

## Understanding Incline Block Tariffs for Prepaid Meters

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### **Background**

On 24 February 2010, the National Energy Regulator of South Africa (NERSA or 'the Energy Regulator') approved the implementation of Inclining Block Tariffs (IBTs) in order to provide the cross-subsidies for low income domestic customers, as supported by the 'South African Electricity Supply Industry: Electricity Pricing Policy GN 1398 of 19 December 2008' ('the EPP'). The IBTs were implemented by Eskom and the municipalities including Breede Valley Municipality.

### **What is an Inclining Block Tariff (IBT)?**

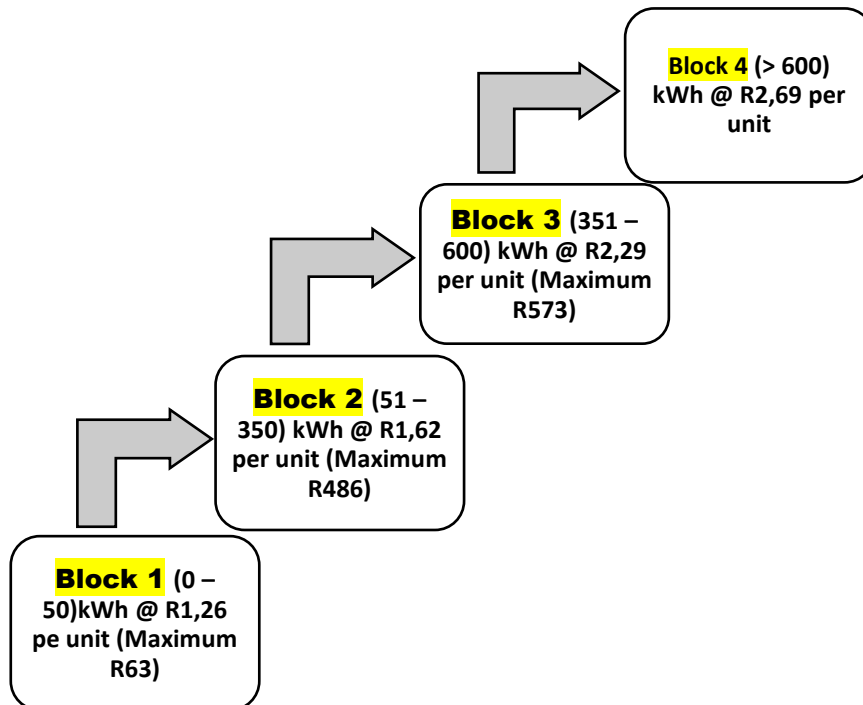
Inclining Block Tariffs divide the electricity price into several blocks. The first block of electricity is at the lowest price. As the customer purchases more electricity during the month, the electricity bought will eventually fall in block 2 which is a bit more expensive. This process repeats automatically as the customer purchases further electricity to move into the next block. At the end of the month the history is reset, and the customer will again start the next month from block 1.

The feature of this tariff structure is that the more you use, the higher the average price. The objective of the inclining block tariff is to provide protection for lower usage customers against high price increases resulting in a reduction in tariff to these customers. This means that higher consumption customers of electricity will see increasingly punitive charges based on their electricity usage.

The process to move from the one block to the next is automatic and depends only on the amount of electricity that is acquired by the customer. The movement to the next block is not at all affected whether the purchases are spread over many transactions or if all the electricity is part of one transaction. As a result of this, the system encourages customers to save money by only purchasing electricity units that they will use in the current month.



Breede Valley Municipality has 4 inclining blocks for all residential clients, both prepaid a conventional. These blocks can be depicted as follows:



- **Block 1 (0 – 50) kWh:** A client pays R1.26 for the first 50 units. The maximum in this first block is around R63.
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- **Block 2 (51 – 350) kWh:** For the next 300 units the client pays an amount of R1.62 per unit, and the maximum amount that can be paid in this step is R486.
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- **Block 3 (351 – 600) kWh:** The third block consists of 250 units which costs R2.29 per unit and the maximum cost of this step is R573.
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- **Block 4 Over 600 kWh:** Any units bought above 600 units will cost the buyer R2.69 per unit.



It should therefore be clear that the first 600 kWh will cost you an amount of R1 122 regardless of when you buy during the month. Clients who are on the indigent register receive 50 free basic units every month. The 50 free units does not affect their usage in the steps. If they buy electricity for R1 122 they will receive 600 units plus their 50 free additional units. Any additional units purchased above this will cost you R2.69 per unit.

### Practical explanation of the incline block-tariffs

It is very important to determine what your average electricity consumption per month is to ensure that you do not buy more than you need as illustrated by the example below.

For this example, I assume that I buy electricity to the value of R900 per month over a six-month period, which in total will be R5 400 over the period. I can also decide to buy electricity worth R5 400 for the whole six-month period at once. The effects of the IBT is that I will get more units over the six months if I buy for R900 every month as opposed to buying with R5 400 at once:

**Scenario 1:** If I buy electricity of R900 every month the average unit cost can be determined as follows:

#### 500 UNITS EVERY MONTH:

	Block 1 (0-50) kWh	Block 2 (51-350)kWh	Block 3 (351-600)kWh	Block 4 (601 and more)kWh	Total
KWh Purchased	50	300	153.28	0	503.055 units
Unit Cost	R1.26	R1.62	R2.29	R2.69	
Total	R63.00	R486.00	R 351.00	R 0.00	R 900 (Inc. VAT)
<b>The average cost per unit is (R900/503.055) = R 1.79 including VAT</b>					



**Scenario 2:** If I decide to buy **electricity in advance for the next 6 months using R5 400 (R 900 X 6)** the average unit cost can be determined as follows:

**BULK PURCHASES: 3000 UNITS FOR 6 MONTHS:**

	Block 1 (0-50) kWh	Block 2 (51- 350)kWh	Block 3 (351- 600)kWh	Block 4 (601 and more)kWh	Total
kWh Purchased	50	300	250	1 590.52	2 190.52
Unit Cost	R1.26	R1.62	R2.29	R2.69	
Total	R63.00	R486.00	R 572.50	R 4 278.50	R 5 400 (Inc. VAT)
<b>The average cost per unit is (R5 400/2 190.52) = R 2.47</b>					

From the two scenarios it is clear that using the same amount of R5 400 over a six-month period will result in different amounts of units received depending on whether I am buying at once or I buy monthly. If I buy each month with R900 I will receive 3 018.33 units (503.055 x 6). However, if I use the whole R5 400 in one month I will only receive 2 190.52 units. The difference of 827.81 is as a result of the effects of the IBT because when all the units were bought in one month every unit above 600 kWh is charged at R2.69 per unit while if the I buy monthly at R900 per month I will never receive more than 600 units per month and therefore will not be charged at the highest step which costs R2.69 per unit.

