



A GUIDE TO NAVIGATING SOUTH AFRICA'S ENERGY TARIFFS FOR BUSINESSES (2024/25)



INTRODUCTION MAPPING ESKOM'S TARIFF STRUCTURE

Eskom provides various energy tariffs tailored to the needs of businesses. Understanding these tariffs, along with the geographic and municipal variations, is essential for businesses to manage their energy costs effectively. This guide covers the applicable tariffs, time-of-use periods, chargeable demands, and key considerations for selecting the appropriate tariff. By comprehensively understanding their electricity bills and carefully evaluating the various tariff options, businesses can make informed decisions to optimise their energy costs.



UNDERSTANDING YOUR ELECTRICITY BILL

To effectively manage electricity costs, businesses should understand their electricity bills. Here are key components to look for:

- **Basic Energy Usage:** This is the base charge for the actual energy used, often broken down into peak, standard, and off-peak charges for TOU tariffs.
- **Power Factor Charge:** Utilities may penalise consumers if the power factor falls below a certain threshold. Installing a power factor correction system can eliminate penalties and reduce billing costs.
- **Network Demand Charge:** This is a variable monthly charge based on the actual demand measured during peak periods.
- **Network Access Charge:** A fixed annual charge based on the highest demand recorded.
- **Voltage Surcharge:** Charges depend on the voltage level at which electricity is supplied.

HOW TO READ YOUR ELECTRICITY BILL

Understanding your electricity bill is the first step towards managing energy costs effectively. Here are the components you will typically find on your bill:

- **Issue Date:** The date the bill was generated.
- **Account Number:** Your unique identifier for all billing inquiries.
- **Billing Period:** The range of dates the bill covers.
- **Meter Numbers:** Identification for the meters being read.
- **Energy Consumption:** Total kWh used, often broken down into peak, standard, and off-peak periods.
- **Charges and Credits:** Detailed breakdown of charges for energy used, service fees, and any credits applied.
- **Total Amount Due:** The total payable amount, including all charges and credits.

DIFFERENT RATES FOR DIFFERENT SERVICE ENERGY PROVIDERS



Electricity is billed as a charge per kilowatt hour (kWh). Depending on the type of customer and location, this rate can vary widely. The rate must be approved by the National Energy Regulator of South Africa (NERSA). If you don't know what your rate is, you can look at your latest electricity bill. Sometimes it'll be listed outright as something like a "blended rate," or you can divide your electricity charges by your total kWh to get a close approximation.

While the cost per kWh is the simplest way to look at your electricity bill, there's quite a bit more to it than that. Your electricity bill depends on which local municipality supplies your electricity, the voltage at which you are supplied, and other factors. Understanding these differences can help you manage your energy costs more effectively.



OVERVIEW OF BUSINESS RATE TARIFFS

Business rate tariffs are categorised based on the capacity of supply:

1. Business rate 1:

- **Single-phase:** 16 kVA (80 A per phase)
- **Dual-phase:** 32 kVA (80 A per phase)
- **Three-phase:** 25 kVA (40 A per phase)

2. Business rate 2:

- **Dual-phase:** 64 kVA (150 A per phase)
- **Three-phase:** 50 kVA (80 A per phase)

3. Business rate 3:

- **Dual-phase:** 100 kVA (225 A per phase)
- **Three-phase:** 100 kVA (150 A per phase)

4. Business rate 4 (conventional or prepaid):

- **Single-phase:** 16 kVA (80 A per phase)
- **Dual-phase:** 32 kVA (80 A per phase)
- **Three-phase:** 25 kVA (40 A per phase).

CHARGES FOR BUSINESS RATE TARIFFS

- **Energy Charge:** Charged per kWh consumed.
- **Ancillary Service Charge:** Applied per kWh consumed.
- **Network Demand Charge:** Charged per kWh based on active energy measured at the Point of Delivery (POD).
- **Network Capacity Charge:** A daily charge based on the Notified Maximum Demand (NMD) of the supply.
- **Service and Administration Charge:** A daily charge per POD, payable every month regardless of electricity usage.

NON-LOCAL AUTHORITY CHARGES (VAT INCL.)

- **Business rate 1:** Energy Charge 209.50 c/kWh, Ancillary Service Charge 0.80 c/kWh, Network Demand Charge 29.57 c/kWh, Network Capacity Charge R42.47/POD/day, Service and Administration Charge R36.71/POD/day.
- **Business rate 2:** Higher Network Capacity and Service Charges than Business rate 1.
- **Business rate 3:** Higher Network Capacity and Service Charges than Business rate 2.
- **Business rate 4:** Energy Charge 563.81 c/kWh, higher than other Business rate categories.

LOCAL AUTHORITY CHARGES (VAT INCL.)

- **Business rate 1:** Energy Charge 217.08 c/kWh, Ancillary Service Charge 0.82 c/kWh, Network Demand Charge 30.10 c/kWh, Network Capacity Charge R43.14/POD/day, Service and Administration Charge R36.94/POD/day.
- **Business rate 2:** Higher Network Capacity and Service Charges than Business rate 1.
- **Business rate 3:** Higher Network Capacity and Service Charges than Business rate 2.
- **Business rate 4:** Energy Charge 584.17 c/kWh, higher than other Business rate categories.

URBAN TARIFFS

Urban tariffs apply to commercial and non-commercial supplies in urban areas without grid-tied generation.

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CATEGORIES OF URBAN TARIFFS

- **Nightsave Urban (Small) Tariff:** Suitable for customers with and NMD from 25 kVA at a supply voltage < 22 kV.
- **Megaflex Tariff:** For customers with an NMD greater than 1 MVA.
- **Miniflex Tariff:** For customers with an NMD from 16 kVA up to 5 MVA.

CHARGES FOR URBAN TARIFFS

- **Active Energy Charge:** Differentiated by time-of-use periods (peak, standard, off-peak) and seasonally (high demand season, low demand season).
- **Network Capacity Charge:** A monthly charge based on the annual utilised capacity measured at the POD.
- **Network Demand Charge:** Based on the chargeable demand in peak and standard periods.
- **Service and Administration Charge:** Daily charge per account or POD based on the utilised capacity.
- **Reactive Energy Charge:** Applied to energy supplied in excess of a specified power factor during the high-demand season.
- **Electrification and Rural Network Subsidy Charge:** Applied per kWh of active energy consumed.
- **Affordability Subsidy Charge:** Applied per kWh for non-local authority tariffs only.



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GEOGRAPHIC AND MUNICIPAL VARIATIONS

Energy charges vary significantly based on geographic location and the municipal area of the business. Here are key variations:

- **Transmission Zones:** Charges differ based on the distance from Johannesburg and the voltage level of the supply. For example, charges for areas within 300 km of Johannesburg differ from those 300-600 km away.
- **Local vs. Non-Local Authorities:** Local authority areas generally have different charges compared to non-local authority areas. Local authority charges tend to be slightly higher.
- **Urban vs. Rural Areas:** Urban areas have different tariffs compared to rural areas. Urban tariffs generally include additional charges such as urban low voltage subsidy charges.

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TIME-OF-USE (TOU) TARIFFS

TOU tariffs are designed to reflect the varying costs of supplying electricity at different times of the day and year. The TOU periods are defined as follows:

- **Peak Periods:** Typically during the morning and evening when demand is highest.
- **Standard Periods:** During the daytime outside of peak periods.
- **Off-Peak Periods:** During the night when demand is lowest.

The charges for these periods are seasonally adjusted, with higher rates during the high demand season (June to August) and lower rates during the low demand season (September to May).

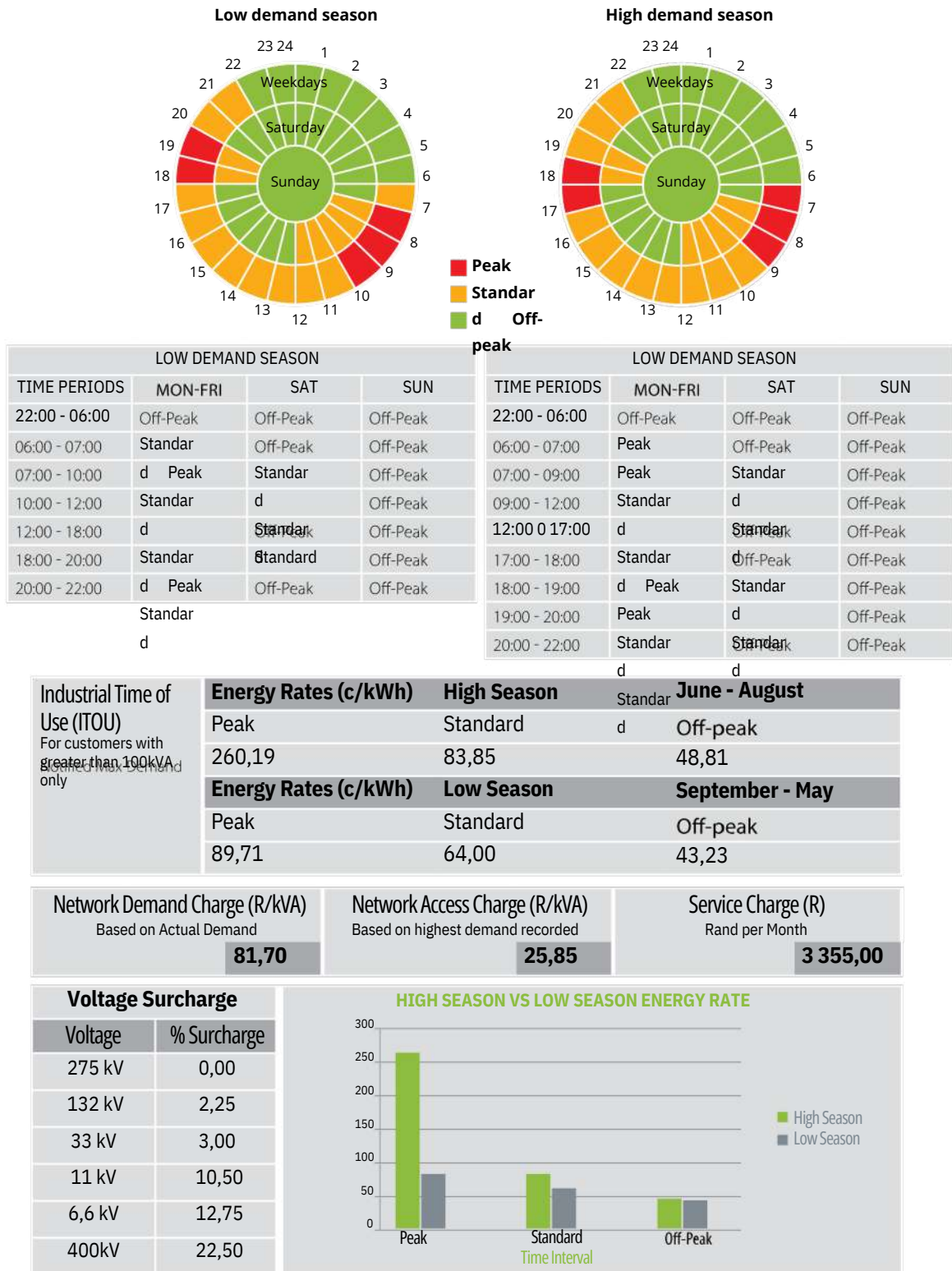


Figure 1: This is an example of rates applicable to the ITOU tariff structure
(Source: eThekweni Municipality tariff booklet 2016 -2017).

As illustrated above if your business could utilise energy during standard and off peak times, considerable monetary savings can be achieved.



IMPROVING POWER FACTOR

Power Factor (PF) describes how efficiently a facility uses all the electrical power it consumes. Utilities may penalise customers if their power factor falls below a certain threshold. Here are some key points about power factor and its correction:

Power Factor Charge

Some utilities will penalise a consumer if the power factor is below a certain threshold, typically 90%. To address this, a power factor correction system can be installed on the customer's side of the utility meter, eliminating power factor penalties and reducing billing.

Power Factor Correction

The demand components (kVA) within the bulk electricity tariffs are directly affected by the power factor of operation. Keeping the power factor close to unity can reduce kVA charges and lower network demand and access charges. Power factor correction technology, such as capacitors, can be used to improve the power factor.

BENEFITS OF IMPROVING POWER FACTOR

- Reducing Peak kW Billing Demand:** Inductive loads requiring reactive power increase apparent power (kVA). Improving the power factor reduces this demand.
- Eliminating the Power Factor Penalty:** Avoid additional fees charged by utilities for low power factors.
- Surcharge and Fees:** Understanding and managing surcharges and fees can further reduce overall energy costs.



Figure 2: This reflects a power factor comparison by calculation (Source: eThekweni Municipality tariff booklet 2016-2017)



ESKOM'S DEMAND MANAGEMENT PROGRAMME

Eskom's Distribution Demand Management Programme (DDMP) aims to reduce load shedding by balancing national supply and demand. The programme invites project developers (PD) to submit proposals that meet specific criteria. Approved projects are funded based on performance, with incentives paid quarterly over a 24-month period. Projects are independently measured and verified to ensure they meet the contracted demand and energy savings.

KEY POINTS

- **Open Participation:** The programme is open to all sectors except residential, whether supplied by a municipality or Eskom, and is within South Africa's boundaries.
- **Minimum Project Size:** Projects must achieve a minimum of 0.2 MW in load shifting or peak clipping.
- **Aggregation:** Allowed up to 4 sites for commercial facilities of the same entity.
- **Implementation Timeline:** Projects must be implemented within six months.
- **Targeted Demand Reduction:** Focuses on the Eskom-defined evening peak period for both summer and winter.
- **Performance Measurement:** Measured quarterly over a 24-month sustainability term.
- **Incentive Rebates:** Paid quarterly at a rate of 3 Million Rand/MW for achieved demand and/or energy reduction, capped at 100% performance. No payments for overperformance and no double dipping with other incentive programmes.

SPECIFIC PROGRAMME AREAS

1. **Industrial, Commercial, and Agricultural Load Management:** Aimed at reducing demand during evening peak periods through load management projects that clip or shift peak load. Industries are required to manage their activities without contravening health and safety requirements.
2. **Residential Load Management:** Focuses on managing residential electricity usage patterns.
3. **Energy Efficiency:** Encourages projects that improve overall energy efficiency in various sectors.





KEY CONSIDERATIONS FOR BUSINESS

When selecting an appropriate tariff, businesses should consider the following factors:

1. **Size of Supply:** The Notified Maximum Demand (NMD) and whether the supply is single-phase, dual-phase, or three-phase.
2. **Consumption Patterns:** The active energy consumption and peak demand periods.
3. **Location:** Whether they are in an urban or rural area, and under local or non-local authority jurisdiction.
4. **Seasonal Variations:** High demand and low demand seasons, as well as the applicable time-of-use periods for energy charges.
5. **Additional Charges:** Such as ancillary service charges, network demand charges, and administration charges, which can vary based on the size and nature of the business's energy needs.



POTENTIAL CHALLENGES AND OTHER CONSIDERATIONS

Businesses may face several challenges when selecting a tariff:

1. **Complex Tariff Structures:** Understanding the various charges and how they apply can be complex, especially with time-of-use and seasonal variations.
2. **Accurate Demand Forecasting:** Inaccurate forecasting of demand can lead to penalties or higher charges due to NMD exceedance.
3. **Geographic Disparities:** Businesses in different locations may face significantly different energy costs due to geographic variations in tariffs.
4. **Regulatory Changes:** Tariffs and charges are subject to change based on regulatory decisions and policy updates.
5. **Technical Limitations:** Some businesses may need to upgrade their infrastructure to benefit from certain tariffs, especially those requiring time-of-use metering.



OPTIMISING YOUR BUSINESS ENERGY COSTS

Understanding Eskom's energy tariffs and the various factors that influence them is crucial for businesses aiming to optimise their energy costs. By carefully evaluating the tariff options, understanding their electricity bills, and implementing power factor correction where necessary, businesses can make informed decisions to manage their energy consumption more efficiently.