



Location! Location! Location!

Real estate is not the only commodity that is governed by the motto of “Location! Location! Location!”. Electricity users across Gauteng are governed by different utility bodies and depending on your location, your utility costs either don’t phase you or they drastically affect your bottom-line. This article will highlight the differences in costs between the various municipal districts.

This will be done by using a hypothetical company, called Company X. Company X is primarily a daytime operations manufacturing company that operates for five days a week and is a medium energy consumer. An average monthly electricity bill for Company X looks as follow:

| Description | Quantity |
|-----------------|-------------|
| Total Energy | 264 000 kWh |
| <i>Peak</i> | 44 000 kWh |
| <i>Standard</i> | 112 000 kWh |
| <i>Off-peak</i> | 108 000 kWh |
| Peak demand | 800 kVA |

The greater Gauteng is divided into three metropolitan municipalities (City of Ekurhuleni, City of Johannesburg and City of Tshwane) as well as two district municipalities that are subdivided into six local municipal areas. Whilst being an IPP in the Commercial and Industrial space, majority of the companies that NrG deals with are situated in the metropolitan areas and will be evaluated along with Eskom’s Miniflex tariff structure.

The various 2017/18 tariff structures for the municipalities, that would best suit the consumption profile of Company X, will be compared in the table below. The Eskom Miniflex tariff structure for transmission zone of less than 300 km and voltage below 500 V will also be compared.

| | City of Ekurhuleni Tariff E 230/400V | City of Tshwane 11kV Supply | City of Johannesburg Large Consumer TOU LV |
|-----------------------------------|---|--------------------------------|--|
| Service Charge (R/m) | 1593.46 | 1 925.00 | 920.88 |
| Capacity Charge (R/m) | - | - | 823.30 |
| Peak Demand (R/kVA) | 68.09 | 159.50 | 174.69 |
| Network Access (R/kVA) | 41.80 | - | - |
| Reactive Energy Charge (c/kVArh) | - | - | 18.29 |
| Energy Charge High Season (c/kWh) | | | |
| <i>Peak</i> | 523.44 | 319.50 | 296.75 |
| <i>Standard</i> | 149.48 | 116.70 | 116.96 |
| <i>Off-Peak</i> | 88.22 | 62.20 | 80.14 |
| Energy Charge Low Season (c/kWh) | | | |
| <i>Peak</i> | 159.16 | 122.40 | 124.71 |
| <i>Standard</i> | 104.50 | 75.60 | 96.92 |
| <i>Off-peak</i> | 78.43 | 53.50 | 74.50 |

Source: NERSA Gauteng Tariff Booklet 2017-18

| Active Energy Charge (c/kWh) | | | | | |
|-------------------------------------|---|----------------------------------|--|--|-----------------------------------|
| High Season | | | Low Season | | |
| <i>Peak</i> | <i>Standard</i> | <i>Off-Peak</i> | <i>Peak</i> | <i>Standard</i> | <i>Off-Peak</i> |
| 279.71 | 85.11 | 46.44 | 91.58 | 63.2 | 40.28 |
| Distribution Network Charges | | | | | |
| Ancillary service Charge (c/kWh) | Network Demand Charge (c/kWh) Peak & Standard | | Urban low voltage subsidy charge (R/kVA/m) | | Network Capacity Charge (R/kVA/m) |
| 0.36 | 14.42 | | 0 | | 23.32 |
| Service Charge (R/account/day) | Administration Charge (R/POD/day) | Reactive energy charge (c/kVArh) | | Electrification & rural network subsidy charge (c/kWh) | |
| | | High Season | Low Season | | |
| 177.48 | 32.13 | 5.47 | 0 | 6.91 | |

Source: Eskom Schedule of Standard Prices 2017 - 2018

The three municipalities have similar line item charges that appear on a monthly utility bill. These municipalities generally also have their billing periods according to calendar months which makes it easier to keep track of your monthly consumption. Whereas, Eskom's line items carry on for days and half of them seem to be made up for good measure. You can go read what they all mean in the tariff structure guide, but let's be honest, it seems a little over the top don't you think? Also, Eskom's billing period aren't based on calendar months and when there is a change from low to high season you'll observe a double line item bill to account for the changeover.

The table below gives a comparison of the three metropolitan municipalities based on the average monthly consumption profile of Company X. To allow for the worst-case scenario, let's assume that the period of comparison is during the high season period (i.e. June – August).

| Detail | Quantity | City of Ekurhuleni Tariff E 230/400V | City of Tshwane 11kV Supply | City of Johannesburg Large Consumer TOU LV |
|------------------------------------|-------------|--------------------------------------|-----------------------------|--|
| Service Charge | | R 1 593.46 | R 1 925.00 | R 920.88 |
| Capacity Charge | | | | R 823.30 |
| High Season Peak Energy Charge | 44 000 kWh | R 230 313.60 | R 140 580.00 | R 130 570.00 |
| High Season Standard Energy Charge | 112 000 kWh | R 167 417.60 | R 130 704.00 | R 130 995.20 |
| High Season Off-peak Energy Charge | 108 000 kWh | R 95 277.60 | R 67 176.00 | R 86 551.20 |
| Peak Demand | 800 kVA | R 54 472.00 | R 127 600.00 | R 130 752.00 |
| Network Access | 800 kVA | R 33 440.00 | | |
| Total Cost (ex VAT) | | R 582 514.26 | R 467 985.00 | R 489 612.58 |

If Company X had Eskom as its utility company, its energy bill would look as follow:

| | |
|------------------------------------|---------------------|
| Administration Charge | R 996.03 |
| Network Capacity Charge | R 18 656.00 |
| Network Demand Charge | R 22 495.20 |
| Ancillary Service Charge | R 950.40 |
| High Season Peak Energy Charge | R 123 072.40 |
| High Season Standard Energy Charge | R 95 323.20 |
| High Season Off-peak Energy Charge | R 50 155.20 |
| Electrification & Rural Subsidy | R 18 242.40 |
| Service Charge | R 5 501.88 |
| Total (ex VAT) | R 335 392.71 |

In an ideal world where Company X could relocate based on its cost of electricity, it should relocate to allow for a direct connection with Eskom as this would eliminate the additional wheeling charges from a municipality. Whilst the utility company has gained a lot of attention over the years for its volatile price escalations and some unfavourable matters, it is still the cheapest option, even if its bills are riddled with additional line charges that only make sense to them. However, given that Eskom is the sole supplier of electricity to municipalities, Company X would benefit most from having City of Tshwane as its utility company. Based on total cost, if Company X was connected to City of Ekurhuleni or City of Johannesburg it would pay 24% and 5% more respectively in comparison to City of Tshwane. Interestingly enough, if the Low Season electricity bills were analysed, City of Ekurhuleni would be cheaper than City of Johannesburg (11% vs 18%) in comparison to City of Tshwane.

The last two years electricity consumers were able to breathe a sigh of relief with NERSA curbing Eskom's electricity escalations at 1.88% in 2016 and 5.23% in 2017. However, this won't be sustainable over the long haul. So, if you have a company with a similar profile to Company X and you feel the looming escalations and can't relocate your business across the municipal borders of Gauteng, then you could potentially benefit from decreasing your dependency to the grid by looking to alternative energy sources such as solar PV.