OVERVIEW OF PETROL AND DIESEL MARKET
IN SOUTH AFRICA BETWEEN 2002 AND 2013

DIRECTORATE: ENERGY DATA COLLECTION,
MANAGEMENT AND ANALYSIS

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OVERVIEW OF PETROL AND DIESEL MARKET IN SOUTH AFRICA BETWEEN 2002 AND 2013

DIRECTORATE: ENERGY DATA COLLECTION, MANAGEMENT AND ANALYSIS

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FOREWORD

It gives me great pleasure to introduce the report: Overview of petrol and diesel market in South Africa between 2002 and 2013. This report is based on information collated from government departments, petroleum industry and research papers. This publication covers a broad overview and analysis of the South African petrol and diesel industry and aims to keep stakeholders informed about developments as well as key issues affecting the industry.

The publication presents the industry in a format which provides an overview of South Africa’s petrol and diesel market between 2002 and 2013. This includes sources and the overall petrol and diesel market dynamics as well as the relationship between the two petroleum products. In order to clearly present and analyse the consumption trends, this report is further divided into national and provincial market analysis.

The Department of Energy is working hard to ensure accurate, timely and reliable provision of data in its publications and hopes that this report will become a source of reference among energy analysts in South Africa and abroad.

I extend my most sincere thanks and appreciation to the Energy Data Collection, Management and Analysis Directorate for the hard work that went into the compilation of this publication. I would also like to record my appreciation to all the energy data providers who have helped us to accomplish the compilation of this report. Comments and inputs are welcome and could be addressed to Publications@energy.gov.za.

Dr. W. Barnard

Acting Director General

Department of Energy
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<td>BFP</td>
<td>Basic Fuel Price</td>
</tr>
<tr>
<td>CIF</td>
<td>Cost, Insurance and Freight</td>
</tr>
<tr>
<td>CPI</td>
<td>Consumer Price Index</td>
</tr>
<tr>
<td>CTL</td>
<td>Coal-to-liquid</td>
</tr>
<tr>
<td>DME</td>
<td>Department of Minerals and Energy</td>
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<tr>
<td>DoE</td>
<td>Department of Energy</td>
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<tr>
<td>FOB</td>
<td>Free on Board</td>
</tr>
<tr>
<td>FOR</td>
<td>Free on Road</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>GTL</td>
<td>Gas-to-liquid</td>
</tr>
<tr>
<td>IBLC</td>
<td>In-Bond-Landed-Cost</td>
</tr>
<tr>
<td>IEA</td>
<td>International Energy Agency</td>
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<tr>
<td>LPG</td>
<td>Liquefied Petroleum Gas</td>
</tr>
<tr>
<td>LRP</td>
<td>Lead Replacement Petrol</td>
</tr>
<tr>
<td>NERSA</td>
<td>National Energy Regulator of South Africa</td>
</tr>
<tr>
<td>OECD</td>
<td>The Organisation for Economic Co-operation and Development</td>
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<tr>
<td>OPEC</td>
<td>Organization of the Petroleum Exporting Countries</td>
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<tr>
<td>PPM</td>
<td>Parts per million</td>
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<tr>
<td>StatsSA</td>
<td>Statistics South Africa</td>
</tr>
<tr>
<td>ULP</td>
<td>Unleaded Petrol</td>
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<td>USD</td>
<td>United States Dollar</td>
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1. INTRODUCTION

Oil is the main resource that fuels the world economy. It provides one third of global primary energy supply and supplies approximately 95% of the energy powering the global transport systems in the form of petroleum fuels. Similarly, South Africa’s transport system depends on petroleum fuels for almost all of its energy needs, with more than 80% of the petroleum fuels consumption made up of petrol and diesel.

Over the years, the South African petroleum fuels sector has evolved in line with global trends. This evolution has been influenced primarily by environmental challenges and geopolitical uncertainties, status of the socio-economics, international trade as well as changes in vehicle technology. Accordingly, the objective of this report is to assess developments in South Africa’s petrol and diesel industry from 2002 to 2013 and how the industry was affected by these different factors.

The report starts off by presenting an overview of South Africa’s fuel market, which includes sources and the overall petrol and diesel market dynamics as well as the relationship between the two fuel products. Also included in the overview is a brief discussion on the influence of the transport sector on the fuel market and a discussion on prices. The report also covers the market analysis on both national and provincial levels, which include analysis on supply and demand. A summary on the regulations which have an impact on the sector are included towards the end of the report, followed by the outlook of the market and a conclusion, which summarises the findings of the report.

2. OVERVIEW OF THE FUEL MARKET IN SOUTH AFRICA

South Africa has small amounts of proved crude oil reserves, and the country’s crude oil production is very small. As a result, the country relies on imports of crude oil and refined fuels to meet its liquid fuels needs. In 2013, crude oil imports were mostly from OPEC countries, with about half imported from Saudi Arabia followed by Nigeria (24%), Angola (14%), Ghana (5%), and small volumes from various
producers (7%). Over 60% of products refined locally are produced from the imported crude oil and about 36% of the demand is met by coal-to-liquids (CTL) synthetic fuels as well as gas-to-liquid (GTL) synthetic fuels plus a very small amount of domestic crude oil. South Africa has the second largest oil refining capacity in Africa. The current total refining capacity amounts to 703 000 barrels per day, of which 72% is allocated to crude oil refining, with the balance allocated to synthetic fuel refining.

Domestic production of petrol and diesel was almost stagnant over the years, from 20.2 billion litres in 2002 to 19.7 billion litres in 2013, due to limited resources and capacity constraints. However, consumption grew by 3% per year during the same period and surpassed domestic supply in 2006. The reduction in production could be attributed to phasing out of leaded petrol in January 2006. The excess demand was met by imports, which grew by an average annual rate of 24% over the 12 years period. The increase in demand was in line with growth in the country’s Gross Domestic Product (GDP) (Fig. 1), and approximately 75% of petrol and diesel was consumed by the transport sector. Within the transport sector itself, 98% of the energy consumed is derived from liquid petroleum fuels.

**Figure 1: Supply and demand of petrol and diesel, 2002 - 2003**

![Graph showing supply, demand, and imports of petrol and diesel from 2002 to 2013, with data points for production, consumption, imports, and GDP values.](source: Supply, demand and imports - Department of Energy (DOE), GDP - South African Reserve Bank (SARB))
South Africa’s transport sector has developed in recent years in line with global improvement of conventional fuels, the change in vehicle design and technology development. This is evidenced by a decline in the market share of petrol-fuelled vehicles sales, from 77% in 2002 to 67% in 2013, while diesel-fuelled vehicle sales increased by 10 percentage points, reaching 33% in 2013 (Fig. 2).

Figure 2: Total number of new vehicle sales in South Africa, 2002 - 2013

Consequently, petrol consumption increased steadily during the same period while diesel consumption grew substantially and over-performed petrol consumption in 2013. These recent developments could be partly attributed to higher fuel efficiency in diesel vehicles compared to petrol-fuelled vehicles.
South Africa’s fuel prices are heavily influenced by trends in the global oil market and are linked to the global market by the Basic Fuel Price (BFP) system which replaced the In-Bond-Landed-Cost (IBLC) system in 2003. The BFP is determined by taking into account the movement of international petroleum products prices as well as the United States (US) Dollar/Rand exchange rate. The largest component of the BFP is the price that one would be paying on international markets when physically importing product to South Africa and it includes freight, insurance, ocean loss, landing, wharfage, coastal storage, the financing of the coastal storage and demurrage from refining centres in the Mediterranean, Arab Gulf and Singapore. In turn, the BFP constitutes approximately 55% of the retail fuel price in South Africa.
3. NATIONAL PETROL AND DIESEL MARKET TRENDS

3.1. Consumption per product type

South Africa’s consumption of petrol was stagnant during the past 12 years, growing at an average rate of 0.9% per annum from 10.3 billion litres in 2002 to 11.4 billion litres in 2013. The most significant change in the demand for petrol during the period was a 4.2% decline in 2008, due to a sharp increase in fuel prices as well as tighter economic conditions. Consumption increased for the next three years thereafter, however, declined in the last two, responding to increasing prices.

**Figure 4: Petrol and diesel consumption, 2002 - 2013**

![Bar chart showing petrol and diesel consumption from 2002 to 2013](source: Department of Energy (DOE))

In contrast, diesel consumption grew by an annual average of 5% during the period under review, despite the cyclic downturns. The global economic crisis in 2009 significantly dampened demand for diesel by 9.1%, however, consumption recovered in the following years and surpassed petrol consumption by 0.7 billion litres in 2013 (Fig. 4) which could be attributed to increasing demand in diesel.
3.2. Petrol and Diesel consumption per trade sector

3.2.1. Retail

South Africa’s retail fuel industry, which is made up of approximately 5 000 retailers countrywide, accounted for most of the petrol used. However, the petrol consumption trend in this sector was stationary and its market share declined from 93% in 2002 to 85% in 2013. Petrol sales volumes peaked at 10.6 billion litres in 2007 due to high demand, but soon declined by 3.6% in 2008, as a result of an increase in crude oil prices and the economic crisis. The drop in prices during the economic crisis saw a recovery in the retail sales volumes during 2009 and 2010; however, consumption volumes have since declined due to escalating prices (Fig. 5). The increase in the sale of diesel passenger vehicles resulted in an upward trend in diesel consumption in the retail sector. Diesel consumption increased at an average of 7% per annum, from 1.7 billion litres to 3.9 billion litres between 2002 and 2013.

Figure 5: Petrol and diesel consumption in the retail sector, 2002 - 2013

Source: Department of Energy (DOE)
3.2.2. Commercial

Most of the diesel consumed in the country was in the commercial sector, and grew by an annual average of 4.2%, from 5.1 billion litres in 2002 to 8.2 billion litres in 2013. The commercial operators use their own storage and dispensing facilities for refuelling vehicles and use diesel for stationary engines, such as small boilers and generators as well as for heavy machinery for production purposes. Therefore, the increase in the diesel demand from the commercial sector was mainly driven by strong economic growth. The average annual consumption of petrol in the commercial markets grew at an average rate of 7.3% per year, from 681 million litres in 2002 to 1.7 billion in 2013 (Fig. 6).

Figure 6: Petrol and diesel sales volumes in the commercial sector, 2002-2013

<table>
<thead>
<tr>
<th>Year</th>
<th>Petrol</th>
<th>Diesel</th>
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<tbody>
<tr>
<td>2002</td>
<td>0</td>
<td>4,500,000</td>
</tr>
<tr>
<td>2003</td>
<td>0</td>
<td>4,500,000</td>
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<tr>
<td>2004</td>
<td>0</td>
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<td>2012</td>
<td>0</td>
<td>4,500,000</td>
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<tr>
<td>2013</td>
<td>0</td>
<td>4,500,000</td>
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</tbody>
</table>

Source: Department of Energy (DOE)

3.3. Petrol and diesel consumption per grade

Petrol and diesel specifications were first regulated in 2006 in South Africa following the phase-out of lead, the introduction of benzene and aromatics specifications and the reduction of sulphur in diesel, to reduce vehicle emissions. Diesel sulphur was reduced from 3 000 parts per million (ppm) (0.3%) to a standard grade of 500 ppm (0.05%) maximum sulphur content, and is also available in a lower sulphur grade of 50 ppm (0.005%) maximum sulphur.
Consumption of diesel with a maximum sulphur content of 3 000 ppm, declined drastically after the promulgation of the regulations in 2006, while the consumption of the standard grade increased at an average rate of 44.6% per year (Fig. 7).

**Figure 7: Consumption per grade of diesel, 2002 - 2013**

![Graph showing consumption per grade of diesel, 2002 - 2013](source: Department of Energy (DOE))

The 50 ppm maximum sulphur grade was introduced in the market in 2006 and its consumption has since grown by 45.7% per annum, from 11.6 million litres in 2006 to 2.4 billion litres in 2013. The 50 ppm grade was specifically introduced to accommodate the increasing number of new technology diesel vehicles entering the South African market. These vehicles are designed to operate on cleaner diesel fuel specification, which has a maximum sulphur level of 50 ppm. The lower sulphur diesel is also produced to accommodate new technology particle filter equipped vehicles which may only use diesel fuel with a sulphur level not exceeding 50 ppm.

Emission-reduction enabling fuels have been available in South Africa since 1996, when unleaded petrol was introduced; however, new vehicle emissions have only been controlled for all new vehicle sales since the beginning of 2008.
Consumption of lead replacement petrol (LRP) products declined over the years, with a concomitant increase in unleaded petrol (ULP). The market share of ULP increased from 28% in 2002 to 85% in 2013, with the 95 octane grade dominating the market since 2009 at 34% to 49% in 2013 (Fig. 8).

4. PROVINCIAL PETROL AND DIESEL MARKET TRENDS

4.1. Petrol consumption per province

South Africa is characterised by provincial extremes in climate, population and economy. The arid Northern Cape Province, the largest of the nine provinces, accounts for 30.5 % of the total land area, however, contributes just 2.2 % of South Africa’s GDP and comprises around 2.2% of the population. The industrial powerhouse of Gauteng has just 1.4% of total land area, produces 34% of South Africa’s GDP and comprises about 23.9% of the population. Gauteng, together with Kwazulu-Natal and Western Cape, account for 20% of the total land area, but they produce just over 60% of South Africa’s GDP and comprise of 56.3% of the population. These geographic and socio-economic differences result in distinct
nodes of high transport demand and high traffic volumes that are spatially remote from each other within South Africa.

Consequently, petrol consumption per province was dominated by Gauteng, which consumed on average 36% of the total consumption, followed by Western Cape at 15.9% and Kwa-Zulu Natal at 15.7%. The rest of the provinces consumed petrol below 1 billion litres over the years. Northern Cape petrol use declined at an annual rate of 4.6% in the last 12 years, resulting in the province ranking last in the country’s petrol consumption (Fig. 9).

**Figure 9: Petrol sales volumes per province, 2002 - 2013**

![Petrol sales volumes per province, 2002 - 2013](source: Department of Energy (DOE))

**4.2. Diesel consumption per province**

Diesel consumption per province was also dominated by Gauteng at 23%, followed by KwaZulu Natal and Western Cape at 18% and 15%, respectively. Most of the other provinces exhibited a positive trend in diesel consumption except for Limpopo, where demand declined slightly at a rate of 0.3% per year (Fig. 10).
4.3. Provincial petrol and diesel consumption per trade sector

4.3.1. Eastern Cape

Fuel consumption in the Eastern Cape was dominated by petrol at 57% of the total consumption. Petrol use in the retail sector grew at an average rate of 0.3% yearly, while commercial consumption increased by an annual rate of 7.5%. Diesel use in retail and the commercial sectors grew at annual averages of 5.3% and 3.2%, respectively (Fig. 11).
4.3.2. Free State

In Free States, diesel accounted for majority of the fuel demanded at an average of 55% of total consumption over 12 years. Diesel consumption in the commercial sector grew at an annual rate of 8.8% due to higher mining and agricultural activities, while demand in the retail sector increased annually by 5.6%. Petrol consumption in the retail sector was stable during the study period and it was overtaken by the commercial use of petrol in 2013, which grew at an annual rate of 24.6% (Fig. 12).
4.3.3. Gauteng

Fuel consumption in Gauteng was dominated by petrol throughout the years, despite a drop in its market share from 73% in 2002 to 60% in 2013. Petrol and diesel retail consumption in the province grew above the national average, however, it underperformed in the commercial sector. Petrol consumption in the retail sector grew at an average annual rate 0.4% from 3.6 billion litres in 2002 to 3.8 billion litres in 2013, while diesel consumption increased by an average annual rate of 8.4% in the same sector. The commercial sector was dominated by diesel consumption which grew by an average of 3.4% per year, while petrol consumption grew by 3.2% per year (Fig. 13).
4.3.4. KwaZulu Natal

Petrol use in KwaZulu Natal was overtaken by diesel use in 2011 and its market share has since declined to 45% in 2013, from 56% in 2002. Petrol use in the province followed the national trend, which was characterised by a slower growth in retail, while consumption in the commercial sector grew at a faster rate. Diesel consumption in the commercial sector increased at an average of 3.5% per year while diesel consumption in the retail sector rose by 8.3% per year (Fig. 14).
4.3.5. Limpopo

Petrol dominated fuel consumption at an average of 53% in Limpopo, until its market share fell to 49% in 2013 in favour of diesel use. Petrol consumption decreased slightly by 0.4% per annum in the retail sector while the commercial use declined drastically at 15.6% per annum. Diesel consumption in the commercial sector declined at an average annual rate of 3.1% while consumption in the retail sector increased by 6.3%, on average (Fig. 15).
4.3.6. Mpumalanga

Diesel consumption in Mpumalanga grew substantially by 5.9% and 8.6% in the commercial and retail sector, respectively, from 2002 to 2013. As a result, diesel use averaged at 59% of the total fuel consumption in the province despite petrol consumption growing above the national growth rate in both retail and commercial sectors. In retail, petrol use increased by 1.1% per annum, while consumption in the commercial sector grew by an annual rate of 9.3% during the study period (Fig. 16).
4.3.7. Northern Cape

The demand for fuel in Northern Cape has always been dominated by diesel during the past 12 years, with its market share growing from 59% to 79% between 2002 and 2013. Diesel consumption in the commercial sector grew by an annual rate of 4.1% while use in the retail sector increased gradually by 0.2% per year. Petrol consumption in the retail sector declined by an annual average of 6.2%, from 172 million litres in 2002 to 87 million litres in 2013, while commercial use grew by 1.9% per annum (Fig. 17).
4.3.8. North West

Fuel consumption in North West was dominated by diesel over the study period. Diesel consumption in the commercial sector grew slightly at an annual rate of 0.2% while use in the retail sector increased by 2.9% per annum. Petrol consumption grew at an annual rate of 0.2% and 2.9% in the retail and commercial sectors, respectively (Fig. 18).
4.3.9. Western Cape

Fuel consumption in Western Cape was dominated by petrol at the beginning of the study period, but over the years, petrol use declined and diesel eventually dominated the market with a share of 54% in 2013. Petrol consumption in the province declined by an annual rate of 0.4% in the retail sector and increased by 12.7% in the commercial sector. Diesel consumption in the commercial sector had a growth rate of 6% while the use of diesel in the retail sector grew by 5.1%, annually (Fig. 19).
4.4. Provincial petrol and diesel consumption per grade

4.4.1. Petrol

The selection of octane ratings available at the pumps in South Africa can vary from region to region with ULP 93 mainly found in the inland regions and 95 unleaded petrol mainly found in the coastal regions. ULP 93 is mainly used in the inland regions because it is cheaper than ULP 95. Evidently, the consumption of ULP 93 was mainly in Free State, Gauteng, Limpopo, Mpumalanga and North West. Gauteng was the leading consumer throughout the period, however, its market share declined from 70% to 58% between 2002 and 2013. This could be attributed to increasing sales of modern engines with turbos and superchargers that only run on higher octane fuel as well as a consumer perception that ULP 95 lasts longer that ULP 93. Consumption in Free States increased at an annual rate of 15.5% while the rest of the Highveld provinces lagged behind (Fig. 20).
South Africa’s provinces along the coast predominantly demand higher octane fuel. According to the Automobile Association of South Africa (AA), the higher demand of ULP 95 in the coastal areas is mainly because of the lower altitude which is more suitable for the use of high octane fuel. From the beginning of 2006, ULP 95 was made available in the inland regions. However, a Demand Side Management Levy (DSML) is charged on ULP 95 sold in the inland area. This levy was implemented into the price structure of ULP 95 in January 2006 when this grade was introduced into the inland market for the first time. Most vehicles in the inland market are not required to run on ULP 95 and the unnecessary use thereof in the inland area could
result in "octane waste" with negative economic consequences. A DSML was introduced to curtail the demand thereof in the inland area.

There seems to be minimal or no impact of the DSML as Gauteng’s consumption of ULP 95 grew at 70.9% per year, from 1.4 million litres to 1.3 billion litres between 2002 and 2013. The rest of the inland regions followed a positive trend, with North West growing at a rate of 94.3% while the rest increased by approximately 20%, annually. However, the coastal regions continued to dominate the consumption of the ULP 95 throughout the period, with the Western Cape and Kwa-Zulu Natal growing annually by 11.3% and 14.4%, respectively (Fig. 21).

**Figure 21: 95 Unleaded Petrol (ULP) consumption per province, 2002 - 2013**

Leaded petrol was first introduced in the 1920s, but in recent years there has been a move away from this petrol grade. This is due to leaded petrol being a main contributor to urban pollution and a health risk, particularly for young children. Lead replacement motorists still have the choice of two grades of petrol, although the octane grades differ between the coast and high-altitude inland stations. Premium, or super, was replaced with the new Lead Replacement Petrol (LRP), with an octane grade of 95 at the coast and 93 inland. The use of LRP 93 octane in Gauteng declined by 14.5% from 2.5 billion litres in 2002 to 470 million litres in 2013. The rest of the provinces followed a similar trend as old technology cars that required leaded petrol are being phased out (Fig. 22).
The LRP 95 grade, which was mostly demanded in the coastal regions, declined in the past 12 years. The use of the LRP 95 declined by 12% per year in both Kwa-Zulu Natal and Eastern Cape and declined by 13.4% in the Western Cape. Inland, Mpumalanga led consumption of the LRP grade, but the demand dropped annually by 12%. Limpopo was another significant consumer inland, and similarly, demand declined by 14.6% over the years (Fig. 23).
Figure 23: 95 Lead Replacement Petrol (LRP) consumption per province, 2002 - 2013

Source: Department of Energy (DOE)

4.4.2. Diesel

The consumption of diesel with a maximum sulphur content of 0.3% drastically dropped in 2006 in all the provinces. Prior to 2006, most of the provinces experienced an increasing trend in the demand of the higher sulphur diesel, except for North West, Limpopo and Northern Cape (Fig. 24).

Figure 24: 3 000 ppm sulphur diesel consumption per province, 2002 - 2013

Source: Department of Energy (DOE)
The use of diesel with a maximum content of 0.05% escalated in 2006, replacing the phasing out of the higher sulphur diesel. Gauteng’s consumption of the standard grade peaked in 2008 and decreased thereafter, with a similar trend also seen for Limpopo. The rest of the provinces showed positive growth until the end of the study period (Fig. 25).

**Figure 25: 500 ppm sulphur diesel consumption per province, 2002 - 2013**

![Graph showing diesel consumption per province from 2002 to 2013.](source: Department of Energy (DOE))

The consumption of diesel with the maximum sulphur content of 0.005% was dominated by Gauteng. The demand for diesel with the lower sulphur content in Gauteng increased from 247 million litres to 806 million litres between 2006 and 2013, mainly due to a rise in diesel-fuelled vehicles. The rest of the provinces experienced substantial growth, with Northern Cape taking the lead with a growth rate of 40.5% per annum (Fig. 26).
5. LEGISLATION AND REGULATION GOVERNING THE PETROLEUM INDUSTRY

The DOE oversees the development of energy policy and implementation thereof. Energy policy and its subsequent legislative and regulatory frameworks are the foundation upon which the regulator and investors make decisions and consumers make choices about which energy solution to use.

As South Africa’s economy opened up following the 1994 democratic election; the new government reviewed and developed policies in the energy sector driven by international trends. As a result, the White Paper on Energy Policy was developed in 1998 and it has been used as the premier policy document which guides all subsequent policies, strategies and legislation within the energy sector. The objectives of the White Paper are to increase access to affordable energy services, improve energy governance, stimulate economic development, manage energy-related environmental and health effects and secure supply through diversity.

Subsequently, in order to achieve these objectives, new policies and strategies were developed and existing policies amended. The following are significant policies and
regulations pertaining to the petroleum sector post the promulgation of the White Paper:

- **Petroleum Products Amendment Act:** The Act was promulgated in 1977 but has since undergone a number of amendments, of which the last two were during 2003 and 2008. The objectives of the Act are for the government to limit the number of licences allocated. The Act prohibits manufacturers and wholesalers from holding a retail licence except for training purposes. Also, it aims to facilitate transformation of the South Africa’s petroleum and liquid fuels industry, ensure system for allocation of licences, prescribe offences and penalties, provide for appeal and arbitration as well as annexure the liquid fuels charter.

- **Petroleum Pipelines Act, 2003:** The Act aims to promote competition in the construction and operation of petroleum pipelines, loading facilities and storage facilities. It intends to promote the efficient, effective, sustainable and orderly development, operation and use of petroleum pipelines, loading and storage facilities. Also, the Act aims to facilitate investment in the petroleum pipelines industry, provide for the security of petroleum pipelines and related infrastructure as well as promote companies in the petroleum pipeline industry that are owned or controlled by historically disadvantaged South Africans, amongst others.

- **Regulations Regarding Petroleum Products Specifications and Standards for South Africa:** The aim of the regulation is to recommend the tightening of fuel specifications by further reducing the levels of sulphur in both petrol and diesel as well as the reduction of benzene and aromatic levels in petrol to levels equivalent to Euro 5 emissions standard.

Aspects of the South African petroleum value chain are regulated largely under the mandate of the Department of Energy (DOE) and administered either directly or by the National Energy Regulator of South Africa (NERSA). The DOE is responsible for the setting of various price levels for petroleum products and licensing activities throughout the downstream liquid fuels value chain in terms of the Petroleum
Products Act, No 120 of 1977, as amended. NERSA sets tariffs for the infrastructure linked to the value chain e.g. petroleum pipelines and storage facilities.

6. OUTLOOK

The future of the liquid fuel sector depends on four factors, namely, demand growth, sustainable resources, security of supply and environmental constraints. The increase in demand for petroleum products will be determined by the growth in the country’s GDP and GDP per capita as well as the rate of urbanisation. Currently, around 80% of global energy demand is met by fossil fuels and the unrelenting increase in the demand is matched by the finite nature of these sources. The growth in the petroleum sector will depend on the sustainability of these sources as well as the introduction of non-conventional sources. Due to low oil resources in the country, South Africa is heavily import dependent and the security of supply will depend on the economic and political stability in the OPEC countries as well as substantial investment in the country’s refinery capacity. Also, efforts that are continually being made to redress the global environmental problems will affect the demand for petroleum products in terms of efficiency in both use and production.

South Africa’s GDP growth, which declined from 2.5% in 2012 to 1.8% in 2013, is projected to increase to 2.7 % in 2014 and reach 3.5 % in 2016, according to National Treasury’s economic outlook (2014 Budget Review). The forecast is in line with the National Development Plan (NDP), which was adopted by government as a framework for economic and social development. This plan states that, to acquire sustainable and inclusive growth by 2030, South Africa needs to invest in a strong network of economic infrastructure designed to support the country’s medium and long-term objectives. Consequently, the expected public investment in infrastructure could reduce bottlenecks in transport, while stronger employment growth will contribute to increased household consumption, which in turn, will increase the demand for liquid fuels in the country.

According to the Energy Information Administration (EIA), energy demand from the transport sector is expected to remain dominated by oil. However, the growth in transport demand for liquid fuels is anticipated to slow down post 2025, as efficiency
improves and displacement by gas ramp up. Natural gas is the fastest growing alternative at 6.8% per annum and is expected to overtake biofuels in 2022 before reaching almost 7% of the transport market by 2035. The market share of biofuels in the energy sector is forecast to grow from 2.5% currently to 4% by 2035.

South Africa is expected to continue to import liquid fuels in order to meet its excess demand until such time that new refining capacity is developed. Furthermore, government is developing a 20-year liquid fuels infrastructure roadmap to ensure continued security of supply of liquid fuels to enable South Africa’s growth and development. The roadmap will assist in determining the capabilities and capacity for local refining, storage, handling and logistics.

The Department (DoE) is in the process of finalising the Integrated Energy Plan which will be guided by national objectives, informed by the Energy White Paper, National Energy Act and influenced by various government policies. The Integrated energy plan is aimed at determining the best way to meet current and future energy service needs in the most efficient and socially beneficial manner.
7. CONCLUSION

South Africa’s petrol and diesel supply growth was steady during the past 12 years due to capacity constraints in the country. Consequently, supply was overtaken by demand about half way through the study period. This led to a staggering increase in imports of both crude oil and refined products to satisfy the country’s consumption. The increase in demand was driven by an increase in the domestic economy.

The transformation in the transport sector, driven by research and development in efficiency and cleaner fuel, has led to the beginning of a structural shift in the liquid fuels market. Over the years, the market share of petrol declined in the country, with a concomitant rise in the market share of diesel. This has been due to an increase in the uptake of diesel-fuelled vehicles as opposed to petrol-fuelled ones, largely attributed to the fact that diesel-fuelled vehicles are more fuel efficient combined with the relative lower price of diesel as compared to petrol over the last few years.

The retail sector accounted for majority of the petrol traded, however its market share declined in favour of diesel trade in the sector. Diesel continuously dominated the commercial sector during the study period. Provincially, Gauteng led the consumption of both petrol and diesel followed by Kwa-Zulu Natal and Western Cape, respectively. This was in line with the prevailing contribution of the three provinces to the country’s GDP.

Each province displayed different trends in fuel consumption per trade sector. However, petrol traded in the retail sector dominated majority of the provinces. Fuel in Free State, Mpumalanga, and Northern Cape was mainly consumed in the commercial sector, mainly due to higher mining activities in these regions. The use of cleaner fuels has increased over the past 12 years in all regions. Simultaneously, lead replacement petrol consumption continuously declined while consumption of diesel with 0.3% maximum sulphur was completely phased out from 2008. The use of petrol is closely linked to disposable income for individuals whereas diesel usage is closely linked to economic activities.

The intervention of South Africa’s government with the objective to ensure sustainability and security of supply of energy in the country will result in investment in the petroleum sector. Also, increasing collaboration between government,
business and labour in implementing the NDP will help to realise faster economic growth and job creation, and in turn, will result in an increase in demand for liquid fuels.
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