from two hours) and reducing the morning peak to two hours (from three hours);
- introducing a two-hour standard period on a Sunday evening; and
- reducing the current 1:8 ratio of the summer (low-demand season) off-peak rate to the winter (high-demand season) peak rate to a 1:6 ratio and adjusting the rest of the rates commensurately.

The changes to the TOU periods are shown in Figure 2 below.

Current TOU time periods						
	High			Low		
	Weekday	Saturday	Sunday	Weekday	Saturday	Sunday
0	3	3	3	3	3	3
1	3	3	3	3	3	3
2	3	3	3	3	3	3
3	3	3	3	3	3	3
4	3	3	3	3	3	3
5	3	3	3	3	3	3
6	1	3	3	2	3	3
7	1	2	3	1	2	3
8	1	2	3	1	2	3
9	2	2	3	1	2	3
10	2	2	3	2	2	3
11	2	2	3	2	2	3
12	2	3	3	2	3	3
13	2	3	3	2	3	3
14	2	3	3	2	3	3
16	2	3	3	2	3	3
17	1	3	3	2	3	3
18	1	2	3	1	2	3
19	2	2	3	1	2	3
20	2	3	3	2	3	3
21	2	3	3	2	3	3
22	3	3	3	3	3	3
23	3	3	3	3	3	3

Proposed new TOU time periods						
	High			Low		
	Weekday	Saturday	Sunday	Weekday	Saturday	Sunday
0	3	3	3	3	3	3
1	3	3	3	3	3	3
2	3	3	3	3	3	3
3	3	3	3	3	3	3
4	3	3	3	3	3	3
5	3	3	3	3	3	3
6	1	3	3	2	3	3
7	1	2	3	1	2	3
8	2	2	3	1	2	3
9	2	2	3	2	2	3
10	2	2	3	2	2	3
11	2	2	3	2	2	3
12	2	3	3	2	3	3
13	2	3	3	2	3	3
14	2	3	3	2	3	3
16	2	3	3	2	3	3
17	1	3	3	2	3	3
18	1	2	2	1	2	2
19	1	2	2	1	2	2
20	2	3	3	1	3	3
21	2	3	3	2	3	3
22	3	3	3	3	3	3
23	3	3	3	3	3	3

Figure 2: Current TOU hours versus proposed TOU hours (peak = 1, standard = 2, off-peak = 3)

The new TOU wholesale rates, excluding losses

Changes to the TOU rates are illustrated in Table 1 below in a comparison of existing wholesale electricity pricing system (WEPS) prices on the existing structure, existing WEPS on the new structure, existing WEPS structure (but based on updated CTS costs), and the new WEPS structure based on updated CTS costs.

Season	High-demand			Low-demand		
	Peak	Standard	Off-peak	Peak	Standard	Off-peak
1) Existing ratios	8.00	2.31	1.18	2.50	1.67	1.00
2) Existing WEPS existing TOU ratios c/kWh	296.43	89.79	48.77	96.73	66.55	42.23
3) Updated CTS WEPS existing TOU ratios c/kWh	349.70	100.97	51.58	109.28	73.00	43.71
4) New ratios	6.00	1.50	1.00	2.49	1.40	1.00
5) Existing WEPS new TOU ratios c/kWh	253.40c	63.35c	42.23c	105.16c	59.13c	42.23c
6) Updated CTS WEPS new TOU ratios c/kWh	304.82c	76.20c	50.80c	126.50c	71.13c	50.80c
7) Difference between current and new ratios c/kWh	8.39c	-13.59c	2.03c	29.77c	4.58c	8.57c
8) Difference existing WEPS vs New CTS TOU c/kWh	53.27c	11.18c	2.81c	12.55c	6.45c	1.48c

Table 1: WEPS comparisons

The winter peak rate ratio has been decreased from a 1:8 ratio to a 1:6 ratio (see points 1 and 4 in Table 1). This ratio change before updating the energy costs with the CTS, reduces the winter prices and increases the summer prices (see points 2 and 5 in Table 1). All energy rates updated with the CTS energy cost, before the ratio change (see points 2 and 3 in Table 1) and after the ratio changes (see points 2 and 6 in Table 1), have been increased. This is due to the application of the average price increase to the WEPS rates over the years, resulting in the current energy rates being lower than actual average energy costs.

Changes to the retail charges

5

Retail charges comprise the administration and customer service costs. Currently, the administration charges are per point of delivery (POD), and the customer service charges are per account. Eskom proposes changing the methodology so that both the administration charges and the service charges will be per point of delivery and differentiated on size.

No change is proposed to the current size categories. The rationale is that a customer could have many points of delivery under one account and pay the same service charge as a customer who has one account and one point of delivery. This is not equitable or fair, as more retail resources are used where there are multiple points of delivery to one account. This service charge will not be raised for each transaction separately where the reconciliation of energy is done for wheeling, offset, and banking and where Eskom is the purchaser of energy for generators embedded in a municipality.

This change will mean that the service charges will decrease in value, but customers who have consolidated many points of delivery into one account may see an overall increase in

rates. Customers with few points of delivery per account will see a reduction. This change, however, cannot be viewed in isolation from the other tariff changes, as the total impact of all changes will have to be considered.

Proposed municipal tariff rationalisation

The municipal tariff rates in the submission are shown in 12-month values (based on the Eskom financial year of April to March) and in nine-month values (based on three-month April to June current tariffs).

The new tariff options will reduce complexity:

- There will be one tariff for large power users (Municflex).
- There will be one tariff for small power users (Municrate).
- The Public Lighting tariff will remain unchanged.
- Local-authority tariffs will no longer have an urban/rural tariff differentiation.
- Two tariffs will simplify the sales and revenue forecasting process both in Eskom and municipalities.
- Two tariff options simplify the process of determining the electricity purchase cost for municipalities.
- Eskom also benefits from its sales and revenue forecasting process by having fewer tariff variations for municipalities.

New tariff Homeflex

Eskom proposes the introduction of a residential time-of-use tariff, called “Homeflex”, to its urban residential customers. This tariff is more cost-reflective in structure and adaptable to evolving customer needs, changes in technology, and the changing energy environment, thereby providing a benefit to both the customers and Eskom.

Customers will have a choice to go onto Homeflex if they do not have small-scale embedded generation (SSEG), but it will be mandatory for grid-tied embedded generation

(conventional metering only). Significant benefits of TOU include optimal use of own generation and battery storage to reduce bills and save through a reduction of peak usage.

The design of the Homeflex tariff is based on the proposed new TOU structure plus cost-reflective network, ancillary service, and service/administration charges for the residential customer category. A net billing offset rate will be provided for customers with SSEG. Time-of-use for residential customers is in compliance with the Electricity Pricing Policy (EPP) positions of the Department of Mineral Resources and Energy.

Homeflex	High Demand Season			Low Demand Season			Ancillary service charge c/kWh	NDC c/kWh	NCC R/POD/day	Service and admin charge R/POD/day
	Peak c/kWh	Standard c/kWh	Off-peak c/kWh	Peak c/kWh	Standard c/kWh	Off-peak c/kWh				
1	350.77	87.69	58.46	145.57	81.85	58.46	0.2186	15.45	13.74	4.77
2	350.77	87.69	58.46	145.57	81.85	58.46	0.2186	15.45	23.83	4.77
3	350.77	87.69	58.46	145.57	81.85	58.46	0.2186	15.45	58.81	4.77
4	350.77	87.69	58.46	145.57	81.85	58.46	0.2186	15.45	6.53	4.77
Offset rate	350.77	87.69	58.46	145.57	81.85	58.46				

Table 2: New Homeflex plus net billing offset tariff (2019/20 rand values)

Net billing

Net billing is where the customer gets an offset for any energy exported, thus using the grid as a bank. Eskom already does this for large customers, where the offset rate at the time of capacity constraints is equal to the energy charge. Table 2 above shows the new Homeflex and net billing offset tariff structure.

Large power user (LPU) tariff changes Megaflex, Miniflex, and WEPS

- No structural change
- Energy charges – updated with new TOU ratios and periods
- Network – increasing NCC and commensurate reduction of NDC
- Service charge converted to R/POD Nightsave Urban Large and Small

- No structural change, but Nightsave Small and Large combined (that is, will now have the same energy demand charges)
- Energy charges – updated with new TOU ratios and periods
- Network – increasing NCC and commensurate reduction of NDC
- Service charge converted to R/POD Ruraflex and Nightsave Rural
- No structural change, but increases applied to Ruraflex and reduction of Nightsave Rural
- Energy charges – updated with new TOU ratios and periods
- Network charges – increasing NCC and commensurate reduction of NDC
- Service charge converted to R/POD

Small power user (SPU) tariff changes Businessrate

- Structural change proposed
- Introduction of electrification and rural network subsidy (ERS) charge (c/kWh)
- Network charges – increasing NCC and commensurate reduction of NDC

Landrate

- No new structure proposed
- Network charges – increasing NCC and commensurate reduction of NDC

Landlight 20A and 60A

- No structural changes

Homepower

- Structural changes proposed
- Removing IBT
- Network charges – increasing NCC (R/POD/day)
- Introducing energy charge (c/kWh), ancillary service charge (c/kWh), network demand charge (c/kWh), and R/day service and administration charge

Homelight 20A and 60A

- Structural change proposed
- Removing IBT

Homeflex

- New TOU tariff for energy charges
- Same ancillary service charge (c/kWh), network capacity charge (R/POD/day), network demand charge (c/kWh), and R/day service and administration charge as Homepower
- Mandatory for grid-tied SSEG, with offset rate for energy exported on conventional metering only (voluntary otherwise)

Expected impact of tariff restructuring

6

The following are the expected impacts:

- a) Updating rates with the CTS results in the increase in energy costs relative to other charges.
 - This corrects the misalignment caused by applying average increases to all tariffs instead of increases per Eskom division. It also highlights that the current energy charges are lower than they ought to be.
- b) The changes to the TOU periods and rates. This impact per customer will largely depend on load profile through the year and response to the TOU changes.
 - Reduced winter rates result in high winter consumption consumers paying less in winter (and vice versa).
 - High summer peak users will pay more.

- c) It is not possible to determine the impact of the TOU response, as this response is not known at the time of doing the tariff design.
 - It is expected that there will be a response based on research results and history, but this may only happen over time and not immediately. This response (whether positive or negative for Eskom), like all volume responses, will be treated in terms of NERSA RCA rules.
- d) Increasing the fixed-charge components will result in lower average network prices for higher load factor customers (and vice versa).
- e) A reduction in the retail costs will result in lower service and administration charges.
 - Charging the service charge per POD and not per account may negatively affect customers with many PODs linked to one account.
- f) Splitting of the low-voltage subsidy charge between non-local-authority tariffs and local-authority tariffs results in the contribution to the low- and medium-voltage subsidy for the non-local-authority tariffs being increased, as there is more volume in this category.
 - Local-authority tariffs now only contribute to low- and medium-voltage subsidies in the local-authority tariff pool.
- g) The ERS charge and affordability subsidy charge have also decreased; this is mainly due to the rates being updated based on the CTS.
 - Currently, these subsidy charges are overstated.
- h) As per NERSA's requirement, the local-authority tariffs have been based on the CTS and combined for both rural and urban per LPU tariff category and per SPU tariff category.
 - This has resulted in an average decrease for these tariffs, except for the Public Lighting tariffs.

- i) Public Lighting tariffs see a significant increase, resulting from updating the tariffs with the CTS study.
 - This tariff has been under-recovering against costs significantly and is not one of those identified as receiving subsidies.
 - This tariff currently barely recovers energy costs.
- j) Nightsave Urban Large and Nightsave Urban Small have been aligned to make the energy demand charges the same.
 - Both tariffs see an increase due to updating with the CTS, with Nightsave Small seeing a larger negative impact.
- k) Businessrate sees a big reduction due to updating with the CTS.
 - This tariff category now contributes to the ERS charge and affordability subsidy charge in order to be aligned with the other commercial LPU tariffs paying this contribution.
- l) For the Homelight tariffs, removing IBT has a small negative impact on very low-consumption customers and a positive impact on higher-consumption customers.
- m) For Landrate, some rebalancing has been done between tariff categories, firstly, based on cost and, secondly, based on applying subsidies.
 - Landrate 2 and 3 see a negative impact based on design to reduce the significant subsidies in these categories, and Landrate 1 and 4 see a reduction. The level of subsidies remains the same overall.

n) For Ruraflex and Nightsave Rural, the network charges have been aligned (made the same).

- This, together with the cost-reflective increase in energy charges, has resulted in Nightsave Rural seeing a reduction and Ruraflex an increase. The level of subsidies, however, remains the same overall.

o) For Homepower, per supply size category, the impact is due to updating rates with the CTS study.

- Homepower, on average, sees a reduction due to using costs as the basis, with no overall subsidy.
- Removing IBT and introducing a more cost-reflective R/day charge result in lower-consumption customers paying more (and vice versa).

p) The tariff charges will be updated based on the NERSA decision for approved changes and also as part of the price increase process to 2020/21 rand values.

Conclusion

As per NERSA's request for tariffs to be motivated based on the cost-to-serve, Eskom updated its cost-to-serve (CTS) study and, from this study, based all the tariff changes in this document on the CTS plus specific objectives/ signals to incentivise more optimal use of the system.

The next phase in the journey of tariff design may include:

- annual updating of different rates due to Eskom unbundled and separate divisional increases – no longer a single average increase applied to all rates;
- further changes to the TOU rates and periods to accommodate managing a changing system profile;
- restructuring the energy charges into fixed and variable components through the introduction of payment for energy capacity;
- further rationalisation of tariffs by removing the Miniflex and Nightsave tariff versions as options (that is, only having Megaflex for urban tariffs);
- further rebalancing between fixed and variable network charges;
- further development regarding generator use-of-system charges and offset rates;
- moving to making TOU mandatory for all new three-phase SPU connections; and
- introducing flexible short-term tariff options to address customer needs and Eskom operational requirements.



Together we can make a difference