

PERSPECTIVES

Foreword by the Minister of Minerals and Energy

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THE PRICING OF PETROLEUM PRODUCTS

Sapia has stated that it believes that free market forces should set the prices of all petroleum products. However, it accepts that this will only happen once certain social objectives spelt out by Government have been met.

In the interim, the price of petrol at the pump, and the maximum wholesale prices of diesel and paraffin will be set by Government in terms of various regulatory systems. In addition, in order to ensure that energy is available to the poor at affordable prices, control over the retail prices of paraffin and LPG is under consideration.

Sapia believes that it is important that while this is the case, the systems employed should be transparent and understood by the public.

Towards this end, Sapia has consistently provided information on the pricing system in its Reports. In this article this information is brought up to date and the movements in the price build-ups of petrol and diesel between October 1996, March 1999 and June 2002 are analysed. (This period covers a cycle in which crude oil prices (Dubai) fell from \$22/bbl to \$10/bbl and ended at \$24/bbl in June 2002.)

“ . . . the systems employed should be transparent and understood by the public.”

OVERVIEW

There are two main constituents of the prices of the controlled products – i.e. petrol, diesel and paraffin. These are:

- The external factors - the dollar price of the products on world markets multiplied by the dollar:rand exchange rate.
- The internal factors – the rand based dealer and oil company marketing margins, transport costs and taxes and levies.

The external factors move constantly and account for most of the movements in prices. Both the world market price of oil and the exchange rate are outside the control of the industry.

The Monthly Pricing System, whereby the controlled prices are changed on the first Wednesday of the month, takes account of movements in these factors.

When the various internal factors are adjusted – usually once a year for each – these movements are also included in the relevant monthly price change.

The price build-up charts on page 56 show the detail of the build-up of the petrol and diesel prices as at 30 June 2002.

THE MECHANICS OF THE MONTHLY PRICING SYSTEM

World oil and financial markets respectively drive movements in petroleum products prices together with the dollar:rand exchange rate, and these movements are dealt with through the Monthly Pricing System.

This system is currently based on the daily average of five published world oil prices for the product concerned. These are the posted prices of three refineries in Singapore, an assessment of the Singapore spot market price and the posted price of a refinery in Bahrain. The costs of shipping and related costs to South Africa are added to these prices. The resultant dollar “basic price” is converted to rand at the daily dollar:rand exchange rate ruling at 11h00 South African time.

As it would be cumbersome to adjust pump prices daily, the average price ruling during the previous month is used as the price for the next month, with the actual price change taking place on the first Wednesday of each month. There are detailed “working rules” dealing with the timing effects and the under and over recoveries that result from this use of the previous month’s price. The whole system is managed by the Central Energy Fund, is fully transparent and is subjected to monthly audit.

If prices are to be controlled, it is prudent for the control mechanism to be linked to world markets as is the case in South Africa. The way in which this linkage is achieved is in the process of being amended.

Movements in the rand-based elements (internal factors) are subject to Government control. They are increases in taxes and levies, transport costs and increases in the oil company marketing margins and the dealer margin.

The over-riding rationale for controlling prices and margins should be to ensure that the various stakeholders in the industry earn fair returns. The returns should be sufficient to encourage the needed investment in the industry, while not being such as to represent over-reward.

The control systems in place should encourage efficiency. This is true of the systems which control the margins earned by the oil companies as is explained below.

HOW THE INDUSTRY EARNS ITS PROFITS

Sapia’s policy of greater openness and transparency implies an on-going effort to increase understanding of key aspects of the oil industry. Sapia believes it is important that everyone should have an understanding of the factors that drive the profitability of the industry.

The Monthly Pricing System, described above, includes in the price build-up an industry marketing margin, controlled by Government, and determined by the use of the Marketing of Petroleum Activities Return (MPAR) system, and a refining margin.

MARKETING PROFITS

Marketing profitability is governed by the Marketing of Petroleum Activities Return (MPAR) system.

This system has its roots in the 1970s when the Government of the day applied price control to vari-

ous industries. The key elements of the formula are income before tax and interest as a percentage of total assets. When depreciation is calculated, an adjustment is made to recognise the effects of inflation. Similarly stock profits and losses are excluded.

The formula is applied one year behind current reality (i.e. those seeking to motivate a 2002 margin increase would quote 2001 figures).

Under the MPAR system, an aggregate oil industry marketing profit acceptable to Government is between 10% and 20% of assets. Should returns fluctuate within the 10-20% band, then no increase or decrease is due. Should returns go above 20%, then a margin decrease is indicated. Should the return fall through the 10% ‘floor’, a margin increase is indicated.

When an adjustment is made, the new cents per litre marketing margin is set at a level which would have delivered a 15% return for the year under review.

The easiest way to explain the formula is to give an actual example, and the most relevant one is the arithmetic behind the 2001 industry application for a 6,93c/l margin increase.

Key elements in the equation for 2001 are shown in the table on the next page.

The system is relatively simple. It acts as an encouragement to competition as the margin is based on the total income and assets of all companies. An individual company can improve its relative profitability by reducing its own costs and assets. Each time this is done, it has the effect of reducing the industry total assets and costs. Competition causes the process to be repeated – leading to ongoing cost reductions and increased efficiency for the whole of the South

African oil industry. Sapia believes, however, that in principle, free competition is far more desirable.

REFINING PROFITS

A refinery separates crude oil into its component parts. For every 100 tons of crude fed in, about 93 tons of refined product is produced, the rest is consumed in the process, mainly as fuel.

For income to be earned, the refining process must add value over and above the cost of the processes and the cost of the initial 100-ton crude oil input.

Two categories of product are created:

- Higher value products (e.g. petrol, diesel and paraffin).
- Lower value products (e.g. furnace and bunker fuels).

The percentage of higher or lower value products produced by the refinery depends on three principal factors:

- The type of crude being refined.
- The equipment used.
- The efficiency of operations.

Higher value products may be resold for higher prices. Crudes, which intrinsically contain more higher value product, tend to be more expensive.

A similar balancing of the scales is apparent when examining the profit-earning capabilities of refining equipment.

The more extensive and sophisticated the equipment, the greater the anticipated yield of higher value product. This is not only good for the company, but also good for the country as optimum output of high value products saves foreign exchange on crude oil imports. However the more modern and sophisticated the equipment, the greater the capital investment.

The key point of difference in the relative profitability of refineries therefore tends to be the efficiency of operations, or how management and labour maximize the yield of high value product for a given type of crude with the available equipment.

A major factor beyond the control of the refiners is the prevailing margin between the cost of crude oil and refined products in international markets. Oil is an internationally traded commodity. These margins therefore fluctuate in line with global trends in supply and demand and the perceptions and sentiments of a global marketplace. World prices are outside the control of the authorities or other interested parties in South Africa.

An important factor in the economics of refining in South Africa is that the cost of shipping crude oil in very large vessels is cheaper per litre than importing refined product in smaller vessels. This freight saving contributes to the viability of local refining, and hence to foreign exchange saving and to the creation of jobs in the local refining industry and its suppliers.

The world price of a refined product landed in South Africa at any given time is referred to as the In Bond Landed Cost (IBLC), or the "external factors" referred to in description of the Monthly Pricing System.

Those who wish to have more detail on pricing of petroleum products than it is possible to give in this brief synopsis are invited to contact Sapia.

AN ANALYSIS OF PETROL AND DIESEL PRICE MOVEMENTS

An explanation of the reasons for sharp rises, and seasonal fluctuations follows. Dollar crude oil prices (Dubai) have fluctuated in less than five years from \$22/bbl down to \$10/bbl and back up to \$30/bbl, before coming down again.

The weakening in the dollar:rand exchange rate has added to the price burden in South Africa, and normal seasonal changes on the global market have also had their effect.

A - Aggregate income in 2001	R490m
B - Total assets in 2001	R12 974m
C - Return (A/B x 100)	3,78%
(below 10%, so an adjustment is due under the formula)	
D - Amount needed to give 15% (B x 0,15)	R1 946m
E - Shortfall in actual income (D-A)	R1 456m
F - Volume in 2001	21,0bn litres
G - Adjustment in cents/litre (E/F)	6,93c/l

Government granted 2,94c/l in January 2002 and 3,99c/l in November/December 2002

An analysis of world prices, from 1996 to 2002, shows that dollar crude prices peaked in October 1996 at \$22/bbl and then declined for the next two and a half years when they actually fell below \$10/bbl during February 1999. (See Appendix 6 of this report for monthly average crude oil prices.)

In March 1999 OPEC acted to restrict crude oil production and, on this occasion, the world oil market responded sharply.

The crude price rose 50% in less than five months from around \$10/bbl to \$15/bbl between February and June 1999. Thereafter the price continued increasing and eventually exceeded \$30/bbl in late 2000.

OPEC then embarked on a programme of seeking to maintain prices between \$22/bbl and \$28/bbl by increasing or reducing production. Until the time of writing they have successfully maintained prices in this range for most of the time.

This increase in the crude price drove international petroleum product prices up. The relationship between product prices and crude prices as well as the relative movements in the prices of different refined products varies with world market conditions. The most marked of these movements is that petrol has a seasonal high during the northern hemisphere summer (the "driving season") and distillates (paraffin and diesel) peak in the northern winter. These trends are mildly beneficial to South Africa as our summer driving season coincides with the seasonal low for petrol and peak paraffin usage with the seasonal low for that product. Our summer rainfall peak usage of diesel by farmers is unfortunately at a time when that product reaches its seasonal high.

The analyses (given in Appendix 14) of the price

movements between October 1996, when crude prices peaked; March 1999, when crude prices bottomed; and June 2002 show that there has been a relatively modest increase in the internal (rand based) factors since March 1999 (24c/l for petrol and 14c/l for diesel). Most of the increase is due to an increase in the basic price, reflecting movements in world oil market prices and in the dollar:rand exchange rate and that in both cases petrol rises more than diesel when comparing March and October to June. (June is in the petrol peak period.)

The above sets out the present system. The IBLC is currently in the process of being amended. Sapia believes that vital to any amendment of the system is that there be clear and agreed goals.

Against this background, it is Sapia's opinion that any new or revised regulated pricing system should be:

- Market related.
- Arm's length, transparent and defensible.
- Capable of easy, fair and consistent administration.
- Capable of achieving the agreed goals.

Sapia believes that the proposed amendments to the IBLC will meet these criteria.

