Fuel Prices in South Africa – How is it calculated?

The petrol pump price is composed of a number of price elements and these can be divided into international elements and domestic elements. The international element, or Basic Fuel price (BFP), is based on an import parity principal. In other words, it is what it would cost a South African importer of petrol to buy the petrol from an international refinery, transport the product from that refinery, insure the product against losses at sea and land the product on South African shores.

Composition of the Petrol Pump Price 93 Octane (Gauteng) in SA cent per litre 502 c/l - 06 April 2005

- Basic fuel price & Slate Levy: 250.232 c/l (49.8%)
- Delivery cost: 7 c/l (1.4%)
- Transport cost: 13.4 c/l (2.7%)
- Fuel tax: 116 c/l (23.1%)
- RAF: 31.5 c/l (6.3%)
- Customs & Excise: 4 c/l (0.8%)
- Retail margin: 40.6 c/l (8.1%)
- Tax: 151.5 c/l (30.2%)

Composition of the Diesel 0.3%S Estimated Pump Price (Gauteng) in SA cent per litre 514 c/l - 06 April 2005

- Basic fuel price & Slate Levy: 278.73 c/l (54.2%)
- Transport cost: 13.4 c/l (2.6%)
- Delivery cost: 7 c/l (1.4%)
- “Deemed” Retail Margin: 40.1 c/l (7.8%)
- Fuel tax: 100 c/l (19.5%)
- RAF: 31.5 c/l (6.1%)
- Customs & Excise: 4 c/l (0.8%)
- Tracer dye levy: 0.01 c/l (0.002%)

Note – Diesel Retail price not regulated, retail margin estimated to be similar to regulated retail margin on petrol
Now for some more detailed explanation of the terminology used above in the graph.

1. Basic Fuel Price (BFP)

The In Bond Landed Cost (IBLC) was first introduced in the 1950’s with the establishment of the first refinery in South Africa, and was previously revised in 1995, when a market spot price component was introduced. In a world constantly changing, the use of refinery gate prices posted by international refiners known as postings, has become somewhat anachronistic in world trade and no longer track international market prices consistently. This has resulted in the IBLC losing credibility as a reasonable proxy for international fuel prices.

The Basic Fuel Price (BFP) formula has replaced the IBLC formula, with effect from 2 April 2003. This formula was negotiated in a positive spirit, with government and industry (AMEF & SAPIA) agreeing on the new pricing formula, maintaining an import parity price structure.

The BFP formula reflects the realistic cost of importing a litre of product from international refineries with products of a similar quality compared to local South African specifications on a sustainable basis.

This element changes on the first Wednesday of every month based on the average daily international price movements and exchange rate fluctuations from the 26th of the previous month the 25th of the month preceding the price change.

BFP consists of a number of elements as it is based on import parity, reflecting the cost of what an a
International market spot prices
The largest component of the basic fuels price is the price that one would be paying on international markets when physically importing product to South Africa. The FOB (Free on ship’s board) product prices from different locations in the world, based on international product availability and product quality, are used. The petrol FOB price is calculated as 50% of the Mediterranean spot price for Premium unleaded petrol and 50% of the Singapore spot price for 95 Octane unleaded petrol. For the FOB price of Diesel, the new BFP formula use spot prices calculated as 50% of the Mediterranean price for Gas oil and 50% of the Arab Gulf price for Gas oil, plus the quoted spot price market premiums applicable.

Freight cost to bring product to South African ports
The freight component of the BFP reflects the cost of voyages from Augusta (in the Mediterranean), Singapore and Mina-al-Ahmadi (in the Arab Gulf), in 50:50 combinations as appropriate to the international markets used in the FOB calculations of the products concerned. Tariffs as published by the World Scale Association for transporting refined products via medium-range vessels to a weighted average for South African coastal ports, plus demurrage for an average 35 000 ton vessel for 3 days, adjusted with the Average Freight Rate Assessment (AFRA) of the London Tanker Brokers Panel, plus a 15% premium for transporting fuels to South Africa.

Insurance costs
Calculated as 0.15% of the product FOB and freight costs, to cover insurance cost, as well as other costs such as letters of credit, surveyors’ and agents’ fees, and laboratory costs.

Ocean loss allowance
In international petroleum products trading, shipping and insurance, a loss of 0.3% for products has been accepted as a normal leakage/clingage and evaporation loss. Simply put, this means that the “normal” loss is not insurable and has to be accepted by the buyer. The buyer therefore has a financial loss of 0.3% of FOB, Insurance and Freight costs.

Wharfage
The BFP calculates Wharfage charges in terms of the ruling National Ports Authority of South Africa “contract” tariffs for “petroleum products”, currently being R18.72 per kilo-litre.

Coastal Storage
This element is to cover the cost of providing storage and handling facilities at coastal terminals. Storage is calculated based on the typical cost of international product storage of $3 per ton per month for 25 days worth of stock, currently 2.132 SA c/l per month. This cost factor is escalated annually in accordance with movements in the Producer Price Index as at June of each year.

Stock Financing Cost
The BFP includes a charge for the financing of 25 day’s stock at an interest rate of 2 percentage points below the ruling prime rate of the Standard Bank of South Africa.

The BFP as determined above is converted to SA cents per litre by applying the applicable SA Rand/US Dollar exchange rate (four banks selling rates at eleven o’ clock averaged over the period 26th of the previous month to 25th of the month before the price change), and a constant litre per gallon factor of 3.8038 for petrol.

2. Domestic Elements
To arrive at the final pump price in the different pricing zones (magisterial district zones) certain domestic transport costs, government imposts, or taxes and levies and retail and wholesale margins needs to be added to the international price.
a. **Transport costs (Zone differential)**

Keeping in mind the import principle used, this element recovers the cost of transporting petroleum products from the nearest coastal harbour (Durban, Port Elizabeth, East London, Mossel Bay or Cape Town) to the inland depot serving the area or zone. Transport to the different pricing zones are determined by using the most economical mode of transport i.e. pipelines (C zones), road (B zones) or rail (A zones). This is the only element which values differ per pricing zone, and is the reason why the petrol price is not the same for the whole country.

b. **Delivery costs (Service differential)**

This element compensates marketers for actual depot related costs (storage and handling) and distribution costs from the depot to the end user at service stations. The value is calculated on actual historical costs of the previous year, averaged over the country and industry.

c. **Wholesale (Marketing) margin**

Money paid to the oil company through whose branded pump the product is sold, to compensate for marketing activities. This margin is controlled by the government, allowing for changes based on the oil companies’ return on their marketing assets.

The formula used to determine the wholesale margin is based on the results of a cost/financial investigation by a chartered accountant firm into the profitability of the wholesale marketers. The level of the margin is calculated on an industry basis and is aimed at granting marketers a return of 15% on depreciated book values of assets, with allowance for additional depreciation, but before tax and payment of interest.

d. **Retail margin**

The retail margin is fixed by DME and is determined on the basis of actual costs incurred by the service station operator in distributing petrol. Account is taken of all proportionate driveway related costs such as rental, interest, labour, overheads and profit. The way in which the margin is determined creates an incentive to dealers to strive towards greater efficiency, to beat the average and to realise a net profit proportionate to their efficiency.

e. **Equalisation Fund levy**

The statutory fund levy is a fixed monetary levy, and the fund is regulated by ministerial directives issued by the Minister of Mineral and Energy Affairs in concurrence with the Minister of Finance, as laid down by the Central Energy Fund Act, No 38 of 1977 as amended. In terms of Ministerial Directives the Fund is principally utilised to smooth out fluctuations in the price of liquid fuels through slate payments; to afford synfuel producers tariff protection and to finance the crude oil “premium (price differential applicable to SA oil purchases during the late 1970’s).

f. **Fuel tax**

Tax levied by Government annually adjusted by the Minister of Finance effective from the price change in April of each year, announced in the Minister of Finance in his annual budget speech.

g. **Customs & Excise levy**

A duty collected in terms of the Customs Union agreement.

h. **Road Accident Fund (RAF)**
The Road Accident Fund receives a fixed value which is used to compensate third party victims in motor accidents.

i. **Slate levy**

A levy paid by the motorists recovering money “owed” to the oil companies, due to the time delay in the adjustment of the petrol pump price.

You may now have a number of questions including:

**Who set the price and control it?**
The petrol retail price is regulated by government, and changed every month on the first Wednesday of the month. The calculation of the new price is done by Central Energy Fund (CEF) on behalf of the Department of Minerals and Energy (DME).

As the BFP is used by the government as the transfer price between refining and marketing in the price build-up for petrol retail price control, South African refineries are price-takers. Neither the local refineries nor the government has any control over changes in this element, as it is based on international petrol prices. It also means that South African refineries have to compete with very large and efficient international refineries, based in Singapore, the Mediterranean and the Arabian Gulf.

Margin and transport element changes are based on actual cost incurred by the South African industry and are calculated according to specific formula ensuring efficiency in operations. These changes have to be approved by the Minister of Minerals and Energy before it is allowed into the price.

**What drives international petrol prices?**
Essentially, prices are driven by supply and demand for petrol in a particular market. Additionally crude oil prices have a major effect on the petrol prices. A crude oil refinery’s biggest input cost is crude oil. In order for a refinery to make a profit, the price for the product manufactured from crude oil has to be higher than that of the crude oil price. When crude oil prices increase – as they have over the past number of months – the petrol price must increase so that crude oil refineries are able to cover their own costs.

While the above scenario is relevant to Natref, crude oil prices do not influence Sasol Synfuels because their input cost is that of coal. The capital cost of Sasol Synfuels is however, much higher than that of a conventional crude oil refinery.

Because both crude oil and international petrol prices are dollar-based, any weakening of the SA rand / US dollar exchange rate will also increase the domestic petrol price.

**Why did crude oil prices begin to increase again?**
Oil prices started to increase because of low levels of availability. This decrease in oil supply resulted from a number of OPEC (Organisation of Petroleum Export Countries) agreements to limit oil production. The situation has been exacerbated by a strong demand for petrol in the United States – driven by people preferring to drive instead of flying, after the September tragedy of 2001 – and extremely low stock inventories of crude oil and petroleum products worldwide. There after the war between the US and Iraq has led to a “war premium” been added to the price of crude oil by oil traders on the international markets. More recently low inventories couple together with the MTBE ban in the US is pushing up prices in anticipation of possible product shortages.
What effect does the petrol price have on Sasol’s business?
Depending on the increase in the petrol price relative to crude oil, the impact of the higher petrol price on Natref could be negative, neutral or positive. For SSF a rise will always be positive and a decline negative.

Why are the Sasol branded fuel not cheaper, being a local company producing fuel from coal?
Sasol Synfuels produce about 30% of the country’s fuel from coal, the rest on the petrol are produced in conventional crude refineries – having to import crude oil and refine it into petrol. SSF produced petrol, are also subjected to petrol retail price control as stipulated in the Petroleum Products Act, and we therefore cannot sell it at a price different to the regulated retail price. This petrol price regulation means that the petrol pump price at all service stations in a pricing area must be the same, and no discounting is allowed.

Why don’t Sasol employees get fuel cheaper?
The Petroleum Products Act, Number 120 of 1977, forms the basis for retail petrol price control. In terms of regulations issued under this act, it is not allowed to give discounts in any form whatsoever on petrol volumes sold to end-consumers.

Why don’t Government deregulate the oil industry, surely this will result in lower prices if local market forces are allowed to determine the price?
In the White Paper on the Energy Policy of South Africa, Government has indicated that it believes it to best for the liquid fuels industry to operate in an environment of minimum governmental intervention and regulation. We agree with Government and acknowledge that they first need to achieve the socio-economic milestones as described in the white paper, before the oil industry can be deregulated.

The import pricing principle is an arms-length market related approach used by most countries worldwide and is a system that benefits the consumer. It ensure that local refineries compete with international state of the art refineries, ensuring cost efficiency and astute crude acquisition strategies to ensure survival in a volatile and competitive environment eliminating domestic inflationary pressures.

The graph below illustrates the rising trend in the petrol pump price over the last number of years. As from 1999 it is clear that the petrol price has not increased with the same magnitude than the crude oil price. This is clearly an indication of the current import pricing mechanism’s benefits. It forces the South African refiners to operate at the same efficiency as international refineries.

![Crude (SA c/l) vs. Pump Price 93 Octane Leaded (Coast)](image-url)
What will happen next month or year to the prices?

It is difficult to predict as one will have to make assumptions regarding the US dollar SA rand exchange rate, world crude oil demand and what OPEC is willing to supply, world consumer demand for petrol and the ability of international refiners to supply petrol to the market.

Comparing the South African petrol pump prices with prices in various other countries during 2003, has revealed that South African prices compares favourable with the rest of the world.

We understand the impact of the high petrol prices on consumers as it impacts on the whole South African economy and we sympathise with consumers. However, we must congratulate the South African Government, working towards the achievement of socio-economic objectives, whilst also managing to achieve an international competitive price.