

# SOUTH AFRICAN ENERGY PRICE R E P O R T

# 2021



mineral resources  
& energy

Department:  
Mineral Resources and Energy  
REPUBLIC OF SOUTH AFRICA







# ENERGY PRICE REPORT 2021

**Directorate:**

Energy Economics and Statistics

**Compiled by:**

Ms K. Ratshomo  
Keneilwe.Ratshomo@dmre.gov.za

**Supervised by:**

Mr Ramaano Nembahe  
Ramaano.Nembahe@dmre.gov.za

**Published by:**

Department of Mineral Resources and Energy

Private Bag X96  
Pretoria  
0001

**Tel:** (012) 406-7540

192 Visagie Street,  
c/o Paul Kruger & Visagie Street,  
Pretoria, 0001

**Website:**

<http://www.energy.gov.za>

**Enquiries:**

[publications@energy.gov.za](mailto:publications@energy.gov.za)



**DEPARTMENT OF MINERAL RESOURCES & ENERGY**

Director-General: Adv. T. Mokoena

**MINING, MINERAL & ENERGY POLICY DEVELOPMENT**

Deputy Director-General: Ms. N. Ngcwabe

**ECONOMIC ANALYSIS & STATISTICS CHIEF DIRECTORATE**

Chief Director: Ms. S. Mohale

**ENERGY ECONOMICS & STATISTICS DIRECTORATE**

Director: Ms. V. Olifant

*THIS, THE SECOND EDITION, PUBLISHED IN 2022.*

**ISBN: COPYRIGHT RESERVED**

**DISCLAIMER**

WHEREAS THE GREATEST CARE HAS BEEN TAKEN IN THE COMPILATION OF THIS PUBLICATION, THE DEPARTMENT OF MINERAL RESOURCES AND ENERGY RELIES ON DATA PROVIDED BY VARIOUS SOURCES AND DOES NOT HOLD ITSELF RESPONSIBLE FOR ANY ERRORS OR OMISSIONS EMANATING AS A CONSEQUENCE OF PROVISION OF INACCURATE, INCORRECT OR INCOMPLETE DATA FROM SUCH SOURCES.

# FOREWORD

---

It gives me a great pleasure to introduce the 2021 edition of the Energy Price Report for South Africa. The Energy Price Report is based on the information collated from government departments, state-owned-entities, as well as oil and gas industries. This publication covers a broad overview and analysis of the South African energy prices and aims to keep stakeholders informed about energy prices and key issues affecting the energy industry.

This edition presents energy prices data in a format which provides an overall picture of monthly and annual trends for common energy carriers used in South Africa. In order to clearly present and analyse the energy pricing trends, this report is divided into four main focus areas: Petroleum; Natural Gas, Coal; and Electricity.

I extend my most sincere thanks and appreciation to the Energy Economics and Statistics Directorate for the hard work that went into the compilation of this publication. I would also like to express my appreciation to all the energy data providers who have helped us to accomplish what is set out in this report.

This report only covers energy price data and analysis for 2020 as historical information will always be available in our previous editions respectively.

The Department of Mineral Resources and Energy is working hard to reduce delays in the publishing of the Energy Price Report and hopes that the publication will become a standard work of reference among energy analysts in South Africa and abroad. Comments and inputs are welcome and could be addressed to [publications@energy.gov.za](mailto:publications@energy.gov.za).

**Adv. Thabo Mokoena**

Director General: Mineral Resources and Energy.



# TABLE OF CONTENTS

---

FOREWORD .....	3
1. INTRODUCTION .....	7
2. CRUDE OIL AND PETROLEUM PRODUCTS .....	8
2.1 Crude Oil .....	9
2.2 Petroleum Products.....	10
2.2.1 Petrol.....	10
2.2.2 Diesel .....	13
2.2.3 Illuminating Paraffin .....	16
2.2.4 Liquid Petroleum Gas (LPG).....	17
3. NATURAL GAS.....	19
4. COAL.....	22
5. ELECTRICITY .....	24
References .....	28
Appendix b: Fuel properties.....	29
Appendix C: Unit conversions .....	30

## TABLE OF TABLES

---

<b>Table 2.1:</b> 2019 Monthly Brent Crude Oil Prices and the Exchange Rate .....	9
<b>Table 2.2:</b> 2019 Monthly Petrol ULP 93/95 Prices in cents per litre .....	11
<b>Table 2.3:</b> 2019 Petrol ULP 95 monthly levies, taxes and margins in cents per litre .....	12
<b>Table 2.4:</b> 2019 Monthly diesel wholesale prices in cents per litre .....	13
<b>Table 2.5:</b> 2019 Diesel 0.05% Monthly Levies, Taxes and Margins in cents per litre .....	14
<b>Table 2.6:</b> 2019 Monthly Illuminating Paraffin Prices in cents per litre.....	17

<b>Table 2.7:</b> 2019 Monthly Regulated Maximum Retail Prices for Liquefied Petroleum Gas in cents per kilogram.....	17
<b>Table 3.1:</b> 2019 Monthly Natural Gas Prices in Rand per Gigajoule.....	20
<b>Table 4.1:</b> Annual average local and export coal prices in Rand per ton.....	23
<b>Table 5.1:</b> Annual Average Eskom Prices by Customer Category in cents per kilowatt hour (2010/2011 to 2019/2020).....	24
<b>Table 5.2:</b> Eskom's Average Tariff Adjustment.....	25
<b>Table 5.3:</b> Eskom's allowed revenues decisions.....	27
<b>Table B.4:</b> Calorific Values of Various Fuels.....	29
<b>Table C.5:</b> Energy Unit Conversion Factors.....	30
<b>Table C.6:</b> Unit Prefixes.....	30

## TABLE OF FIGURES

<b>Figure 2.1:</b> 2019 Monthly Brent Crude Oil Prices and the Exchange Rate.....	10
<b>Figure 2.2:</b> 2019 Monthly Petrol ULP 93/95 prices in cents per litre.....	11
<b>Figure 2.3:</b> 2019 Petrol ULP 95 monthly levies, taxes and margins.....	12
<b>Figure 2.4:</b> 2019 Monthly diesel wholesale prices in cents per litre.....	13
<b>Figure 2.5:</b> 2019 Diesel 0.05% Monthly Levies, Taxes and Margins.....	14
<b>Figure 2.6:</b> 2019 Monthly Illuminating Paraffin Prices in cents per litre.....	16
<b>Figure 2.7:</b> 2019 Monthly Regulated Maximum Retail Prices for Liquefied Petroleum Gas in cents per kilogram.....	18
<b>Figure 3.1:</b> 2019 Monthly Natural Gas Prices in Rand per Gigajoule.....	19
<b>Figure 4.1:</b> Annual Average Local (FOR) and Exports Prices (FOB) in Rand per ton, 2010 - 2019.....	22
<b>Figure 5.1:</b> Annual Average Eskom Prices by Customer Category in cents per kilowatt hour (2010/2011 to 2019/2020).....	24
<b>Figure 5.2:</b> Annual Eskom Average Tariff Adjustment, 2010/2011 to 2019/2020.....	25

## ABBREVIATIONS AND ACRONYMS

<b>BFP</b>	Basic Fuel Price
<b>CTL</b>	Coal to Liquids
<b>DSML</b>	Demand-Side Management Levy
<b>DMRE</b>	Department of Mineral Resources and Energy
<b>GTL</b>	Gas to Liquids
<b>IP</b>	Illuminating Paraffin
<b>IRP</b>	Integrated Resource Plan
<b>IPP</b>	Independent Power Producer
<b>LPG</b>	Liquefied Petroleum Gas
<b>LRP</b>	Lead Replacement Petrol
<b>MRGP</b>	Maximum Refinery Gate Price
<b>MRP</b>	Maximum Retail Price
<b>MYPD</b>	Multi Year Price Determination
<b>OPEC</b>	Organization of the Petroleum Exporting Countries
<b>NERSA</b>	National Energy Regulator of South Africa
<b>RAF</b>	Road Accident Fund
<b>SADC</b>	Southern African Development Community
<b>SARB</b>	South African Reserve Bank
<b>ULP</b>	Unleaded Petrol
<b>USD/bbl</b>	US Dollar per barrel

# 1. INTRODUCTION

---

Energy is a key factor in the South African economy due to its intensive nature. Over 80% of South Africa's primary energy needs are provided by fossil fuels. Coal alone makes up to 62% of the primary energy supply, followed by crude oil and renewables at about 17% and 11%, respectively (DMRE, 2021). Coal is largely used to generate electricity, while a significant amount is channelled to synthetic fuel and the industry sector.

In light of the above, the carbon tax forms an integral part of ensuring that South Africa meets domestic targets as outlined in the Nationally Determined Contribution (NDC), which was incorporated as the South African commitment in the Paris Agreement (convened by the United Nations Framework Convention on Climate Change (UNFCCC)). The Carbon Tax Act gives effect to the polluter-pays-principle for large emitters and helps to ensure that firms and consumers take the negative adverse costs (externalities) into account in their future production, consumption and investment decisions. Firms are incentivized towards adopting cleaner technologies over the next decade and beyond. The carbon tax will initially only apply to scope 1 emitters in the first phase. The first phase commenced from the 1st June 2019 to 31st December 2022, and the second phase will be from the year 2023 to 2030.

According to National Treasury, the introduction of the carbon tax will also not have any impact on the price of electricity for the first phase. This will result in a relatively modest carbon tax rate ranging from R6 to R48 per tonne of CO<sub>2</sub> equivalent emitted, which is a relatively low tax rate to further provide current significant emitters time to transition their operations to cleaner technologies through investments in energy efficiency, renewables and other low carbon measures. However, a carbon tax component on petrol and diesel would be implemented alongside the introduction of the carbon tax. The carbon tax on fuel will be implemented as an add-on to the general fuel levy, and the South African Revenue Service will publish amendments to the Notes in Part 5A of Schedule No.1 to the Customs and Excise Act, 1964, to give effect to these adjustments.

The aim of this report is to provide an overview of the latest energy pricing trends and narrative for the major energy carriers in South Africa i.e. coal, natural gas and crude oil as well as petroleum products and electricity. Energy prices are significant indicators in the cost of providing services such as transport or electricity.

This report covers consecutive monthly prices as well as trend analysis of various energy carriers for the year 2020. In South Africa, electricity prices are reviewed once a year while petroleum product prices are changed monthly due to fluctuations in international oil prices (quoted in US dollars) and the Rand/US Dollar exchange rate.



## The report consists of the following sections:

- Section 2 covers prices of crude oil, and all major petroleum products (petrol, diesel, illuminating paraffin and liquid petroleum gas).
- Section 3 covers natural gas prices.
- Section 4 covers the prices of locally consumed and exported coal.
- Section 5 presents the national Eskom electricity prices. This does not include the prices of electricity sold by individual/various municipalities to end users.

Each section gives a brief introduction followed by a table of prices and graphs depicting the price movements over time. Where possible, a brief analysis of possible reasons for price fluctuations is provided.

## 2. CRUDE OIL AND PETROLEUM PRODUCTS

---

Over 90% of South Africa's crude oil imports are sourced from Saudi Arabia, Nigeria and Angola. Refined petroleum products include petrol, diesel, residual fuel oil, paraffin, jet fuel, aviation gasoline, LPG and refinery gas. Although majority of petroleum products are refined in the country, some petroleum products volumes are imported to supplement the production shortfall.

Petrol (ULP 95 and 93) retail prices are regulated by government and are changed every month on the first Wednesday of the month. The calculation of the new prices is done by the Central Energy Fund (CEF) on behalf of the Department of Mineral Resources and Energy (DMRE). Petrol pump prices are composed of a number of price elements and these can be divided into international and domestic elements.

The international element, or Basic Fuel price (BFP) represents the realistic, market-related costs of importing a substantial portion of South Africa's liquid fuels requirements. Therefore, the petrol price in South Africa is directly linked to the price of petrol quoted in US dollars at refined petroleum export orientated refining centres in the Mediterranean area, the Arab Gulf and Singapore. These prices are influenced by international crude oil prices, international supply and demand balances for petroleum products and the Rand/US Dollar exchange rate. To arrive at the final petrol pump price, the domestic elements, that is, the primary transportation costs, levies and margins are added to the Basic Fuel Price (BFP).

This section basically covers the monthly international crude oil prices as well as the breakdown of petroleum products prices sold nationally for the year 2020. The main focus of the analysis in this section is on the price movements as well as related global and national events that led to those movements.

## 2.1 CRUDE OIL

The average monthly prices of Brent crude oil and the exchange rate for 2020 are depicted in Table 2.1 below. The crude oil prices are presented in US Dollar per barrel (US\$/bbl) and the exchange in Rand per Dollar (R/US\$).

**Table 2.1: 2020 Monthly Brent Crude Oil Prices and the Exchange Rate.**

Period	Brent Crude Oil (US\$/bbl)	Exchange Rate (R/US\$)
Jan	63,65	14,40
Feb	55,66	15,02
Mar	32,01	16,61
Apr	18,38	18,58
May	29,38	18,14
Jun	40,27	17,13
Jul	43,24	16,77
Aug	44,74	17,23
Sep	40,91	16,72
Oct	40,19	16,46
Nov	42,69	15,55
Dec	49,99	14,91

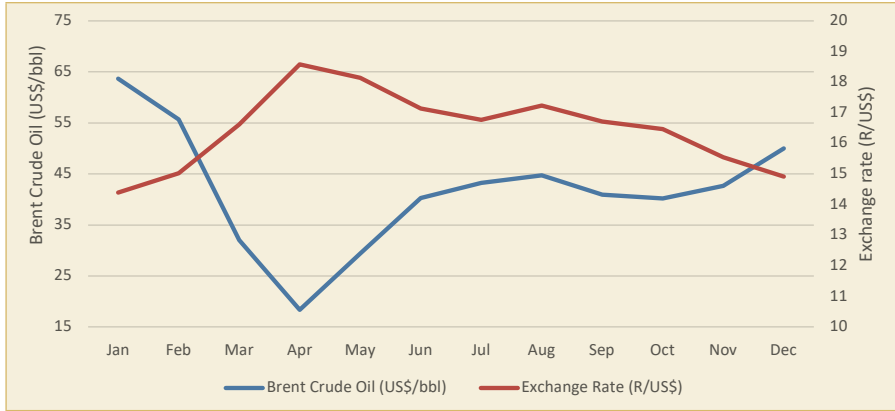
*Source: [http://southafrica.opendataforafrica.org/iaeapfb/monthly-crude-oil-prices-for-Brent-Crude-oil-and-South-African-Reserve-Bank-\(SARB\)-for-Exchange-Rate](http://southafrica.opendataforafrica.org/iaeapfb/monthly-crude-oil-prices-for-Brent-Crude-oil-and-South-African-Reserve-Bank-(SARB)-for-Exchange-Rate)*

The Brent crude oil prices averaged at \$63.65/bbl in January. Since then, prices dropped reaching a low of \$18.38/bbl in April but then recovered by 60% in May month-on-month. Prices continued to recover until August but the plummeted by 9% and 2% month-on-month in September and October, respectively. Oil prices recovered for the rest of the year, reaching \$49.99/bbl in December.

Crude oil prices were generally down in 2020 compared with 2019, averaging at \$41.76/bbl from \$64/bbl in 2019. The plummeting of the oil price was the direct consequence of an oversupply of fuel and a declining demand for fuel amidst travel restrictions and economic lockdowns brought on by the Covid-19 pandemic. Many economies severely shut down to prevent the spread of the COVID-19 virus, which in turn drastically reduced the demand for oil as transport almost came to a halt. According to the US Energy Information Administration (EIA) report, road transport in countries under lockdowns dropped 50 percent below 2019 levels, while aviation declined more than 90 percent. This follows a price war between Saudi Arabia and Russia which was already putting downward pressure on oil prices. Also, OPEC's failure to react swiftly to the need to cut oil production to mitigate against lower demand only added to the volatility and price declines the oil

industry experienced during the early part of 2020 (US Energy Information Administration (EIA), 2021). Following OPEC's limitation in production, oil prices recovered for most of the year.

**Figure 2.1: 2020 Monthly Brent Crude Oil Prices and the Exchange Rate.**



Source: [http://southafrica.opendataforafrica.org/iaeapfb/monthly-crude-oil-prices-for-Brent-Crude-oil-and-South-African-Reserve-Bank-\(SARB\)-for-Exchange-Rate](http://southafrica.opendataforafrica.org/iaeapfb/monthly-crude-oil-prices-for-Brent-Crude-oil-and-South-African-Reserve-Bank-(SARB)-for-Exchange-Rate)

The Rand depreciated, on average, against the US Dollar in from R14.45/US\$ in 2019 to R16.46/US\$ in 2020. The exchange rate went from R14.40/US\$ in January to a peak of R18.58/US\$ in April following a hard lockdown in the country and a further downgrade into junk status by ratings agency Moody's. The Rand strengthened for the rest of the year, ending at R14.91/US\$ in December following the US presidential elections and the weakening of the dollar. The Rand's appreciation was also boosted by the promising vaccine trial for COVID-19 from pharmaceutical Group Pfizer (Andersson, 2020).

## 2.2 PETROLEUM PRODUCTS

South Africa's fuel prices are adjusted on a monthly basis, informed by international and local factors. International factors include the fact that South Africa imports both crude oil and finished products at a price set at the international level, including importation costs. The main reasons for the fuel price adjustments on a monthly basis are due to the contribution of the Rand/US Dollar exchange rate, the prices of crude oil as well as import prices of petroleum products.

### 2.2.1 PETROL

The first half of the year saw a decrease in prices, reaching their lowest in May. Prices began to recover from June mainly due to an increase in the average international product prices. Prices continued to increase up until September and dropped for the rest of the

year following a strong appreciation of the Rand against the US Dollar.

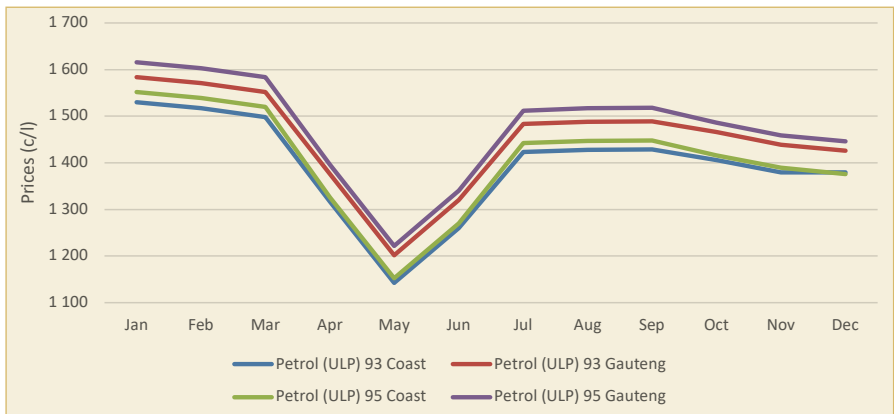
**Table 2.2: 2020 Monthly Petrol ULP 93/95 Prices in cents per litre.**

Period	Petrol (ULP) 93		Petrol (ULP) 95	
	Petrol (ULP) 93 Coast	Petrol (ULP) 93 Gauteng	Petrol (ULP) 95 Coast	Petrol (ULP) 95 Gauteng
Jan	1530	1584	1552	1616
Feb	1517	1571	1539	1603
Mar	1498	1552	1520	1584
Apr	1316	1376	1326	1396
May	1142	1202	1152	1222
Jun	1260	1320	1270	1340
Jul	1423	1483	1442	1512
Aug	1428	1488	1447	1517
Sep	1429	1489	1448	1518
Oct	1406	1466	1416	1486
Nov	1379	1439	1389	1459
Dec	1379	1426	1376	1446

Source: Department of Mineral Resources and Energy (DMRE)

The biggest drop in petrol prices was seen in April by R1.82 per litre and R1.94 per litre for ULP 93 and ULP 95, respectively. Prices further declined by R1.74 per litre in May for both grades. In June, both grades increased by R1.18 per litre and recovered further by R1.63 per litre and R1.72 per litre ULP 93 and ULP 95, respectively.

**Figure 2.2: 2020 Monthly Petrol ULP 93/95 prices in cents per litre.**



Source: Department of Mineral Resources and Energy (DMRE)

The elements that make up the price of unleaded petrol 95 are depicted in Table 2.3 below. The difference between the retail price of ULP 93 and ULP 95 in the inland region is around 25 c/l on average and is mainly due to the 10 c/l Demand-Side Management Levy (DSML) charged on ULP 95 as well as quarterly adjustments of octane/grade BFP differentials.

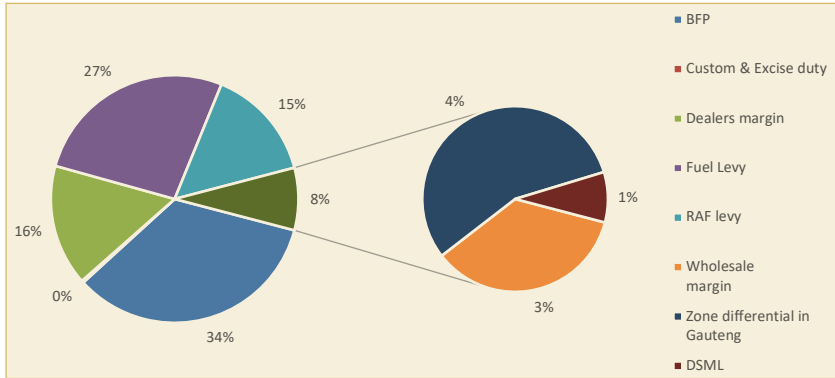
**Table 2.3: 2020 Petrol ULP 95 monthly levies, taxes and margins in cents per litre.**

Period	BFP	Custom & Excise duty	Dealers margin	Fuel Levy	Incremental transport recover levy	IP Tracer levy	Petroleum Pipeline levy	RAF levy	Wholesale margin	Slate levy	Zone differential in Gauteng	DSML	Equalisation Fund levy	Pump Rounding
Jan-20	699,97	4,00	211,60	361,00	0,00	0,00	0,33	198,00	35,70	0,00	57,40	10,00	0,00	0,30
Feb-20	686,97	4,00	211,60	361,00	0,00	0,00	0,33	198,00	35,70	0,00	57,40	10,00	0,00	0,30
Mar-20	667,97	4,00	211,60	361,00	0,00	0,00	0,33	198,00	35,70	0,00	57,40	10,00	0,00	0,30
Apr-20	448,67	4,00	211,60	377,00	0,00	0,00	0,33	207,00	35,70	0,00	63,70	10,00	0,00	0,20
May-20	274,77	4,00	211,60	377,00	0,00	0,00	0,33	207,00	35,70	0,00	63,70	10,00	0,00	0,20
Jun-20	392,77	4,00	211,60	377,00	0,00	0,00	0,33	207,00	35,70	0,00	63,70	10,00	0,00	0,20
Jul-20	564,77	4,00	211,60	377,00	0,00	0,00	0,33	207,00	35,70	0,00	63,70	10,00	0,00	0,20
Aug-20	569,77	4,00	211,60	377,00	0,00	0,00	0,33	207,00	35,70	0,00	63,70	10,00	0,00	0,20
Sep-20	565,47	4,00	216,90	377,00	0,00	0,00	0,33	207,00	35,70	0,00	63,70	10,00	0,00	0,20
Oct-20	533,48	4,00	216,90	377,00	0,00	0,00	0,33	207,00	35,70	0,00	63,70	10,00	0,00	0,20
Nov-20	506,47	4,00	216,90	377,00	0,00	0,00	0,33	207,00	35,70	0,00	63,70	10,00	0,00	0,20
Dec-20	479,17	4,00	221,90	377,00	0,00	0,00	0,33	207,00	40,50	0,00	63,70	10,00	0,00	0,20

Source: Department of Mineral Resources and Energy (DMRE)

To identify the contribution of each component to the final retail price of petrol, all the components are illustrated in Figure 2.3 below with their % contributions. The Basic Fuel Price (BFP) and the fuel levy had the largest portion in the final retail price of Petrol ULP 95 in 2020, contributing 34% and 27% respectively. The annual increase in the Fuel and Road Accident Fund Levies by 16 and 9 cents per litre respectively, announced by the Minister of Finance in his Budget Speech on February 2020 came into effect in April.

**Figure 2.3: 2020 Petrol ULP 95 monthly levies, taxes and margins.**



Source: Department of Mineral Resources and Energy (DMRE)

### 2.2.2 DIESEL

In January, 0.05% sulphur diesel prices for inland and coastal regions were priced at R14.62 and R14.08 per litre respectively. Diesel price dropped since, reaching their lowest of R 11.09 per litre inland and R10.48 per litre coastal in May. Prices recovered in June and continued to rise up until August and have since declined ending the year at R12.45 per litre and R11.85 per litre for inland and coastal regions, respectively (Table 2.4).

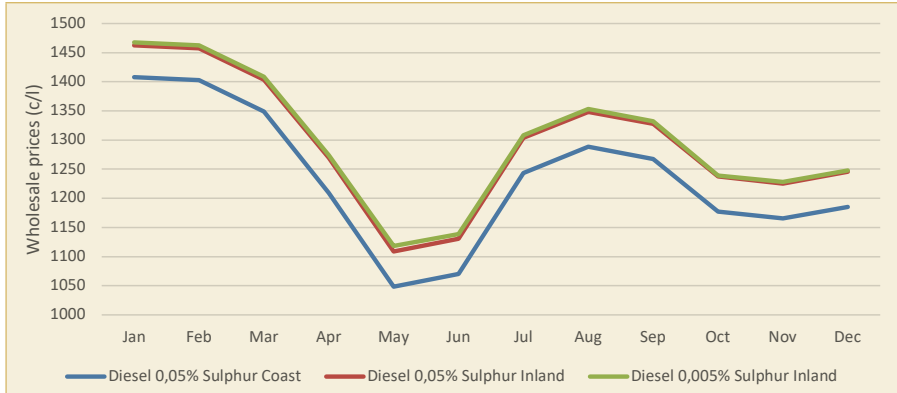
**Table 2.4: 2020 Monthly diesel wholesale prices in cents per litre.**

Period	Diesel 0,05% Sulphur		Diesel 0,005% Sulphur
	Diesel 0,05% Sulphur Coast	Diesel 0,05% Sulphur Inland	Diesel 0,005% Sulphur Inland
Jan	1408	1462	1468
Feb	1403	1457	1463
Mar	1349	1403	1409
Apr	1209	1270	1274
May	1048	1109	1118
Jun	1070	1131	1139
Jul	1243	1304	1308
Aug	1288	1349	1353
Sep	1267	1328	1332
Oct	1177	1238	1239
Nov	1165	1226	1228
Dec	1185	1245	1248

Source: Department of Mineral Resources and Energy (DMRE)

Diesel prices dropped by R1.34 per litre in April and a further R1.61 in May following a drop in demand for fuel products globally and excess supply during that period. The drop was slightly countered by the annual adjustment of the industry margins.

**Figure 2.4: 2020 Monthly diesel wholesale prices in cents per litre.**



Source: Department of Mineral Resources and Energy (DMRE)

The elements that make up the final price of 0.05% Sulphur Diesel are depicted on Table 2.5 below. Unlike petrol, certain components that comprise the final petrol price are not applicable to diesel, like the dealers' margin, since diesel is regulated up to the wholesale level.

**Table 2.5: 2020 Diesel 0.05% Monthly Levies, Taxes and Margins in cents per litre**

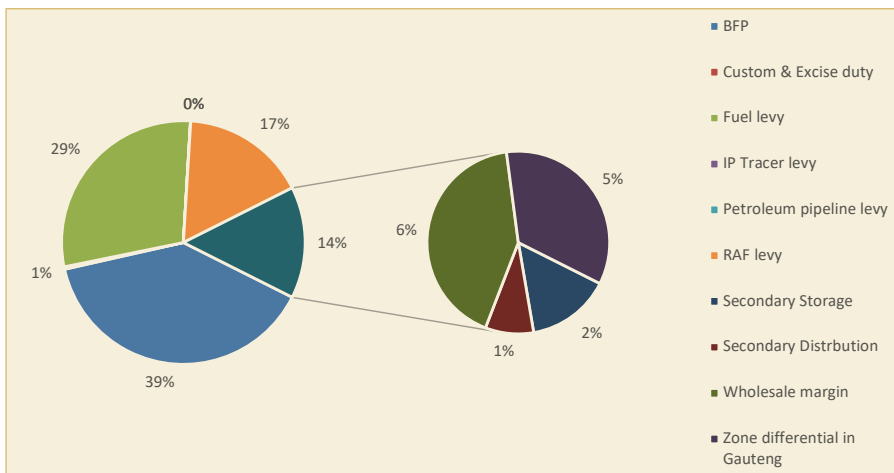
Period	BFP	Custom & Excise duty	Fuel levy	Incremental Inland Transport	IP Tracer levy	Petroleum pipeline levy	RAF levy	Secondary Storage	Secondary Distribution	Slate levy	Wholesale margin	Zone differential in Gauteng
Jan	742,63	4,00	347,00	0,00	0,10	0,33	198,00	23,00	15,20	0,00	74,60	57,40
Feb	737,63	4,00	347,00	0,00	0,10	0,33	198,00	23,00	15,20	0,00	74,60	57,40
Mar	683,63	4,00	347,00	0,00	0,10	0,33	198,00	23,00	15,20	0,00	74,60	57,40
Apr	518,72	4,00	363,00	0,00	0,10	0,33	207,00	23,00	15,20	0,00	74,60	63,70
May	357,63	4,00	363,00	0,00	0,10	0,33	207,00	23,00	15,20	0,00	74,60	63,70
Jun	379,63	4,00	363,00	0,00	0,10	0,33	207,00	23,00	15,20	0,00	74,60	63,70
Jul	552,63	4,00	363,00	0,00	0,10	0,33	207,00	23,00	15,20	0,00	74,60	63,70
Aug	597,63	4,00	363,00	0,00	0,10	0,33	207,00	23,00	15,20	0,00	74,60	63,70
Sep	576,63	4,00	363,00	0,00	0,10	0,33	207,00	23,00	15,20	0,00	74,60	63,70

Period	BFP	Custom & Excise duty	Fuel levy	Incremental Inland Transport	IP Tracer levy	Petroleum pipeline levy	RAF levy	Secondary Storage	Secondary Distribution	Slate levy	Wholesale margin	Zone differential in Gauteng
Oct	486,63	4,00	363,00	0,00	0,10	0,33	207,00	23,00	15,20	0,00	74,60	63,70
Nov	474,63	4,00	363,00	0,00	0,10	0,33	207,00	23,00	15,20	0,00	74,60	63,70
Dec	486,63	4,00	363,00	0,00	0,10	0,33	207,00	27,50	15,80	0,00	77,66	63,70

Source: Department of Mineral Resources and Energy (DMRE)

To identify the contribution of each component to the diesel wholesale price, all the components are shown in Figure 2.5 below. In 2020, the BFP was the largest contributor to the total wholesale price of diesel at 39%. The second largest contributor to diesel wholesale price was fuel levy contributing 29% and the third contributor was the Road Accident Fund (RAF) levy at 17%.

Figure 2.5: 2020 Diesel 0.05% Monthly Levies, Taxes and Margins.



Source: Department of Mineral Resources and Energy (DMRE)

### 2.2.3 ILLUMINATING PARAFFIN

The Single Maximum National Retail Price for Illuminating Paraffin is changed on the first Wednesday of each month and is promulgated in the Government Gazette. The Department of Mineral Resources and Energy started to regulate the maximum retail price for Illuminating Paraffin, excluding the price of any form of packaging since January 2010. However, the prices analysed in this section are wholesale prices and not the Single Maximum National Retail Price.

Illuminating paraffin (IP) prices for the inland and the coastal started the year at R9.28 and R8.61 per litre in January, respectively. The IP prices followed the similar trend as the rest of the petroleum products dropping to reach its lowest of R4.50 per litre inland and R3.69 per litre coastal in May and ending the year at R6.85 per litre inland and R6.04 per litre coastal in December.

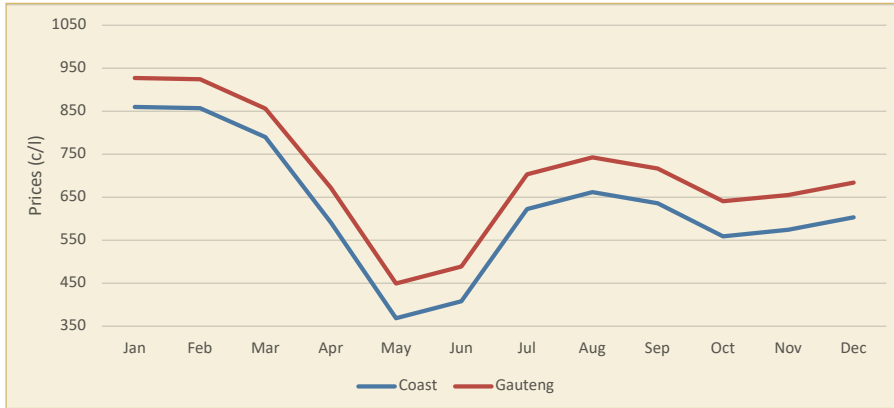
**Table 2.6: 2020 Monthly Illuminating Paraffin Prices in cents per litre.**

Period	Illuminating Paraffin	
	Coast	Gauteng
Jan	861	928
Feb	858	925
Mar	790	857
Apr	592	673
May	369	450
Jun	409	489
Jul	623	704
Aug	662	743
Sep	636	717
Oct	560	641
Nov	575	656
Dec	604	685

*Source: Department of Mineral Resources and Energy (DMRE)*

In December, the Rand appreciated against the US Dollar during the period under review, on average, when compared to the previous period. This led to a lower contribution to the Basic Fuel Prices on illuminating paraffin by 25.14 cents per litre.

**Figure 2.6: 2020 Monthly Illuminating Paraffin Prices in cents per litre**



Source: Department of Mineral Resources and Energy (DMRE)

#### 2.2.4 LIQUID PETROLEUM GAS (LPG)

Two levels of the LPG value chain are subject to price regulation in South Africa. The first is the refinery level, where LPG is sold from the refinery gate by producers at a regulated maximum price determined by the Department of Mineral Resources and Energy. The second level of the value chain subject to price regulation is the retail level, where the Department of Mineral Resources and Energy also regulates the price of LPG sold through cylinders. The maximum retail price can be defined as “the price of LPG as per prescripts of the Regulation in respect of the Refinery Gate Price of Liquefied Petroleum Gas, Regulation No. 1029 of 31 July 2002 or its successors”.

Table 2.7 and Figure 2.7 depicts only the regulated maximum retail gate prices for LPG. The Petroleum Products Act stipulates that any person selling LPG from any outlet to a customer is required to do so at a price that is equal to or less than the Maximum Retail Prices (MRP) of LPG.

**Table 2.7: 2020 Monthly Regulated Maximum Retail Prices for Liquefied Petroleum Gas in cents per kilogram.**

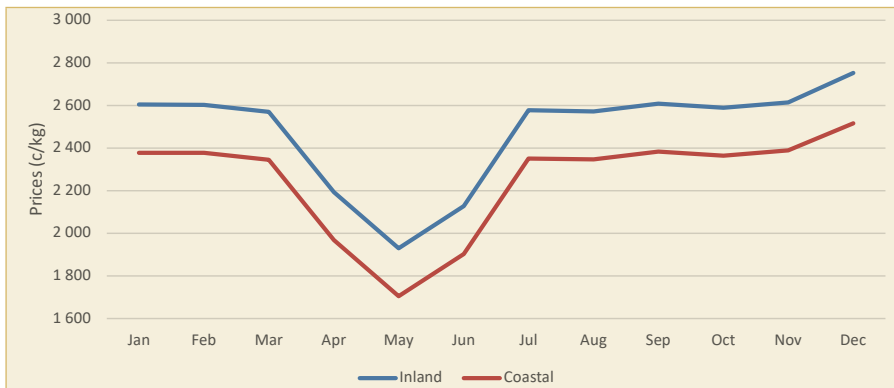
	Regulated Maximum Retail Prices	
	Inland	Coastal
Jan	2 604	2 379
Feb	2 603	2 378
Mar	2 571	2 346
Apr	2 193	1 968
May	1 931	1 706

	Regulated Maximum Retail Prices	
	Inland	Coastal
Jun	2 129	1 904
Jul	2 577	2 352
Aug	2 573	2 348
Sep	2 609	2 384
Oct	2 589	2 364
Nov	2 615	2 389
Dec	2 752	2 516

Source: Department of Mineral Resources and Energy (DMRE)

The price of LPG is affected by the same factors that affect prices of other petroleum products, i.e. crude oil and the Rand/Dollar exchange. LPG started the year at R26.04 per kilogram in the inland region and R23.79 per kilogram coastal. Similarly, LPG prices declined from February to their lowest of R19.31 per kilogram inland and R17.06 per kilogram coastal in May. Thereafter, LPG prices experiences sharp increases of R1.98 per kilogram in June and a further R4.48 per kilogram in July and have since been on a steady rise ending the year at R27.52 per kilogram inland and R25.16 per kilogram coastal in December.

**Figure 2.7: 2020 Monthly Regulated Maximum Retail Prices for Liquefied Petroleum Gas in cents per kilogram.**



Source: Department of Mineral Resources and Energy (DMRE)

### 3. NATURAL GAS

The three largest users of natural gas are industrial, domestic and power generation. Of the three, the use of natural gas for power generation has risen the quickest. The tariffs depicted in Table 3.1 are grouped into six customer categories of average annual consumption measured in Rand per Gigajoule.

**Table 3.1: 2020 Monthly Natural Gas Prices in Rand per Gigajoule.**

	Maximum price	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6
		33 GJ	333 GJ	3 333 GJ	33 333 GJ	333 333 GJ	1 054 093 GJ
Jan	171,08	104,78	104,77	94,25	63,57	57,23	50,85
Feb	171,08	104,78	104,77	94,25	63,57	57,23	50,85
Mar	171,08	104,78	104,77	94,25	63,57	57,23	50,85
Apr	174,58	104,78	104,77	96,18	64,87	58,40	51,89
May	174,58	104,78	104,77	96,18	64,87	58,40	51,89
Jun	174,58	104,78	104,77	96,18	64,87	58,40	51,89
Jul	174,01	104,78	104,77	95,86	64,66	58,21	51,72
Aug	174,01	104,78	104,77	95,86	64,66	58,21	51,72
Sep	174,01	104,78	104,77	95,86	64,66	58,21	51,72
Oct	161,15	104,78	104,77	88,78	59,88	53,91	47,90
Nov	161,15	104,78	104,77	88,78	59,88	53,91	47,90
Dec	161,15	104,78	104,77	88,78	59,88	53,91	47,90

Source: SASOL

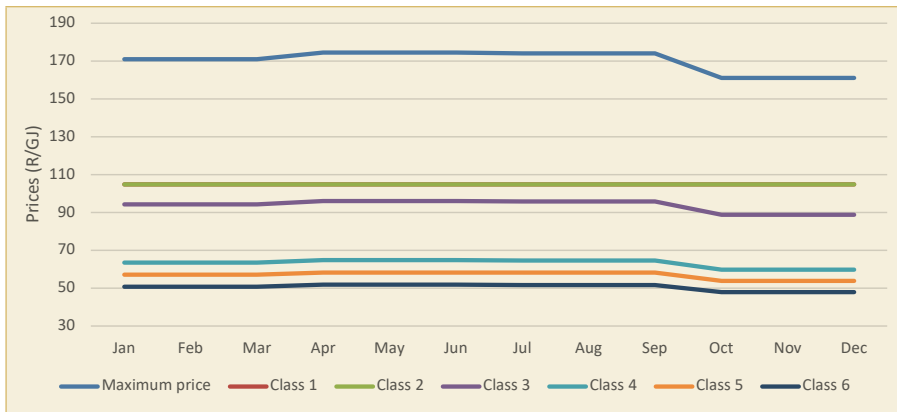
#### Explanatory Notes:

- According to the Regulatory Agreement, in terms of Section 36 of the Gas Bill, Sasol Gas has to comply to the Market Value Pricing principle which are defined as follows:
  - The cost of the alternative fuel delivered to the customer's premises or anticipated place of use (in the case of Greenfields customers) plus;
  - The difference between all the operating costs of the customer's use of the alternative fuel and all the operating costs of using natural gas; plus
  - The difference between the Net Present Value (NPV) of the capital costs of the customer's continued use of the alternative fuel and the NPV of the capital costs involved in switching to natural gas, as would be reflected in the customer's accounts.
- Gas prices are negotiated with customers individually. The prices above are indicative of pipeline gas sold by Sasol Gas and are exclusive of VAT.

- Since April 2014, the above-mentioned indicative gas prices are subject to monthly adjustment in accordance with the applicable adjustment formula. The maximum Gas Energy Prices ("GE") are determined in accordance with the Methodology to Approve Maximum Prices of Piped-Gas in South Africa promulgated by NERSA in October 2011 (the "Methodology"). In terms of the said Methodology, the maximum energy prices are referenced to price indicators of certain energy sources.

The legal basis for the National Energy Regulator of South Africa (NERSA) to regulate prices of piped gas is derived from the National Energy Regulator Act, 2004 (Act No. 40 of 2004), read with the Gas Act, 2001 (Act No. 48 of 2001) ('the Gas Act'). In terms of section 4(g) of the Gas Act, the Energy Regulator must, as appropriate, in accordance with this Act, regulate prices in terms of Section 21(1)(p) in the prescribed manner.

**Figure 3.1: 2020 Monthly Natural Gas Prices in Rand per Gigajoule.**



Source: SASOL

Figure 3.1 above shows the prices of piped natural gas sold by Sasol to various customers. Sasol Gas maximum price application is made in terms of the Energy Price Indicators Approach. In terms of this approach, the maximum price for gas is referenced to price indicators of certain relevant energy sources (i.e. coal, electricity, heavy fuel oil, LPG and diesel). On 23 November 2017, NERSA approved the multi-year trading margin applied for by Sasol Gas for the periods 1 July 2019 to 30 June 2020 and 1 July 2020 to 30 June 2021, in so far as it relates to the trading margin applicable to end user customers as follows:

FY 20	FY 21
R7.45/GJ	R2.52/GJ

The National Energy Regulator of South Africa (NERSA) not have the mandate to set gas prices, but approves maximum prices, from which discounts are allowed and should be applied in compliance with section 22 of the Gas Act.

**In approving the maximum prices of gas NERSA:**

- will not set actual prices, but will review applications for maximum piped-gas prices prepared by licensees or applicants;
- may request licensees or applicants to amend maximum prices; and
- may approve or decide not to approve maximum gas prices.

The National Energy Regulator only approves a price ceiling, implying that the actual prices charged to customers should not exceed the maximum price. Actual prices are determined based on contractual negotiations between a licensee and its customers, and the negotiated price should comply with Section 21(1)(p) of the Gas Act.<sup>1</sup>

1 The above narrative was derived from <http://www.nersa.org.za/> (accessed on 2021/11/08)

## 4. COAL

Coal makes up about 57% of South Africa's primary energy supply<sup>2</sup>. Approximately 37% of the run-of-mine coal produced is exported. Of the total supply available for the country, 83% is used in the transformation stages where majority is used to produce electricity (74%) while 26% is used to produce petroleum products (Sasol). The remainder of South Africa's coal production feeds the various local sectors including industry, transport and other sectors.

Table 4.1 below shows the average local and export prices of anthracite and bituminous coal from 2011 to 2020

**Table 4.1: Annual average local and export coal prices in Rand per ton**

Period	Coal Bituminous		Coal Anthracite	
	Average Price Exports (FOB)	Average Price Local Sales (FOR)	Average Price Exports (FOB)	Average Price Local Sales (FOR)
2011	732,14	204,53	907,43	895,38
2012	682,62	231,68	961,39	957,20
2013	692,50	263,20	898,57	923,07
2014	677,74	292,46	712,64	984,52
2015	627,65	308,65	773,99	1028,79
2016	732,62	332,81	694,35	608,65
2017	852,61	359,66	732,83	1088,18
2018	966,74	391,91	1044,75	1054,73
2019	783,66	432,19	1020,26	1200,75
2020	764,25	443,09	719,67	1037,50

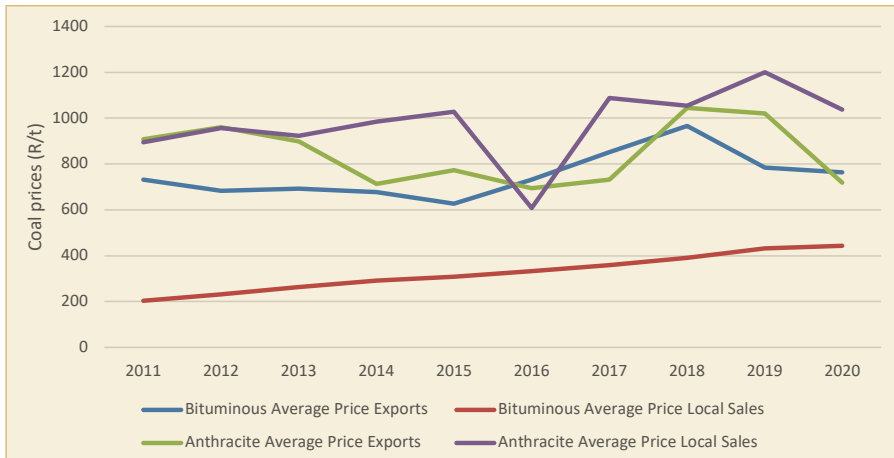
Source: Department of Mineral Resources and Energy (DMRE)

### Explanatory Notes:

1. FOB: Free On Board.
2. FOR: Free On Road.
3. The prices are exclusive of VAT

<sup>2</sup> Based on 2018 Energy Balance

**Figure 4.1: Annual Average Local (FOR) and Exports Prices (FOB) in Rand per ton, 2011 – 2020.**



Source: Department of Mineral Resources and Energy (DMRE)

South Africa exported large volumes of coal to India mostly in the form of bituminous coal, amongst other countries. India accounted for 51% of the total coal exports in 2020. This was followed by Pakistan at 16% and Viet Nam at 10%. The other countries made up smaller shares of the total exports each (SARS, 2021).

Average local prices increased for bituminous coal by 2.5% in 2020 compared with 2019 while the average local price for anthracite declined by 14%. The average export price declined by 2.5% for bituminous coal and 29% for anthracite as shown in Figure 4.1 above.

## 5. ELECTRICITY

The electricity industry in South Africa is regulated by NERSA in terms of the Electricity Regulation Act, 2006 and the National Energy Regulatory Act, 2004. NERSA does not only provide licences, regulatory rules, guidelines and codes, but also determine Eskom's revenue requirement based on the requirements of the Electricity Pricing Policy.

The electricity generated by Eskom, together with imports and that produced by IPPs, is supplied in bulk to distributors, both metros and municipalities, as well as distributed to industrial, commercial, residential and other customers in the licensed areas of supply. Eskom also supplies a number of international customers, including electricity utilities in the SADC region.

Eskom generates its revenue from different electricity users. Table 5.1 shows various types of electricity users from 2011/12 to 2020/21. The electricity usage includes electricity used for domestic and street lighting, commercial, industrial, international, mining and farming.

**Table 5.1: Annual Average Eskom Prices by Customer Category in cents per kilowatt hour (2011/2012 to 2020/2021)**

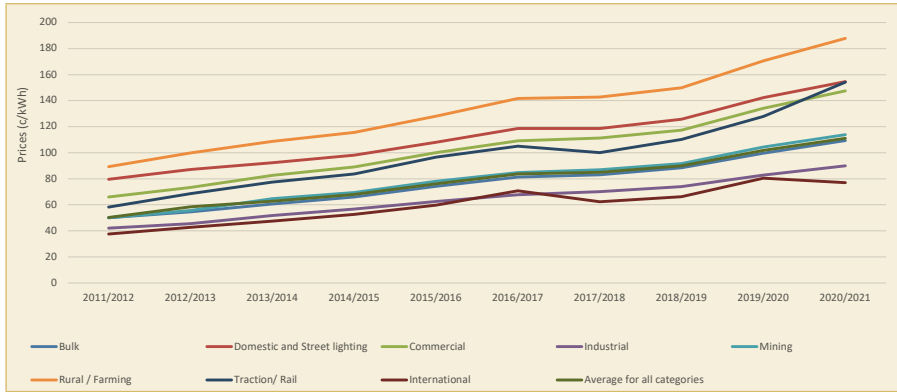
	Bulk	Domestic and Street lighting	Commercial	Industrial	Mining	Rural / Farming	Traction/ Rail	International	Average for all categories
2011/2012	49,96	79,52	65,92	42,13	50,11	89,22	58,23	37,53	50,27
2012/2013	54,59	87,05	73,24	45,56	55,74	99,75	68,66	42,72	58,49
2013/2014	60,67	92,41	82,67	51,79	64,66	108,75	77,34	47,56	62,82
2014/2015	65,92	98,06	89,16	56,81	69,52	115,66	83,63	52,55	67,91
2015/2016	74,11	108,11	100,07	62,64	78,01	128,19	96,60	59,82	76,24
2016/2017	81,38	118,60	109,09	67,71	84,80	141,70	104,95	70,77	83,60
2017/2018	82,94	118,56	111,25	70,02	86,91	142,78	100,10	62,42	85,06
2018/2019	88,53	125,73	117,30	73,99	91,64	149,79	110,17	66,13	90,01
2019/2020	99,62	142,29	134,15	82,79	104,41	170,52	127,81	80,51	101,86
2020/2021	109,44	154,57	147,52	90,03	113,77	187,91	154,17	76,93	111,04

Source: Eskom

### Explanatory Notes:

1. The data in this table is from various Eskom Statistical Yearbooks and Annual Reports.
2. The price data in this table is only applicable to Eskom's direct sales to the categories as listed. Sales by local authorities to the Domestic, Commercial and Industry categories are not included in this table.
3. The prices are in c/kWh for each of a number of sales categories.
4. Prices are exclusive of VAT

**Figure 5.1: Annual Average Eskom Prices by Customer Category in cents per kilowatt hour (2011/2012 to 2020/2021)**



Source: Eskom

Eskom’s tariffs are adjusted on an annual basis – previously on the 1st of January, but due to the change in Eskom’s financial year price adjustments now take place on the 1st April every year. The average tariff adjustments for the past 10 years are indicated in Table 5.2 below.

**Table 5.2: Eskom’s Average Tariff Adjustment**

	Average Price Adjustment (%)	Consumer Price Index (%)
2011/2012	24,69	3,5
2012/2013	16,35	4,6
2013/2014	7,40	5,2
2014/2015	8,10	5,6
2015/2016	12,27	5,5
2016/2017	9,65	5,6
2017/2018	1,75	4,7
2018/2019	5,82	4,3
2019/2020	13,17	4,1
2020/2021	9,01	3,3

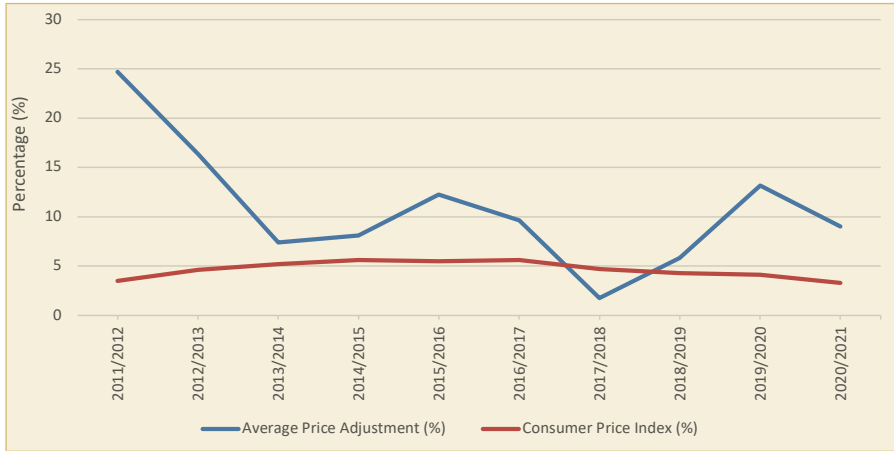
Source: Eskom

**Explanatory Notes:**

1. Eskom’s average price tariffs were adjusted annually (calendar period: January to December) from 2002 to 2005
2. Eskom’s average price tariffs are adjusted at the end of the financial year (end of April) from 2005 to 2015

3. Eskom's average tariff adjustment figures are published on Eskom's website.
4. The adjustments are according to Eskom's financial year end, which is end of the March.

**Figure 5.2: Annual Eskom Average Tariff Adjustment, 2011/2012 to 2020/2021**



Source: Eskom

In terms of Section 4 of the National Energy Regulator Act, 2004 (Act No.40 of 2004), NERSA's mandate is to regulate the electricity industry in terms of the Electricity Regulation Act, 2006 (Act No. 4 of 2006). The Energy Regulator determines Eskom allowed revenue on a multi-year basis. The Multi Year Price Determination (MYPD) incorporates some of the Rate of Return (RoR) and incentive based principles through the introduction of the transmission and distribution service incentive schemes and the Energy Efficiency Demand Side Management (EEDSM) schemes. The RoR methodology states that the revenue to be earned by Eskom should be equal to the efficient cost to supply electricity plus a fair return on the rate base.

On the 7th of March 2019, the National Energy Regulator of South Africa (Nersa) determined Eskom's allowable revenue for Eskom for the Multi-Year Price Determination (MYPD) 4 period of 2019/20 to 2021/22 as follows:<sup>3</sup>

**Table 5.3: Eskom's allowed revenues decisions**

<b>MYPD</b>	<b>2019/2020</b>	<b>2020/2021</b>	<b>2021/2022</b>
Total expected revenues from all customers (R'm)	206 380	221 843	233 078
Negotiated price agreement and International customers (R'm)	15 441	16 736	18 480
Revenues from tariffs based sales (R'm)	190 939	205 107	214 598
Forecast sales to tariff customers (GWh)	186 064	184 898	183 856
Standard average tariff (c/kWh)	102,62	110,93	116,72
Percentage tariff increase (%)	9,41%	8,10%	5,22%

Source: Eskom's Tariffs and Charges Booklet 2019/2020

<sup>3</sup> The analysis is quoted from Eskom's Tariffs and Charges 2019/2020 document.

## REFERENCES

---

1. Andersson H. (2020). South Africa Exchange Rate November 2020. Available at <https://www.focus-economics.com/countries/south-africa/news/exchange-rate/rand-hits-eight-month-high-in-november-on-biden-win-and> (Accessed 16 November 2021)
2. Competition Commission (2017). Market Inquiry into the LPG Sector Final Report. Pretoria, South Africa
3. Dumont, C. (2019). A Natural Gas Primer. Available at: <https://www.investopedia.com/articles/fundamental-analysis/12/natural-gas-primer.asp#ixzz56VldgeOv> (Accessed: 20 May 2019).
4. Energy.gov.za. (2019). Energy Sources: Petroleum | Department: Energy | Republic of South Africa. Available at: [http://www.energy.gov.za/files/petroleum\\_frame.html](http://www.energy.gov.za/files/petroleum_frame.html)
5. Eskom (2019). Integrated Results 2019. Available at: <http://www.eskom.co.za/IR2019/Pages/default.aspx> (Accessed: 15 April 2019).
6. Eskom Tariffs & Charges Booklet 2019/2020. Available at: [www.eskom.co.za/tariffs](http://www.eskom.co.za/tariffs) (Accessed 22 February 2021)
7. Gcis.gov.za (2019). Available at: <https://www.gcis.gov.za/sites/default/files/docs/resourcecentre/yearbook/Energy2017.pdf> (Accessed: 14 June 2019).
8. Gusev, M. (2019). Monthly Crude Oil Prices. Available at: <http://southafrica.opendataforafrica.org/iaeapfb/monthly-crude-oil-prices> (Accessed: 08 February 2019).
9. Nersa.org.za (2019). Available at: <http://www.nersa.org.za/Admin/Document/Editor/file/News%20and%20Publications/Media%20Releases%20Statements/Media%20Statement%20-%20Decision%20on%20Eskom's%20Revenue%20Application%20for%20the%20201919%20Financial%20Year.pdf> (Accessed: 14 June 2019).
10. U.K. (2019). COLUMN-South African coal loses Europe but gains South Asia: Russell. Available at: <https://uk.reuters.com/article/column-russell-coal-safrica/column-south-african-coal-loses-europe-but-gains-south-asia-russell-idUKL4N1PS2W7> (Accessed: 14 Sep. 2019).

## APPENDIX B: FUEL PROPERTIES

Table B.4: Calorific Values of Various Fuels

Carrier	Calorific Value	Calorific Value Unit	Density
LPG	26.7	MJ/l	0.54
Paraffin Power	37.5	MJ/l	0.81
Gas SASOL	18.0	MJ/m <sup>3</sup>	
Diesel	38.1	MJ/l	0.84
Electricity	3.6	MJ/kWh	
Gas	41.0	MJ/m <sup>3</sup>	
Heavy Fuel Oil	41.6	MJ/l	0.98
Petrol	34.2	MJ/l	0.72
Paraffin Illuminating CSS (StatsSA) Data	37.0	MJ/l	0.79
Aviation Gas	33.9	MJ/l	0.73
Jet Fuel	34.3	MJ/l	0.79
Coal Eskom Average	20.1	MJ/kg	
Coal (General purpose)	24.3	MJ/kg	
Coal (Coking)	30.1	MJ/kg	
Coke	27.9	MJ/kg	
Coke oven gas	17.3	MJ/m <sup>3</sup>	
Blast furnace gas	3.1	MJ/m <sup>3</sup>	
Bagasse (wet)	7.0	MJ/kg	
Bagasse fibre (dry)	14.0	MJ/kg	
Biomass (wood dry typical)	17.0	MJ/kg	
Gas Sasol - methane rich	35.0	MJ/m <sup>3</sup>	

## APPENDIX C: UNIT CONVERSIONS

**Table C.5: Energy Unit Conversion Factors**

From \ To	J	kWh	toe	Btu
1 J	1	$0.278 \times 10^{-6}$	$0.2388 \times 10^{-6}$	$0.948 \times 10^{-3}$
1 kWh	$3.6 \times 10^6$	1	$0.86 \times 10^{-6}$	$3.412 \times 10^3$
1 toe	$42 \times 10^9$	11630	1	$39.68 \times 10^6$
1 Btu	$1.055 \times 10^3$	$0.293 \times 10^{-3}$	$0.252 \times 10^{-9}$	1

*Note: toe = ton oil equivalent*

**Table C.6: Unit Prefixes**

Prefix	Symbol	Power
Kilo	k	10 <sup>3</sup>
Mega	M	10 <sup>6</sup>
Giga	G	10 <sup>9</sup>
Tera	T	10 <sup>12</sup>
Peta	P	10 <sup>15</sup>
Exa	E	10 <sup>18</sup>









192 Visagie Street,  
c/o Paul Kruger & Visagie Street,  
Pretoria, 0001  
Website: <http://www.energy.gov.za>  
Enquiries: [publications@energy.gov.za](mailto:publications@energy.gov.za)