



Eskom Retail Tariff Plan 2023-24

Background



1. There are 2 aspects impacting tariff charges

- Revenue determination sets the level
- Tariff design sets the rates and structure to end-use customers
- 2. Currently Eskom Distribution sets the standard retail tariffs and recovers the revenue for the whole of Eskom to direct customers and municipal licensees to recover the approved MYPD determination
 - Distribution purchases the energy at the Wholesale level and Transmission services through an internal transfer mechanism and this is a pass-through in the standard retail tariffs.
- 3. Eskom in 2020, submitted proposed structural changes to NERSA based on the principles in the EPP and NERSA previous decisions. Eskom will be submitting a revised version of this plan.
 - This submission is an update of the 2020 submission, based on the same motivations used in the 2020 submission, the latest CTS and includes the further unbundling of the energy charges into fixed generation capacity charge and variable TOU charges to align with the wholesale purchases.

Electricity tariff value chain

Wholesale purchase price (energy and Tx charges)

All energy purchases are blended into a wholesale integrated selling price (WISP)

All Transmission network and ancillary service charges

Eskom Distribution buys the energy and capacity @ WISP and Tx services through an internal transfer mechanism (does not buy from Eskom Generation). This is a pass through to customers)

Sold at retail tariffs to all customers including use of system charges

Not possible in retail tariffs to allocate costs per generator as this is not how energy is purchased

Eskom

Customers buy energy services only from Eskom Distribution through retail charges or through a bilateral contract

Basis for cost allocation in retail tariffs



Functionalised costs	Costs driver(s)	Allocation method(s)	Unit cost drivers
Generation Purchases	Wholesale energy purchases (TOU) and generation capacity	ToU and seasonally differentiated energy purchase rates and annual maximum demand purchased	c/kWh and future R/kVA)
Transmission purchases	Installed capacity and location /zonal differentiation	Utilised capacity demand at purchase level per Transmission zone	R/kVA
Distribution	Capacity (transformation and lines)	Purchase Maximum demands adjusted for diversity in the cost allocation diagram (CAD)	R/kVA
Retail costs	Number of PoDs	PoD weighting / ratio to serve various customer types)	R/PoD/day

- Eskom Transmission purchases energy from Eskom Generation and IPPs
- A wholesale purchase structure and rates are derived from the above costs based on the system profile, and not individual customer profiles
- The above is a pass-through in the retail tariffs at the wholesale purchase rates and structure
- There is no link in the retail charges between a customer and a generator except if there is bilateral trade
- Customer profile information is used to allocate wholesale purchase costs to each customer or customer category (forecast or representative)

Why do tariffs need to be restructured?



Tariffs need to be modernised to reflect the changing electricity supply and demand environment

To reflect costs more accurately by:

- •Avoid unjustified over/under-recovery of costs from customers and creating unintended subsidies.
- •Ensure fairness and equity and transparency of subsidies existing in the system.
- •Include use of systems costs for generators.

Prepare for Eskom unbundling by ensuring that divisional costs are accurately reflected to avoid large tariff impacts after legal separation.

Provide the correct pricing signals for capacity and usage.

Mitigate volume and revenue risk and avoiding price increase impact on all customers (reduced volume = higher price increases) What are the goals, principles and outcomes?

Eskom volume risk exposure





- 10% of Eskom's revenue is currently recovered through fixed charges, whereas a conservative 76% is fixed costs.
- The proposed changes, including the introduction of the generation capacity charge, increases the fixed contribution to 24%, still well below the 76% fixed costs.



Tariff design process and proposed structural changes



Tariff change process





The structural changes being proposed are"

Eskom

- 1. Updating all charges using an updated cost-toserve (CTS) study
- 2. Aligning the energy related charges with the Wholesale purchase structure:
 - a) Splitting the energy charge into variable TOU c/kWh charges and a fixed generation capacity charge (GCC)
 - b) Changes to the TOU ratios and TOU periods to be aligned to 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.
- Increasing the low voltage charges for Urban LPU – reduces the LV subsidy for larger supplies
- 5. Removing IBT for Homepower and Homelight
- 6. The introduction of a residential time-of-use tariff called Homeflex with an offset rate for those with small scale embedded generation (SSEG)

- 8. Service charges to be based on number of PODS (points of delivery) and not accounts
- 9. Amending the Transmission loss factors for generators so that the loss factors in specific zones are no longer negative.
- 10. Rationalisation and combining of the municipal tariffs into only three tariff categories
 - a) a large power version combining Megaflex, Miniflex, Nightsave Urban, Ruraflex and Nightsave Rural into a tariff called Municflex,
 - b) a small power version combining Landrate, Businessrate, and Homepower into a tariff called Municrate, and
 - c) a Public Lighting tariff for non-metered lighting supplies (no change just updated with the CTS).[previously approved in Eskom but not approved by Nersa – required it to be based on a cost to serve study]

Percentage impact of updating charges with the CTS



	Energy charges	Transmission network charges	Distribution network charges	Retail charges	LV subsidy charge	ERS and AFS	Affordability subsidy	Ancillary service charge
Urban LPU non-local-authority	11%	-25%	-28%	-47%	-85%	-33%	-63%	-59%
Municflex	5%	-19%	-33%	-39%	-65%	-30%	0%	-58%

•The energy cost has increased at a higher rate than the average price increase applied to energy charges over the years.

•Energy costs and therefore energy charges have increased to align with the above and network charges reduced.

(Eskom

How the tariffs were calculated (1)

1. Energy costs were taken as is from the CTS (cost-to-serve) split into variable generation costs and generation capacity costs.

(2) Eskom

- For TOU tariffs the costs were split into c/kWh peak, standard and off-peak periods and seasonally differentiated, based on the new wholesale TOU structure and periods.
- For non-TOU tariffs, a representative load profile was used to determine an average annual c/kWh value.
- The generation capacity costs are charged as R/kVA charge based on the utilised capacity.
- 2. Transmission network costs were taken as is from the CTS study results and either charged as a separate R/kVA charge or combined with Distribution network costs.
- 3. Retail costs (service and administration) were used as is from the CTS results, except for tariffs without retail charges (such as Homelight)
- 4. Subsidies (the electrification, rural and affordability subsidies) were then determined from the shortfall between costs and revised tariffs and this was then added to the Urban power tariffs (Nightsave Urban, Megaflex, Miniflex, Businessrate, Transflex and Municflex.)
- 5. For public lighting, total costs were used as is and converted into the public lighting tariff
- 6. For Municflex and Municrate, all charges were based on costs as is from the CTS study results, for the combined current municipal tariffs. A low voltage subsidy was calculated is the municipal tariffs and the electrification and rural subsidy added.
- 7. Gigaflex comprises of customers from Megaflex, Miniflex and Nightsave rural. The tariff is designed similar to Megaflex however does not contribute to subsidies.

How the tariffs were calculated (2)



8. Distribution network costs were taken as is from the CTS study results and then changes applied as follows:

- For the urban non-local authority LPU tariffs, the Distribution network costs have been split into fixed R/kVA unit rates (based on utilised capacity and not dependent on consumption) and variable R/kVA unit rates (dependent on demand in a month)
 - Network charges are differentiated according to Distribution's current voltage and geographic categories.
 - For the urban non-local-authority LPU tariffs (Megaflex, Miniflex, Nightsave Urban, Megaflex Gen), the HV and Transmission connected network charges are based on cost, plus a transparent subsidy raised to recover shortfall due to the LV and MV connected rates that are lower than cost.
 - A total of 60% of costs has been allocated as fixed and total of 40% of costs has been allocated as variable
 - A subsidy is applied to the NCC of the two lower voltage categories
 - The shortfall against cost for the two lower voltage categories has then been converted into the LV subsidy charge.

How the tariffs were calculated (3)

......Distribution network costs were taken as is from the CTS study results and then changes applied as follows:

•For Municflex:

- No change was made to the four voltage categories.
- The network charges are based on local-authority cost for current local-authority Megaflex, Miniflex, Nightsave Urban, Ruraflex, and Nightsave Rural tariffs.
- A total of 60% of costs has been allocated as fixed and total of 40% of costs has been allocated as variable
- As the two lower voltage categories are currently subsidised, a subsidy of 20% has been applied to the NCC and NDC charges of the two lower voltage categories.
- The shortfall against cost for the two lower voltage categories has then been converted into the LV subsidy charge for the local-authority tariffs.

For Municrate

- The network costs for Transmission and Distribution have been combined to calculate the network charge.
- The network charges have been based on the cost-reflective combined costs for the localauthority tariffs, Businessrate, Landrate and Homepower.
- A total of 60% of costs has been allocated and divided by the number of PODS to determine the R/POD NCC charge.
- A total of 40% of costs has been allocated and divided by the total kWh sales to determine the c/kWh NDC charge. 13

(≹)€skom

......Distribution network costs were taken as is from the CTS study results and then changes applied as follows:

•For the **rural LPU non-local-authority tariffs (Ruraflex, Nightsave Rural)**, the network charge has been calculated as an average for both Ruraflex and Nightsave Rural (the network charge is a combined charge) Distribution and Transmission costs and volumes and then reduced by applying subsidies so that the current level of subsidies is maintained.

- The network costs for Transmission and a percentage of the Distribution costs have been combined to calculate the NCC.
- The network charges for the two tariffs have been aligned,
- This has resulted in a slight increase to Nightsave Rural and a reduction to Ruraflex overall contribution to network charges- mainly due to volume changes.

 For Gen DUoS Urban, the network charge will only be applicable for the > 66 kV category and is calculated as the total Distribution network costs (urban

How the tariffs were calculated (6)

- 7.Distribution network costs were taken as is from the CTS study results and then changes applied as follows:
 - For **Businessrate**, the Distribution network costs were split into a fixed (not dependent on consumption) and variable (dependent on consumption) allocation.

Eskom

- The fixed R/day/POD charge was increased, with a commensurate reduction of the variable c/kWnetwork charge
- For Landrate, subsidies were applied to the network charge to ensure the same level of subsidies as current tariffs
 - The split between fixed R/day/POD and variable charge remains unchanged.
- For **Homepower**, more cost reflective network charges were introduced, where network costs were split into a fixed (not dependent on consumption) and variable (dependent on consumption) allocation.
 - The fixed R/day/POD charge was increased, with a commensurate reduction of the variable c/kWh network charge.
 - If the network costs were used as is this would have resulted in significant increases to low consumption users, so some scaling was done to limit this impact.
- For **Homelight** costs were ignored as the current tariff was used as the base. This average of the current Homelight tariff revenue/consumption then determined the new average rate.

8. The sum of all of the above changes must equal the approved revenue requirement.



Proposed changes to TOU rates and periods



Proposed changes to the TOU tariffs

- The current TOU charges 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 to 1) change the TOU hours and 2) Change the TOU prices
 - Increasing the evening peak to three hours (from two hours) and reducing morning peak to two hours (from three hours)
 - Introducing a 2 hour standard period on a Sunday evening
 - 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

Existing TOU time periods								
		High				Low		
	Weekday	Saturday	Sunday		Weekday	Saturday	Sunday	
(3	3	3		3	3	3.	(
	1 3	3	3		3	3	3	1
2	2 3	3	3		3	3	3	3
3	3 3	3	3		3	3	3	1
4	4 3	3	3		3	3	3	4
5	5 3	3	3		3	3	3	5
6	5 1	3	3		2	3	3	6
7	7 1	2	3		1	2	3	
5	8 1	2	3		1	2	3	5
9	9 2	2	3		1	2	3	9
10	D 2	2	3		2	2	3	10
11	1 2	2	3		2	2	3	11
12	2 2	3	3		2	3	3	12
13	3 2	3	3		2	3	3	13
14	4 2	3	3		2	3	3	14
15	5 2	3	3		2	3	3	15
16	5 2	3	3		2	3	3	16
17	7 1	3	3		2	3	3	17
18	B 1	2	3		1	2	3	18
19	9 2	2	3		1	2	3	19
20	D 2	3	3		2	3	3	20
21	1 2	3	3		2	3	3	21
22	2 3	3	3		3	3	3	22
23	3 3	3	3		3	3	3	23



Peak = 1 Standard = 2 Off-peak = 3

Eskom

System requirement for TOU changes (not to scale)





Impact of TOU tariffs over the past 21 years has changed the system profile





Noticeable changes are:

Eskom

A reduction in the morning peak over the years

- A significant increase in the evening peak over the years
- An increase in the Sunday evening demand

New TOU wholesale rates excluding losses

	Wholesale energy rates					
Season		High-demand			Low-deman	d
Period	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 TOU ratios c/kWh	370.94	112.36	61.03	121.03	83.28	52.84
3) Updated CTS existing TOU ratios c/kWh	432.92	125.00	63.86	135.28	90.38	54.12
4) New ratios	6.00	1.50	1.00	2.49	1.40	1.00
5) Updated new TOU ratios c/kWh	301.98c	75.49c	50.33c	125.32c	70.46c	50.33c
6) Difference between current and new ratios c/kWh	-68.96c	-36.87c	-10.70c	4.29c	-12.82c	-2.51c
7) Difference existing WEPS vs New CTS TOU c/kWh	61.98c	12.64c	2.83c	14.25c	7.10c	1.28c
8) Difference New CTS TOU vs Old CTS TOU	-130.94c	-49.51c	-13.53c	-9.96c	-19.92c	-3.79c

•This table compares existing WEPS on existing structure, existing WEPS on new structure, existing WEPS structure but based on updated CTS costs and new WEPS structure on updated CTS costs

•The winter peak rate ratio has been decreased from a 1:8 ratio to a 1:6 ratio (see points 1 and 4 above).

•This ratio change before updating the energy costs with the CTS, reduced the winter prices and increases the summer prices (see points 2 and 5 above).

•That all energy rates updated with the CTS energy cost, before the ratio change (see points 2 and 3 above) and after the ratio changes (see points 2 and 5 above), have been increased.

• This is due to the application over the years of the average price increase, to the WEPS rates resulting the current energy rates being lower than actual average energy costs.

TOU changes in conclusion







Introduction of a fixed energy charge, the generation capacity charge

Introduction of a generation capacity charge

- Wholesale electricity pricing structures always need to encourage the efficient use of electricity.
- Wholesale electricity sales should be based on TOU energy prices to promote the efficient use of electricity as well as standby / generation capacity charges applied as a demand charge.

🕀 Eskom

- The wholesale tariff structure needs to reflect the true costs in the supply chain and highlight different products and services arising from changes in the industry.
- Given the fixed and variable costs of generators, the view is that generators' costs should be recovered through a combination of capacity charges (R/kVA) and energy charges (c/kWh).
- This will reduce the financial risk associated with volumetric recovery rates given the growth in variable energy resources, which also require back up capacity.
- The introduction of a fixed generation capacity charge (GCC) will result in a reduction of the variable c/kWh charge.
- The GCC is based on allocated costs for LPU tariffs and phased in 50/50 (fixed/variable) for SPU tariffs to minimise the impact on these customers. The plan is to gradually increase the SPU tariffs' GCC to be 100% aligned with the wholesale purchase cost

How the generation capacity charge is derived from costs



- There are two aspects of generation capacity charges:
- 1. The capacity charge raised by generators to the Eskom Wholesaler paid by the Eskom Wholesaler to Eskom Generators and IPPs that are dispatchable, in addition to energy charges for all energy supplied by these Eskom Generators and IPPs.
- 2. The generation capacity charges raised by the Wholesaler to Eskom Distribution to be recovered through the retail tariffs Eskom Distribution buys energy and capacity from the Wholesaler, and these rates and structures are the wholesale purchase price. The wholesale purchase price is also then split into a retail generation capacity charge and TOU energy charges.
- The generation capacity charge is based on the fixed costs associated with the cheapest generators that would provide back-up in a system with high renewable penetration in this case a combined cycle gas turbine (not on the cost reflective capacity charges paid to dispatchable generators).
- This capacity charge is, therefore, much lower than that paid to a coal-fired plant (with high fixed costs) and equates to about 20% of total generation costs being recovered through the fixed generation capacity charge
- The wholesale generation capacity cost is allocated to the different customer categories in the CTS using the average and excess method.





- The generation capacity charge is based on allocated costs.
- A R/kVA value must be assigned to each customer category, by dividing the allocated generation capacity costs by the annual utilized capacity.
- This value represents the final generation capacity charge which will be assigned to each customer.

		Urban LPU	Municflex	Transflex 1	Transflex 2	Rural LPU
Transmission zone	Voltage	Energy capacity charge (R/kVA)	Energy capacity charge (R/kVA)	Energy capacity charge (R/kVA)	Energy capacity charge (R/kVA)	Energy capacity charge (R/kVA)
	< 500V	R 30.15	R 30.62	R 30.15	R 30.15	R 32.21
<200km	≥ 500V & < 66kV	R 69.78	R 68.45	R 56.22	R 64.87	R 43.55
SOUKIII	≥ 66kV & ≤ 132kV	R 60.03	R 61.15	R 58.22	R 56.38	
	> 132kV	R 70.28	R 70.28	R 70.28	R 70.28	R 70.28



Retail charges

0





Retail charge comprise the administration and customer service costs.

- •Currently, the administration charge is per point of delivery, and the service charge is 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 PODs under one account and pay the same service charge as a customer who has one account and one POD. This is not equitable or fair, as more retail resources are used where there are multiple PODs 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 PODs per account will see a reduction. This change, however, cannot be viewed in isolation to the other tariff changes as the total impact of all changes will have to be considered.



Municipal tariffs rationalisation



Proposed municipal tariff rationalisation



1.A new tariff LPU based on the Megaflex structure, but rates calculated by combining the costs of Megaflex, Miniflex, Nightsave Urban Large and Small, Ruraflex and Nightsave Rural for local-authority supplies

2.A new SPU tariff based on the Business structure, but rates calculated by combining the costs of Landrate, Businessrate and Homepower for local-authority supplies and with the introduction of the ERS charge

3. Public Lighting tariffs based on the cost-reflective CTS results

4. The question of inter-tariff cross-subsidisation is dealt with as the above tariffs are now based on cost, except for the existing socio-economic subsidies

5. The municipal tariff rates in the submission are shown in 12month values (based on the Eskom financial year April to March), and in 9-month values (based on 3 months April to June current tariffs, 9 months

6.If approved by Nersa, the existing local authority tariffs Megaflex, Miniflex, Nightsave Urban Large and Small, Ruraflex and Nightsave Rural will cease to exist and, be replaced by Municflex

7.If approved by Nersa, the existing local authority tariffs Landrate, Businessrate and Homepower will cease to exist and, be replaced by Municrate The new tariff options reduce complexity:

- One tariff for large power users.
- One tariff for small power users.
- Public Lighting tariff remains unchanged.
- No longer have an urban/ rural tariff differentiation.
- Will simplify the sales and revenue forecasting process for both Eskom and Municipalities:
- Two tariff options simplify the process of determining the electricity purchase cost for municipalities.

Impact on the restructured local-authority tariffs

Municipal tariffs	CTS allocated	Current	Diff current	Restuctured	Difference	Revised	% change in	Difference in
	allowed costs	tariff	tariff	tariff	new tariff	subsidy	revenue	revenue Rm.
	Rm.	revenue Rm.	revenue and	revenue Rm	revenue and	c/kWh		
			cost		cost Rm.			
Local-authority tariffs total	R 101 669	R 108 850	R 7 181	R 107 948	R 6 279	7.23	-1%	-R 902
Megaflex to Municflex	R 93 504	R 100 523	R 7 019	R 99 762	R 6 258	7.69	-0.76%	-R 761
Miniflex to Municflex	R 1 526	R 1 448	-R 78	R 1 598	R 72	6.75	10.34%	R 150
Nightsave Urban Large to Municflex	R 3 469	R 3 649	R 179	R 3 595	R 126	4.84	-1.47%	-R 54
Nightsave Urban Small to Municflex	R 422	R 426	R 5	R 457	R 35	12.37	7.17%	R 31
Ruraflex to Municflex	R 862	R 732	-R 130	R 762	-R 100	(21.85)	4.01%	R 29
Nightsave Rural to Municflex	R 1 357	R 1 591	R 235	R 1 245	-R 111	(13.14)	-21.75%	-R 346
Businessrate to Municrate	R 104	R 132	R 28	R 126	R 22	45.42	-4.30%	-R 6
Landrate to Municrate	R 134	R 122	-R 12	R 105	-R 29	(70.65)	-14.30%	-R 18
Homepower to Municrate	R 26	R 22	-R 3	R 33	R 7	72.29	45.82%	R 10
Public lighting to Public lighting	R 266	R 204	-R 62	R 266	R 0.04	0.02	30.28%	R 62
				17				

- This table shows cost, the current revenue and the current subsidy compared to the proposed tariffs and revised subsidies
- To be noted is that the contribution to subsidies by local-authority tariffs has reduced

Eskom

Municipal tariff rationalisation impacts





Impact on local authority tariffs per tariff charge type



Total local
authority
tariffs
R 9 369.8
R 8 457.6
-10%
R 87 350.4
R 92 065.5
5%
R 310.8
R 189.6
-39%
R 8 857.6
R 6 200.5
-30%
R 2 962.0
R 1 035.6
-65%
D 100 050 5
R 108 850.5
R 107 948.7
-R 901.8
-1%

(€ Eskom



Local-authority large power user tariffs





Current (Megaflex)

	Megaflex							
Transmission zone Voltage		TOU act	tive energy charge	es High	TOU actve energy charges Low T			Transmission network charge
		Peak	Standard	Off-Peak	Peak	Standard	Off-Peak	R/kVA
	<500V	437.10c	133.01c	72.58c	143.10c	98.76c	62.95c	R 12.18
<200km	≥500V & <66kV	430.21c	130.35c	70.79c	140.34c	96.58c	61.29c	R 11.11
SUUKIII	≥66kV & <132kV	416.64c	126.21c	68.55c	135.92c	93.56c	59.34c	R 10.81
	>132kV*	392.65c	118.95c	64.59c	128.08c	88.15c	55.92c	R 13.69

Proposed Municflex

	Local-authority Municflex large power user tariff (9 month view)								
Transmission zone Voltage		High-demand se	ason TOU acti charges	ve energy	Low-deman	d season TOU charges	active energy	Generation capacity	Transmission network
		Peak	Standard	Off-Peak	Peak	Standard	Off-Peak	charge R/kVA	charge R/kVA
	<500V	359.16c	89.78c	59.87c	149.07c	83.81c	59.88c	R 31.50	R 8.60
<300km	≥500V & <66kV	352.75c	88.18c	58.79c	146.39c	82.31c	58.79c	R 70.42	R 8.37
SOUCHIN	≥66kV & <132kV	330.12c	82.52c	55.02c	136.99c	77.02c	55.02c	R 62.91	R 7.73
	>132kV*	311.47c	77.86c	51.91c	129.26c	72.67c	51.91c	R 72.30	R 11.46

Large power tariffs – Municflex extract 9 month view



Current (Megaflex local-authority) – 9 month view

Distribution network charges							
Voltage	NCC R/kVA	NDC R/kVA	Miniflex NDC	LV subsidy R/kVA	Ancillary Service Charge c/kWh	ERS c/kWh	
<500V	R 24.29	R 46.02	22.55c	R 0.00	0.57c	10.80c	
≥500V & <66kV	R 22.26	R 42.21	9.47c	R 0.00	0.55c	10.80c	
≥66kV & <132kV	R 7.96	R 14.73	3.27c	R 19.50	0.51c	10.80c	
>132kV*				R 19.50	0.48c	10.80c	

*132kV/Transmission connected

Size based on MUC	Service Charge R/POD/day	Admin charge R/POD/day	Service charge R/Acc/day
≤ 100 kVA	NA	R 4.32	R 19.72
> 100 kVA & ≤ 500 kVA	NA	R 25.24	R 90.12
> 500 kVA & ≤ 1 MVA	NA	R 50.21	R 277.35
> 1 MVA	NA	R 125.02	R 277.35
Key customers	NA	R 173.57	R 5 434.93

Reactive ene (high demand	rgy c/kVArh season only
19.51	

Proposed Municflex

Distribution network charges							
Voltage	NCC R/kVA	NDC R/kVA		LV subsidy charge R/kVA	Ancillary service charge c/kWh	ERS charge c/kWh	
<500V	R 37.91	R 71.90		0.00	0.2300c	7.37c	
≥500V & <66kV	R 27.34	R 25.89		0.00	0.2300c	7.37c	
≥66kV & <132kV	R 14.76	R 13.54		R 6.75	0.2200c	7.37c	
>132kV*				R 6.75	0.2000c	7.37c	

*132kV/Transmission connected

Size based on MUC	Service charge R/POD/day	Admin charge R/POD/day
≤ 100 kVA	R 11.26	R 1.00
> 100 kVA & ≤ 500 kVA	R 73.75	R 13.37
> 500 kVA & ≤ 1 MVA	R 239.92	R 19.72
> 1 MVA	R 239.92	R 19.72
Key customers	R 811.04	R 19.72

	Reactive energy c/kVArh (high demand season only		
	Municflex		
	19.74		
1			

Megaflex and Ruraflex vs municflex



- TOU and proposed changes benefit high load factor customers.
- TOU tariffs reflect type of use e.g baseload high load factor customers pay the lowest price, versus those with low load factors or peaky profiles have higher average prices.
- The introduction of the generation capacity charge further supports high load factor customers(flattens the TOU impact)



Eskom
Miniflex and Nightsave vs municflex





Eskom



Local-authority small power user tariffs



Small power tariff – Municrate 9 month view

Current local authority SPU tariffs

Local authority tariffs Service and Ancillary NCC Energy admin service NDC c/kWh ERS charge R/POD/dav Charge c/kWh charge charge c/kWh **Businessrate** R/POD/day 149.65 0.57 20.74 R 29.74 R 25.47 0.00 1 2 149.65 0.57 20.74 R 50.16 R 25.47 0.00 3 149.65 0.57 20.74 R 86.68 R 25.47 0.00 4 402.72 0.57 20.74 0.00 Service and Ancillary Energy NCC admin NDC c/kWh ERS charge service R/POD/dav Charge c/kWh charge charge c/kWh R/POD/day Landrate R 39.20 R 32.09 148.91 0.57 36.71 0.00 2 0.00 148.91 0.57 36.71 R 60.25 R 32.09 3 R 96.35 R 32.09 148.91 0.57 36.71 0.00 4 0.57 0.00 321.63 36.71 R 31.22

L							
	Homepower	Energy Charge c/kWh 1st block	Energy Charge c/kWh 2nd block	NDC c/kWh	NCC R/POD/day	Service and admin charge R/POD/day	ERS charge
	1	171.32	270.50		R 7.33		
	2	171.32	263.72		R 13.75		
	3	171.32	263.72		R 28.40		
ſ	4	171.32	275.48		R 4.49		

Public Lighting munic	All night	R/100W/month
All night c/kWh	120.80	36.89
24 hours c/kWh	161.75	106.34
Fixed charge R/day	R 7.94	
	Por luminairo	Per High mast
Maintenance charge	rei iunnane	luminaire
	R 63.74	R 1 488.65

Proposed Municrate

	2000	authority enhan pe	nor acor tarm		····)		
Municrate	Energy charge c/kWh	Generation capacity charge R/POD/day	Ancillary service charge c/kWh	NDC c/kWh	NCC R/POD/day	Service and admin charge R/POD/day	ERS + afford. subsidy charge
1	128.25c	R 9.06	0.23c	38.46c	R 23.10	R 15.08	R 0.00
2	128.25c	R 15.08	0.23c	38.46c	R 44.72	R 15.08	R 0.00
3	128.25c	R 36.15	0.23c	38.46c	R 101.17	R 15.08	R 0.00
4	213.80c		0.23c	38.46c	R 0.00	R 0.00	R 0.00

Local-authority small nower user tariffs (9 month view)

Public Lighting munic	All night	R/100W/month
All night c/kWh	156.96c	R 52.32
24 hours c/kWh	160.26c	R 116.99
Fixed charge R/day	R 22.47	
Maintenana akanya	Por luminairo	Per High mast
Maintenance charge		luminaire
	R 63.74	R 1 488.65

(Eskom

Local-authority public lighting tariffs









Businessrate, Landrate & Homepower localauthority current vs proposed Municrate





Eskom





Non-local-authority small power user tariffs



Small power use tariffs Summary of changes per tariff (excl CTS impacts

Tariff	Change
	Non-municipal
Businessrate	 Structural change by introducing the electrification and rural subsidy (ERS) charge Energy charges – Introduced a fixed generation capacity charge (R/POD/day Network charges – increasing NCC and commensurate reduction of NDC
Landrate	 Energy charges – Introduced a fixed generation capacity charge (R/POD/day) split 50/50 between fixed (R/POD) and variable charge (c/kWh) to limit customer impact Network charges – increasing NCC and commensurate reduction of NDC
Landlight 20 and 60A	No structural changes
Homepower	 Structural changes proposed by removing IBT Introducing a single energy charge (c/kWh), an ancillary service charge (c/kWh), a network demand charge (c/kWh) and a R/day service and administration charge Network charges with increased NCC Introduction of R/POD/day GCC at a 50/50 split in a phased approach to limit customer impact of fixed (R/POD/day) and variable (c/kWh) charges to limit impact
Homelight 20 and 60A	• Structural changes proposed by removing IBT and converting to a single energy charge (c/kWh) (but the option remains to retain IBT structure)
Public Lighting	No structural changes

Small power user non-local-authority tariffs



Current tariffs

	Non- local authority tariffs					
Businessrate	Energy Charge c/kWh	Ancillary service charge c/kWh	NDC c/kWh	NCC R/POD/day	Service and admin charge R/POD/day	ERS + AF charge
1	142.89	0.55	20.17	R 28.97	R 25.03	0.00
2	142.89	0.55	20.17	R 48.81	R 25.03	0.00
3	142.89	0.55	20.17	R 84.33	R 25.03	0.00
4	384.54	0.55	20.17			

Landrate	Energy Charge c/kWh	Ancillary service charge c/kWh	NDC c/kWh	NCC R/POD/day	Service and admin charge R/POD/day
1	142.19	0.55	35.53	R 37.98	R 31.54
2	142.19	0.55	35.53	R 58.38	R 31.54
3	142.19	0.55	35.53	R 93.33	R 31.54
4	307.12	0.55	35.53	R 30.24	R 0.00
Landrate Dx					R 67.64
Landlight 20A	408.87				
Landlight 20A	527.08				

Homepower	Energy Charge c/kWh 1st block	Energy Charge c/kWh 2nd block	NDC c/kWh	NCC R/POD/day	Service and admin charge R/POD/day
1	167.47	264.44		R 7.17	
2	167.47	257.84		R 13.44	
3	167.47	257.84		R 27.75	
4	167.47	269.31		R 4.38	
Homepower Bulk	219.88	0.00		R 45.51/KVA	

Homelight	Energy charge c/kWh Block 1	Energy charge c/kWh Block 2	Single rate
20A	139.99	158.62	
60A	158.44	269.31	

Public Lighting Non Munic	All night	R/100W/month
All night c/kWh	113.71	35.58
24 hours c/kWh	152.26	102.55
Fixed charge R/day	7.48	
Maintenance charge	Per luminaire	Per High mast Iuminaire
	60.3	1403.69

Proposed tariffs

		Generation	Ancillary			Service and	ERS +	
	Energy charge	capacity	service	NDC c/kWb	NCC P/POD/day	admin charge	afford.	
	c/kWh	charge	charge		NOO IN OD/day	B/DOD/day	subsidy	
Businessrate		R/POD/day	c/kWh			R/FOD/uay	charge	
	1 101.57c	R 16.60	0.22c	16.94c	R 15.52	R 11.13	8.99c	
	2 101.57c	R 25.14	0.22c	16.94c	R 23.52	R 11.13	8.99c	
	3 101.57c	R 61.35	0.22c	16.94c	R 57.38	R 11.13	8.99c	
	4 166.67c	0.00c	0.22c	16.94c			8.99c	192.82c

Landrate	Energy charge c/kWh	Generation capacity charge R/POD/day	Ancillary service charge c/kWh	NDC c/kWh	NCC R/POD/day	Service and admin charge R/POD/day
1	128.90c	R 10.81	0.23c	38.79c	R 36.33	R 21.99
2	128.90c	R 21.63	0.23c	38.79c	R 60.06	R 21.99
3	128.90c	R 43.26	0.23c	38.79c	R 83.24	R 21.99
4	246.15c	R 6.92	0.23c	38.79c	R 27.07	
Landrate Dx						R 64.49
Landlight 20A	359.01c					
Landlight 20A	491.93c					

Homepower	Energy charge c/kWh	Generation capacity charge R/POD/day	Ancillary service charge c/kWh	NDC c/kWh	NCC R/POD/day	Service and admin charge R/POD/day
1	126.32c	R 3.36	0.22c	9.01c	R 21.77	R 5.72
2	126.32c	R 5.84	0.22c	9.01c	R 38.02	R 5.72
3	126.32c	R 14.40	0.22c	9.01c	R 91.93	R 5.72
4	126.32c	R 2.16	0.22c	9.01c	R 10.59	R 5.72
Homepower Bulk	126.32c	R 23.26/KVA	0.22c	9.01c	R 73.19/KVA	R 11.78

Homeflex		High	h Low								
	Peak c/kWh	Standard c/kWh	Off-peak c/kWh	Peak c/kWh	Standard c/kWh	Off-peak c/kWh	Generation capacity charge R/POD/day	Ancillary service charge c/kWh	NDC c/kWh	NCC R/POD/day	Service and admin charge R/POD/day
1	348.53c	87.13c	58.09c	144.64c	81.32c	58.09c	R 3.36	0.22c	9.01c	R 21.77	R 5.72
2	348.53c	87.13c	58.09c	144.64c	81.32c	58.09c	R 5.84	0.22c	9.01c	R 38.02	R 5.72
3	348.53c	87.13c	58.09c	144.64c	81.32c	58.09c	R 14.40	0.22c	9.01c	R 91.93	R 5.72
4	348.53c	87.13c	58.09c	144.64c	81.32c	58.09c	R 2.16	0.22c	9.01c	R 10.59	R 5.72
Net-billing offset rate	348.53	87.13	58.09	144.64	81.32	58.09					

Homelight C	c/kWh Block 1	c/kWh Block 2	onigie rate
20A	141.15c	141.15c	141.15c
60A	169.10c	169.10c	169.10c

Public Lighting Non Munic	All night	R/100W/month		
All night c/kWh	153.53c	R 51.17		
24 hours c/kWh	132.32c	R 96.60		
Fixed charge R/day	R 25.85			
	Por luminaira	Per High mast		
Maintenance charge	rei iunimaire	luminaire		
	R 60.30	R 1 403 69		

Businessrate non-local-authority, proposed vs current



(Eskom

Landrate non-local-authority, proposed vs current





Landlight non-local-authority, proposed vs current





Eskom

Homepower non-munic, proposed vs current



(Eskom

Homelight changes – removal of the IBT structure



- For the Homelight tariff, the aim is to move away from the IBT structure into a single energy rate structure, based on the average Homelight current revenue/total sales
- No change is proposed to the overall level of subsidies
- Perceptions of IBT
 - Difficult to budget the more I buy the less I get or the more I use, the more I pay
 - Does not allow customers to pre-buy for months ahead when money is available (like December bonus)
 - Customers buy legally at the low block and then illegally once they reach the higher block consumption
 - Very confusing and difficult to understand
 - Very unpopular in community discussions
- For large low-income/multiple-family dwellings, it cannot be assumed that low consumption equals poor. In many areas, multiple dwellings may be supplied from a single electricity supply point. An IBT structure has a significant impact on these customers
- By moving away from an IBT structure, there will be an impact in that lower-consumption customers will pay slightly more and higher-consumption customers less

This structural change is revenue neutral to the existing Homelight tariff, that is, recovers the same revenue as the current tariffs and no change has been made to the overall subsidy received. This structural change is not linked to any of the other tariff changes contained in this document as it is not based on cost. 49

Homelight non-local-authority, proposed vs current



The level of subsides remains unchanged with the structural change

(Eskom

Public lighting non-local-authority, proposed vs current





Eskom



Homeflex



New tariff Homeflex

- Eskom proposes to introduce a residential time-of-use tariff, called "Homeflex", to its' urban residential customers
- The design of the Homeflex tariff is based on the proposed new TOU structure plus (same as Homepower) network charges, ancillary service charges and service/admin charges
- A net-billing offset rate will be provided for customers with SSEG based on the unbundled energy charge.
- Time-of-use for residential customers is in compliance with the Department of Mineral Resources and Energy's Electricity Pricing Policy (EPP) policy positions

		·			Pro	posed tariff ra	ates	·			
		High			Low						
Homeflex	Peak c/kWh	Standard c/kWh	Off-peak c/kWh	Peak c/kWh	Standard c/kWh	Off-peak c/kWh	Generation capacity charge R/POD/day	Ancillary service charge c/kWh	NDC c/kWh	NCC R/POD/day	Service and admin charge R/POD/day
Homeflex 1	348.53	87.13	58.09	144.64	81.32	58.09	R 3.36	0.2227	9.01	R 21.77	R 5.72
Homeflex 2	348.53	87.13	58.09	144.64	81.32	58.09	R 5.84	0.2227	9.01	R 38.02	R 5.72
Homeflex 3	348.53	87.13	58.09	144.64	81.32	58.09	R 14.40	0.2227	9.01	R 91.93	R 5.72
Homeflex 4	348.53	87.13	58.09	144.64	81.32	58.09	R 2.16	0.2227	9.01	R 10.59	R 5.72
Offset rate	348.53	87.13	58.09	144.64	81.32	58.09					

- Customers will have choice to go to Homeflex, but will be mandatory for grid-tied embedded generation
- Significant benefits on TOU
 - Can optimise use of own generation and battery storage to reduce bills
 - Can see saving on the bill by reducing peak
 usage

Why TOU ?

SA residential urban customers contribute up to approximately 23%² of the peak demand but do not pay rates that reflect the peak cost – PV also will impact the system profile



(≹)€skom

Burning platform – why is a net-billing and residential TOU tariff needed?



1. Correcting the economic signal

Non-cost-reflective tariffs (mismatch between cost and tariff)

Current IBT structure is not cost-reflective:

- recovers fixed costs through variable charges;
- no signal for TOU usage/demand, energy capacity and network capacity

Second IBT block rate:

- greatly incentivises higher consumption customers to use solar PV or reduce sales through energy efficiency,
- resulting in a real revenue loss not commensurate with a real cost reduction.

2. Optimising the system

Need to expand TOU to the residential sector to better manage supply and demand and to increase efficiencies in operating cost

SA residential urban customers contribute up to approximately 23%² of the peak demand but do not pay rates that reflect the peak cost – PV also will impact the system profile

Residential TOU provides a market tool to deal with variability of operational capacity

Current IBT has limited signals for the actual demand customers impose on the network

3. Protecting future revenue

Need to position Eskom to have appropriate tariffs for future energy mix i.e. electric vehicles, battery storage and accommodate the **impact of PV** (fixed charges and to ensure that customers with SSEG do not get subsidised by customers without)

DoE has amended Schedule 2 of the Electricity Regulation Act to facilitate registration of SSEG – expect increased SSEG penetration.

Need to get fair compensation for the use of the grid and to also incentive customers to stay connected to the grid.

Current IBT provides no TOU signal and no signal for net-billing – PV for example reduces sales but not peak consumption and peak demand

Research studies estimate revenue lost to PV has been ~R642³ million (2013-2017), projected to increase to ~R3.5 to R4.1 billion by 2021⁴. SA residential PV contribution ~10%

¹ IDM Electrical Usage 2013

¹ Preliminary Status of Small Scale Solar PV penetration in SA, Aradhna Ramdeyal, RT&D, February 2018

¹ Prospects for Small to Medium Scale Solar PV in South Africa: 2017-2020, K Kemper & U Minnaar, March 2018

Burning platform of changing residential profiles





Currently in SA residential customers contribute to 23% demand to the peak period.

• E.g. solar PV reduces energy consumption by 49% in summer; peak demand only reduced by 4.9%¹ (Westar Energy's residential customers in Kansas)

Alters shape of residential load profile i.e. creates the "duck curve"

- Reduces demand middle of the day but not during peak hours.
- PV stops producing just as peak demand is required.

Implications:

- Steep ramp rates during evening peak, requiring use of expensive peaking generation plant, which is uneconomical.
- PV lowers the Generation plant load factor,
- Additional operational costs to serve the peaks are not reflected in current IBT tariffs

Targeted approach required to achieve reduction in peak demand – change in tariff structure is needed.

 "creating a separate rate class and/or adding a demand charge dimension to rates"

1. Source Do Load Shapes of PV Customers Differ? Implications for Rate Design, Ahmad Farugui and Walter Graf, Brattle Group https://www.fortnightly.com/fortnightly/2018/02/do-loadshapes-pv-customers-differ

SOURCE: Strategic direction and tariff design principle for Eskom's tariffs 2017, paragraph 3.3



Non-local-authority large power user tariffs



Large power tariff changes



Tariff	Change
	Non-municipal
Megaflex, Miniflex, WEPS	 Energy charges – Introduced a fixed generation capacity charge updated with new TOU ratios and periods Network charges – increasing the network capacity charge (NCC), which is a fixed charge, and commensurate reduction of the network demand charge (NDC), a variable charge Service charge converted from R/account to R/POD
Transflex	 Energy charges – Introduced a fixed generation capacity charge updated with new TOU ratios and periods Service charge converted from R/account to R/POD
Nightsave Urban Large and Small	 Energy charges – Introduced a fixed generation capacity charge updated with new TOU ratios and periods Network charges – increasing NCC and commensurate reduction of NDC Service charge converted from R/account to R/POD
Ruraflex and Nightsave Rural	 Increases applied to Ruraflex and reduction of Nightsave Rural Energy charges – Introduced a fixed generation capacity charge updated with new TOU ratios and periods Network charges – increasing NCC and commensurate reduction of NDC Service charge converted from R/account to R/POD

Large power tariffs Urban non-local-authority Megaflex and Miniflex energy charges



Current tariffs

Transmission zone	Voltage	High Season	TOU active energ	yy charges	Low Season TOU active energy charges			
		Peak	Standard	Off-Peak	Peak	Standard	Off-Peak	
	<500V	417.36c	126.98c	69.34c	136.67c	94.30c	60.12c	
<200km	≥500V & <66kV	410.81c	124.45c	67.59c	133.99c	92.24c	58.52c	
<300KM	≥66kV & <132kV	397.80c	120.50c	65.45c	129.78c	89.30c	56.68c	
	>132kV*	374.91c	113.56c	61.68c	122.33c	84.17c	53.41c	

Proposed tariffs

Transmission zone		High-demand season TOU active energy charges (WEPS, Megaflex and Miniflex)			Low-demand se (WEPS	Generation		
	Voltage	Peak	Standard	Off-Peak	Peak	Standard	Off-Peak	capacity charge R/kVA
	<500V	348.54c	87.13c	58.09c	144.64c	81.32c	58.09c	R 30.15
<200km	≥500V & <66kV	342.88c	85.71c	57.15c	142.29c	80.00c	57.15c	R 69.78
<300km	≥66kV & <132kV	320.90c	80.22c	53.48c	133.17c	74.87c	53.48c	R 60.03
	>132kV*	302.77c	75.69c	50.46c	125.65c	70.64c	50.46c	R 70.28

Large power tariffs Urban non-local-authority Nightsave Urban energy charges



Current tariffs

Energy demand charge High	Energy demand charge Low	Active energy charge High	Active energy charge Low	Energy demand charge High	Energy demand charge Low	Active energy charge High	Active energy charge Low
Nightsave L	Nightsave L	Nightsave L	Nightsave L	Nightsave S	Nightsave S	Nightsave S	Nightsave S
R 313.65	R 43.84	103.08c	80.13c	R 220.27	R 28.39	103.08c	80.13c
R 303.57	R 42.43	97.61c	76.19c	R 213.18	R 27.43	97.61c	76.19c
R 292.52	R 40.89	96.89c	75.28c	R 205.34	R 26.41	96.89c	75.28c
R 282.17	R 39.44	90.63c	70.47c	R 198.16	R 25.49	90.63c	70.47c

Proposed tariff

Generation	High-demand season energy demand charge	Low-demand season energy demand charge	High-demand season active energy charge	Low-demand season active energy charge
capacity charge R/kVA	Nightsave	Nightsave	Nightsave	Nightsave
R 30.15	R 158.98	R 35.03	74.71c	71.23c
R 69.78	R 156.40	R 34.47	73.50c	70.07c
R 60.03	R 146.37	R 32.26	68.78c	65.58c
R 70.28	R 138.10	R 30.43	64.90c	61.87c

Large power tariffs Urban non-local-authority tariffs Other charges

Eskom

Current tariffs

Distribution network charges									
Voltage	NCC R/kVA	NDC R/kVA	NDC c/kWh (Miniflex)	LV subsidy R/kVA	Ancillary service charge c/kWh	ERS c/kWh	AFS charge c/kWh		
<500V	R 23.73	R 44.99	22.05c	R 0.00	0.55c	10.61c	4.98c		
≥500V & <66kV	R 21.76	R 41.27	9.24c	R 0.00	0.54c	10.61c	4.98c		
≥66kV & <132kV	R 7.77	R 14.39	3.22c	R 19.17	0.52c	10.61c	4.98c		
>132kV*				R 19.17	0.48c	10.61c	4.98c		

*132kV/Transmission connected

Size based on MUC	Service Charge R/POD/day	Admin charge R/POD/day	Service charge R/Acc/day
≤ 100 kVA		R 4.26	R 19.39
> 100 kVA & ≤ 500 kVA		R 24.83	R 88.53
> 500 kVA & ≤ 1 MVA		R 49.30	R 272.39
> 1 MVA		R 122.76	R 272.39
Key customers		R 170.47	R 5 337.86

Reactive energy c/kVArh (high demand season only)		Reactive energy and low dem	y c/kVArh (high and season)
Megaflex Miniflex		Transflex 1	Transflex 2
19.19	8.36	12.68	12.68

Proposed tariffs

Distribution network charges Urban								
Voltage	NCC R/kVA (Megaflex, Nightsave and WEPS)	NDC R/kVA (Megaflex, Nightsave and WEPS)	NDC c/kWh (Miniflex)	LV subsidy charge R/kVA (All LPU)	Ancillary service charge c/kWh (All LPU)	ERS charge c/kWh (All LPU)	Affordability subsidy charge c/kWh (All LPU)	
<500V	R 31.53	R 31.98	18.25c	0.00	0.22c	7.16c	1.82c	
≥500V & <66kV	R 29.96	R 27.80	15.15c	0.00	0.22c	7.16c	1.82c	
≥66kV & <132kV	R 10.76	R 11.83	10.71c	R 2.83	0.21c	7.16c	1.82c	
>132kV*	R 0	R 0	R 0	R 2.83	0.19c	7.16c	1.82c	

*132kV/Transmission connected

Urban retail charges based on MUC (All LPU)	Service charge R/POD/day	Admin charge R/POD/day	Service charge R/Acc/day
≤ 100 kVA	R 10.95	R 0.83	
> 100 kVA & ≤ 500 kVA	R 71.69	R 13.00	
> 500 kVA & ≤ 1 MVA	R 233.22	R 19.17	
> 1 MVA	R 233.22	R 19.17	
Key customers	R 788.40	R 19.17	

Reactive end (high dema on	ergy c/kVArh ind season ly)			
Megaflex	Miniflex			
19.19 8.30				

Megaflex and Miniflex current vs proposed



- Impact depends on load factor and profile
- TOU and proposed changes benefit high load factor customers.
- TOU tariffs reflect type of use e.g. baseload high load factor customers pay the lowest price, versus those with low load factors or peaky profiles have higher average prices.
- The introduction of the generation capacity charge further supports high load factor customers(flattens the TOU impact)



Eskom

Nightsave urban current vs proposed



(Eskom



Current tariff

	LPU non-Local authority existing tariffs												
	and the second second			Ruraflex		dine une			Nightsave Rural				
Transmission zone	Voltage	TOU acti	ve energy charge	s High	TOU actve energy charges Low		Nework capacity charge R/kVA Ruraflex	Active energy charge High	Active energy charge High	Active energy charge High	Active energy charge Low	Nework capacity charge R/kVA NS Rural	
		Peak	Standard	Off-Peak	Peak	Standard	Off-Peak		Nightsave	Nightsave	Nightsave	Nightsave	
	<500V	432.14c	130.92c	71.11c	140.97c	97.01c	61.55c	R 24.96	R 353.18	R 186.91	105.41c	81.90c	R 17.86
	≥500V & <66kV	427.87c	129.63c	70.38c	139.59c	96.05c	60.91c	R 22.87	R 342.23	R 180.29	104.16c	80.980	R 16.41
<300km	≥66kV & <132kV												
	>132kV*												

Proposed tariff

Transmission zono Voltago		High-demand season TOU active energy charges (Ruraflex)		Low-demand season TOU active energy charges (Ruraflex)		Generation	High-demand season energy demand charge	Low-demand season energy demand charge	High-demand season active energy charge	Low-demand season active energy charge	Network demand charge (R/kVA)		
	vonage	Peak	Standard	Off-Peak	Peak	Standard	Off-Peak	charge R/kVA	Nightsave	Nightsave	Nightsave	Nightsave	Bundled (Transmission and Distribution)
	<500V	353.75c	88.43c	58.96c	146.80c	82.54c	58.96c	R 32.21	R 137.14	R 33.17	75.67c	72.22c	R 41.56
<300km	≥500V & <66kV	348.88c	87.21c	58.15c	144.78c	81.40c	58.15c	R 43.55	R 135.25	R 32.71	74.62c	71.22c	R 47.33
	≥66kV & <132kV												
	>132kV												



Current tariff

	Distribut	tion network	charges				
Voltage	NCC R/kVA	NDC R/kVA	NDC c/kWh	LV subsidy R/kVA	Ancillary Service Charge c/kWh	ERS c/kWh	AFS charge c/kWh
<500V			28.39		0.44		
≥500V & <66kV			24.89		0.44		
≥66kV & <132kV							
>132kV*							

Size based on MUC	Service Charge R/POD/day	Admin charge R/POD/da y	Service charge R/Acc/day	Reactive energy c/kVArh (high demand season only
≤ 100 kVA		R 5.57	R 19.62	
> 100 kVA & ≤ 500 kVA		R 31.02	R 66.90	9.59
> 500 kVA & ≤ 1 MVA		R 47.61	R 205.82	
> 1 MVA		R 88.34	R 205.82	
Key customers		R 88.34	R 4 033.88	

Proposed tariff

Voltage	NCC R/kVA	NDC R/kVA	NDC c/kWh	LV subsidy R/kVA	Ancillary Service Charge c/kWh	ERS c/kWh	AFS charge c/kWh
< 500V			22.91		0.2219		
≥ 500V & < 66kV			20.39		0.2188		
≥ 66kV & ≤ 132kV							
> 132kV							

Size based on MUC	Service Charge R/POD/day	Admin charge R/POD/day	Service charge R/Acc/day
≤ 100 kVA	R 17.63	R 1.50	
> 100 kVA & ≤ 500 kVA	R 60.97	R 15.00	
> 500 kVA & ≤ 1 MVA	R 198.34	R 21.15	
> 1 MVA	R 198.34	R 21.15	
Key customers	R 690.47	R 21.15	

Reactive
energy
c/kVArh
Ruraflex
9.59

Ruraflex and Nightsave rural current vs proposed





Eskom



Subsidies



National policy on subsidies

- Eskom
- There is no national directive, rule or guideline on electricity subsidies except for the policy positions in the EPP (EPP policy positions on subsidies) and the Nersa 2005 subsidy framework (status of the latter not known)
- Most subsidies are from legacy historical decisions, such as the Governments decision in the 1980's to cross-subsidise rural electrification (the electrification and rural subsidy)
- Section 16 of the ERA states that Nersa may permit certain level of cross subsidies
- Nersa has also at its discretion determined subsidies over the years such as the lower tariff increases to the Homelight tariffs which placed an additional burden on Eskom's large power non-munic tariffs (the affordability subsidy charge).
- Eskom has no mandate to make changes to socio-economic subsidies

Calculation of subsidies



The subsidies in electricity tariffs (where the tariff is higher or lower than cost)

- •Are within a tariff and based on structure (intra-tariff subsidies)
 - Structural or based on pooling of costs
- •This can only be corrected once a tariff is redesigned
- •The proposals in this retail plan have reduced some of the intra-tariff subsidies by aligning the charges with cost e.g.
 - Businessrate network charges
 - Reducing the LV subsidy paid by the urban large power tariffs by increasing the LV and MV network charges

•Are for affordability socio-economic reasons (inter-tariff subsidies for usage, network and connection cost)

- Where the tariff category at a whole receives a subsidy and other tariffs pay these subsidies
- These subsidies being paid are more transparent, but for the receiving tariffs it tends to be hidden
- The tariffs receiving subsidies are the rural tariffs (Landrate, Ruraflex and Nightsave Rural) and the Homelight tariffs

•The overall R value level of subsidies to the subsidised rural and Homelight tariffs remains the same in this plan, but changes have been made structurally within tariff categories.

•The subsidy charges (ERS and Affordability subsidy) in this plan have reduced due to the updating of the rates by the cost to serve study

Subsidies current vs revised

		Current tariff	Current
Current subsidies (2021/20 R value)	Cost Rm	Rm	subsidy Rm
Local authority tariffs	R 101 403	R 108 646	R 7 243
Large power user tariffs	R 90 762	R 96 298	R 5 536
Businessrate	R 1 919	R 2 516	R 597
Homepower	R 2 913	R 3 043	R 130
Homelight	R 21 920	R 13 095	-R 8 825
Rural	R 27 854	R 23 994	-R 3 859
Public lighting	R 311	R 238	-R 73
Total	R 247 082	R 247 831	R 749



Revised subsidies (2021/22 R value)	Cost Rm	Revised tariff tariff Rm	Revised subsidy Rm
Local authority tariffs	R 101 403	R 107 683	R 6 279
Large power user tariffs +GUoS*	R 90 762	R 97 637	R 6 875
Businessrate	R 1 919	R 2 013	R 94
Homepower	R 2 913	R 2 912	-R 1
Homelight	R 21 920	R 13 095	-R 8 825
Rural	R 27 854	R 23 994	-R 3 859
Public lighting	R 311	R 311	R 0
Generator Uos charges	R 0	R 184	R 184
Total	R 247 082	R 247 829	R 747



Eskom



Impacts for all tariffs



Impact of all restructured tariffs (2021/22 R value)



	CTS allocated	Current	Diff current	Restuctured	Difference	Revised	% change in	Difference in
	allowed costs	tariff	tariff	tariff	new tariff	subsidy	revenue	revenue Rm.
	Rm.	revenue Rm.	revenue and	revenue Rm	revenue and	c/kWh		
			cost		cost Rm.			
Total all tariffs	R 247 082	R 247 831	R 749	R 247 829	R 747	0.41	0.00%	-R 2
Local-authority tariffs	R 101 669	R 108 850	R 7 181	R 107 948	R 6 279	7.23	-0.83%	-R 902
Municflex	R 101 140	R 108 370	R 7 230	R 107 419	R 6 279	7.25	-0.88%	-R 951
Municrate	R 263	R 276	R 13	R 263	R O	(0.01)	-4.66%	-R 13
Public Lighting munic	R 266	R 204	-R 62	R 266	R O	0.02	30.28%	R 62
Urban tariffs non-local-authority	R 92 682	R 98 815	R 6 133	R 99 650	R 6 969	9.15	0.85%	R 836
Megaflex	R 76 692	R 82 673	R 5 982	R 82 951	R 6 259	9.41	0.34%	R 277
Nightsave Large	R 2 316	R 2 376	R 60	R 2 392	R 76	5.27	0.67%	R 16
Nightsave Small	R 1 094	R 1 112	R 18	R 1 141	R 46	7.06	2.57%	R 29
Miniflex	R 6 183	R 5 /25	-R 459	R 6 395	R 212	5.68	11./1%	R 670
Transflex 1	R 4 036	R 3 782	-R 253	R 4 287	R 251	10.03	13.34%	R 505
Transflex 2	R 441	R 630	R 189	R 472	R 31	9.88	-25.08%	-R 158
Businessrate	R 1 919	R 2 516	R 597	R 2 013	R 94	8.98	-19.99%	-R 503
Rural tariffs non-local-authority	R 27 854	R 23 994	-R 3 859	R 23 994	-R 3 859	(35.49)	0.00%	R O
Ruraflex	R 10 488	R 8 397	-R 2 092	R 8 939	-R 1 549	(30.21)	6.46%	R 542
Nightsave rural	R 3 167	R 3 234	R 67	R 2 692	-R 475	(30.63)	-16.76%	-R 542
Landrate &Landlight	R 14 198	R 12 364	-R 1 835	R 12 364	-R 1 835	(43.74)	0.00%	R O
Residential tariffs non-local-authority	R 24 833	R 16 138	-R 8 695	R 16 007	-R 8 826	(89.02)	-0.81%	-R 131
Homepower	R 2 913	R 3 043	R 130	R 2 912	-R 1	(0.05)	-4.29%	-R 131
Homelight 20A	R 13 002	R 7 603	-R 5 399	R 7 603	-R 5 399	(100.24)	0.00%	R O
Homelight 60A	R 8 918	R 5 492	-R 3 426	R 5 492	-R 3 426	(105.48)	0.00%	R C
Public lighting non-local-authority	R 45	R 34	-R 11	R 45	R 0	0.29	33.19%	R 11
Public Lighting All Night	R 43	R 32	-R 11	R 43	R O	(0.01)	35.02%	R 11
Public Lighting 24 Hours	R 1.22	R 1.48	R 0.26	R 1.22	R 0.00	(0.01)	-17.73%	RO
Public Lighting Urban Fixed	R 0.19	R 0.08	-R 0.11	R 0.27	R 0.09	185.23	245.59%	RO
Generator TUoS and DUoS revenue	R 0.00	R 0.00	R 0.00	R 184.00	R 0.00	0.00	0.00%	R 184

Impact of all restructured tariffs




% impact per tariff charge type – Eskom total





Overall impacts (1)

Eskom

- Updating rates with the CTS
 - 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.
 - Total energy related charges see an increase of 7% relative to other charges, and this is because energy costs have been increasing at a higher rate compared to the average increases(ERTSA) that have been applied to charges
- The inclusion of a fixed capacity charge for energy (GCC) will result in a reduction in the variable c/kWh energy charge. It can be seen from the results that the c/kWh energy charge has reduced by 11%, which is expected.
- Increasing the fixed-charge components will result in lower average network prices for higher load factor customers (and vice versa).
- 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 impacts customers with many linked PODs to one account.
- Splitting of the LV subsidy charge between non-local-authority tariffs and local-authority tariffs resulted in the contribution to the low- and medium-voltage subsidy for the non-local-authority tariffs to be increased, as there is more volume in the non local authority tariffs for the LV and MV categories.
 - > Local-authority tariffs now only contribute to low- and medium-voltage subsidies in the local-authority tariff pool.
 - > This is clearly illustrated by the increase in the revised subsidy for Megaflex, which in actual effect would have seen a reduction of sorts due to a reduction in it's contribution to the low voltage subsidy.

Overall impacts (2)



•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.

•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.

•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.

•Nightsave Urban Large and Nightsave Urban Small were aligned to make the energy demand charges the same.

Both tariffs see an increase due to updating with the CTS, with Nightsave Small having a larger negative impact.

•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.

Overall impacts (3)



•Businessrate sees a significant reduction due to the rates being updated with the CTS.

This tariff category now contributes to the ERS charge in order to align with the other commercial LPU tariffs paying this contribution.

•For Landrate, since this is a subsidised tariff, the objective was to retain the existing subsidies. Therefore some adjustments were done between tariff categories to apply these subsidies. The GCC was introduced in a phased approach by splitting it between fixed and variable charges to minimise customer impact.

- There is a slight increase of 2% and 3% on Landrate 2 and 3 respectively, based on the design and this is done to reduce the significant subsidies in these categories.
- Landrate 1 and 4 see a reduction in alignment with costs. The level of subsidies remains the same overall.

•For the Homelight tariffs, removing IBT has a small negative impact on very low-consumption customers and a positive impact on higher-consumption customers.

•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 results in lower-consumption customers paying more (and vice versa).

Conclusion



- As per Nersa's requirement that tariffs must be motivated based on the cost of supply, Eskom updated its cost of supply study and based all the tariff rates on the updated CTS
- The changing energy environment, reducing sales and the increasing use of alternative energy sources by customers, means that tariff structures are outdated and need to reflect current realities. It is no longer feasible to recover fixed costs through kWh charges and difficult decisions need to be made ensure fair recovery of costs. A fixed generation capacity charge has been introduced to recover fixed generation costs and a gradual increase in the fixed component of the network charges is proposed because network costs are primarily fixed in nature.
- For municipal tariffs, the number of tariffs needed to be reduced to simplify and assist in better determination of municipal purchase cost. This allows also for the separation of municipal tariffs from non-municipal tariffs and better allocation of subsidies.
- Residential tariffs also need an overhaul. IBT as a tariff structure is no longer appropriate, is disliked by customers and is complex to understand and explain. For this reason, Eskom proposed to remove IBT, to reintroduce fixed more cost reflective network and retail charge for Homepower and to introduce a TOU residential tariff with an offset rate for net-billing.
- It is not possible to have zero impact to all customers and while the sum of the structural changes is revenue neutral i.e. come back to current tariff revenue, individual customers may pay more or less depending on the structural change and their consumption profile.





Thank you

