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South Africa Economic Outlook

Fuel price forecasts:
Recent declines coming
to an end in 2024Q1.

**Businesses need actionable strategies to
reduce fleet fuel consumption.**

30 November 2023

Ten key messages from this report

South Africa Economic Outlook November/December 2023

1

South Africa consumes 60 million litres of petrol and diesel every day, costing R1.4bn daily. Transport — including the purchase of vehicles, private transport operation (fuel and other running costs) and public transport — accounts for 14.4% of the benchmark consumer basket.

2

Petrol and diesel prices have been among the largest drivers (alongside food and electricity) of consumer price inflation over the past 24 months. Even after substantial price declines in November, petrol and diesel are currently 22% and 41% more expensive, respectively, compared to two years ago.

3

In November 2023, some 46% (R10.95/litre) of the total Gauteng 95 octane petrol pump price (R23.90/litre) consisted of various taxes, levies and duties, with the basic fuel price — the cost of the liquid — accounting for only 54% (R12.95/litre) of the overall cost per litre.

4

Monthly changes in local fuel prices are largely determined by international fuel prices and the rand exchange rate. In this regard, global financial markets are pricing in a slow decline in oil prices and a mild depreciation in the rand during 2024.

5

PwC's modelling indicates that fuel prices could be lower in 2024Q1 compared to the current quarter. The petrol price is expected to decline from an average of R24.13/litre in 2023Q4 to a forecast mean of R23.02/litre in 2024Q1, while diesel could ease from R23.72/litre to R21.21/litre.

6

PwC forecasts that petrol could cost on average 0.6% more in 2024 compared to this year while diesel is projected to cost 0.6% less. These margins are relatively good news considering our headline inflation forecast of 5.2% for 2024.

7

A process is under way by government to review the petrol price to reduce the overall cost. However, the latest progress report on the Operation Vulindlela initiative notes that reviewing and adjusting the pricing formula is "facing significant challenges".

8

The South African Reserve Bank (SARB) has identified seven elements in the fuel price as possible areas for reform. The two reforms it views as likely to offer the most significant benefits are a review of the Road Accident Fund (RAF) and the shift to a maximum petrol price.

9

There are many reasons why companies should reduce their fuel consumption, including financial benefits and environmental considerations. Optimising the logistics function, and improving strategic planning across the supply chain, could reduce fuel consumption and emissions released.

10

This report highlights seven actionable approaches that could reduce fleet fuel consumption: load planning, route optimisation, scheduling of logistics, cold chain management, driver monitoring and training, electrified powertrains, and partnerships with fuel suppliers.

About this document

This edition of the South Africa Economic Outlook looks at the shifting costs of fuel. Petrol and diesel prices have been among the largest drivers (alongside food and electricity costs) of consumer price inflation over the past 24 months. Diesel, for example, currently costs 41% more than it did two years ago.

Thankfully, as motorists head off to the year-end holidays, and businesses move more goods during the festive shopping season, fuel prices eased somewhat from the 15-month peak seen in October. In Gauteng, the 95 octane petrol price declined by R1.78/litre in early-November, while 500ppm sulphur diesel was R0.85/litre cheaper — both are expected to continue lower in December.

Our forecasts show that petrol and diesel prices should on average be lower in the first three months of 2024 compared to the current quarter. Petrol and diesel are also projected to cost on average 0.6% more and 0.6% less, respectively, in 2024 compared to 2023. This is relatively positive news compared to the headline inflation forecast of 5.2% for the year.

Still, with fuel prices rising over the medium- to long-term, local businesses need to implement appropriate strategies to save on the volume of fuel used in their transport fleets and manage operating costs.

Key contents of this report include:

- Energy consumption trends: Transport represents 14.4% of the consumer spending basket ([page 5](#)).
- Petrol and diesel price forecasts: Recent declines should bottom out in 2024Q1, followed by a slow upward trend thereafter ([page 6](#)).
- Pricing formula review: SARB identifies seven areas of possible reform to lower fuel prices ([page 7](#)).
- Reducing fleet fuel consumption: Seven actionable strategies to improve logistics planning and transport decisions ([page 9](#)).

Lastly, we comment on how we assist our clients to respond to the evolving transport and logistics environment ([page 10](#)).



Macroeconomic forecasts (November 2023)				
Baseline scenario	2021	2022	2023f	2024f
ZAR/USD	14.78	16.37	18.45	18.95
Consumer price inflation (%)	4.6	6.9	5.8	5.2
Repo rate (end-of-period)	3.75	7.00	8.50	7.75
Real GDP growth (%)	4.7	1.9	0.6	1.1
Unemployment rate (%)	35.3	32.7	33.4	33.8
Probability weighted average	2021	2022	2023f	2024f
ZAR/USD	14.78	16.37	18.53	19.14
Consumer price inflation (%)	4.6	6.9	5.8	5.3
Repo rate (end-of-period)	3.75	7.00	8.46	7.76
Real GDP growth (%)	4.7	1.9	0.5	0.9
Unemployment rate (%)	35.3	32.7	33.5	34.0

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South Africa's economy consumes 60 million litres of petrol and diesel every day. At today's fuel prices, this equates to R1.4bn in fuel spend on a daily basis. This component of business and household spending has increased significantly in recent history, with diesel prices currently 41% higher than they were two years ago. There are options on the table for a pricing formula review and even a small downward adjustment in fuel costs could have a meaningful positive impact on business operational costs and household consumption budgets.



Lullu Krugel, PwC South Africa Chief Economist

Energy consumption trends: Transport represents 14.4% of the consumer spending basket.

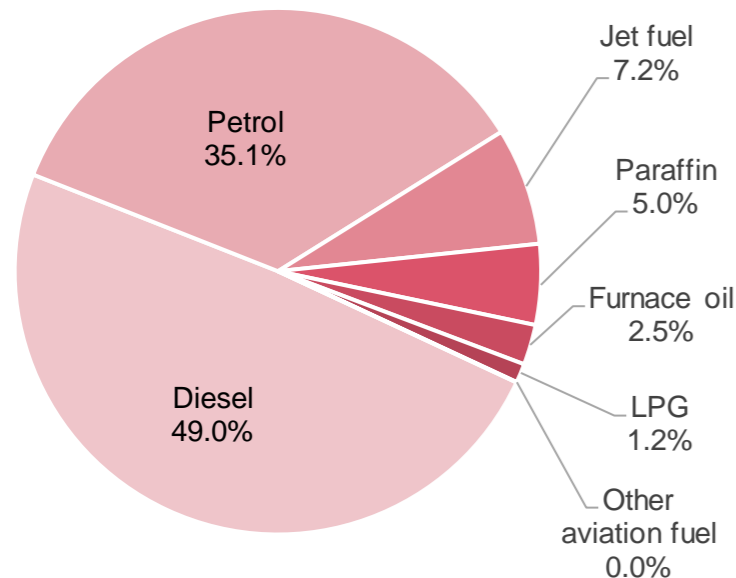
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Petrol and diesel account for 84.1% of fuel products sold in the country and are mostly used for transport purposes. Spending on fuel accounts for 4.8% of the consumer spending basket, while transport overall represents 14.4% of the basket. However, these ratios vary significantly across household expenditure deciles, with high-income households spending more on transport due to the cost of operating (fuelling) private vehicles.

Diesel and petrol account for 84.1% of fuel products sold, mostly used for transport purposes.

Diesel (49.0%) and petrol (35.1%) account for the majority (84.1% in total) of fuel products sold in South Africa. These products are imported from countries like the United Arab Emirates, Saudi Arabia and Oman. Petrol is mostly used in passenger vehicles while diesel is the main fuel used in road freight transport. According to Statistics South Africa (Stats SA), 85.3% of payload transported in the country is moved by road.

Figure 1: Composition of fuel sales (2023Q1)

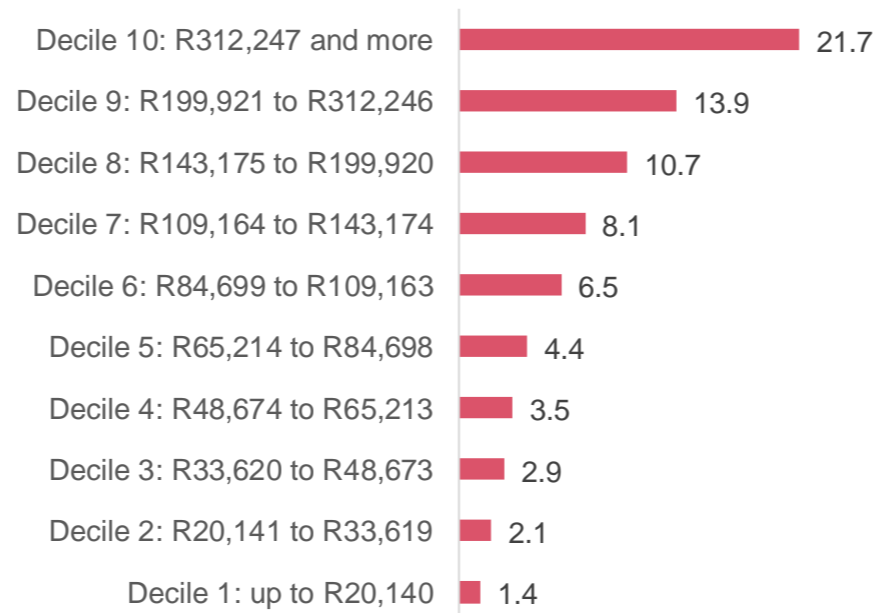


Source: Department of Mineral Resources and Energy (DMRE)

Transport as percentage of household expenditure varies widely across household income levels.

Fuel accounts for 4.8% of the benchmark consumer basket used by Stats SA to measure inflation. Transport — including the purchase of vehicles, private transport operation (fuel and other running costs) and public transport — accounts for 14.4% of the basket. However, this share ranges widely between different income levels. Households in the lowest expenditure deciles spend the least on transport, with public transport the most popular form of travel due to affordability. On the other hand, those in the upper deciles spend up to a fifth of their total expenditure on transport, driven by the higher level of private vehicle ownership. Nonetheless, while transport forms only a small part of household budgets at the bottom end of the expenditure spectrum, it has an outsized impact on these families when they need to start sacrificing nutrition and other essentials due to higher transport costs.

Figure 2: Transport as percentage of household expenditure

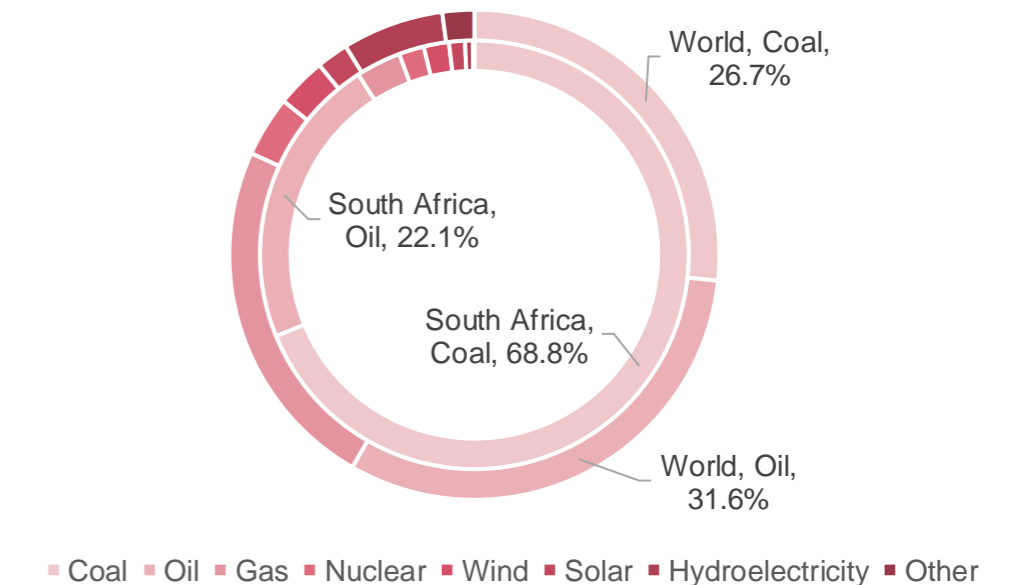


Source: Stats SA

Carbon-heavy coal and oil products represent 90.9% of the country's total energy mix.

PwC's Net Zero Economy Index (NZEI) 2023 reports that oil-derived products account for 22.1% of South Africa's energy mix. This is lower than the global average (31.6%) due to the outsized contribution of coal (68.8%) to South Africa's energy mix — it is two-and-a-half times the global average (26.7%). South Africa's dependence on carbon-heavy coal and oil products for 90.9% of its energy usage results in the country's fuel factor (how much CO₂ is emitted per unit of energy consumed) of 94.7 tCO₂ / TJ energy, which is higher than the global average of 65.1 tCO₂ / TJ energy. This indicates that South Africa's energy consumption is less 'green' than the global average. On a positive note, South Africa's fuel factor reading is currently lower than levels of about 97.0 tCO₂ / TJ energy seen in the late 2000s and early 2010s due to the increased use of renewables.

Figure 3: Energy mix



Source: PwC Net Zero Economy Index 2023

Petrol and diesel price forecasts: Recent declines should end bottom out in 2024Q1, followed by a slow upward trend thereafter.

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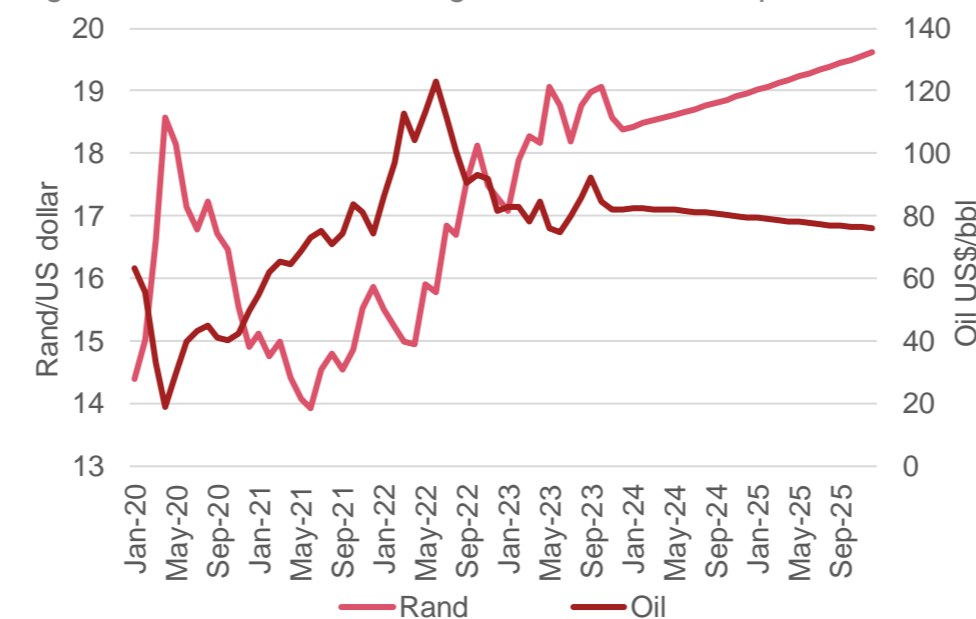
Our modelling predicts that fuel should on average cost less in 2024Q1 compared to 2023Q4. Based on current assumptions, fuel prices are then expected to slowly increase during the remaining quarters of 2024. Our forecasts suggest that petrol could cost 0.6% more next year at an average of R23.24/litre while diesel could be 0.6% cheaper at R21.40/litre. This is good news relative to a consumer price inflation forecast of 5.2% for 2024.

The trend in rand and oil futures can provide insight into the trajectory of local fuel prices.

Looking ahead, what could fuel prices look like in 2024? To understand this, we constructed a linear regression model to estimate the relationship between domestic pump and retail fuel prices and the cost of these products, as determined by international oil prices and the exchange rate. Our forecasts are based on monthly futures prices for both the Brent oil price and the rand/dollar exchange rate. Futures are standardised financial instruments that oblige the buyer to purchase a specific quantity of an underlying asset at a predetermined price on a specified future date. Futures contracts reflect — at a given point in time — what market participants expect the future value of an asset will be. In other words, when it comes to commodities and currencies, highly-traded futures can be seen as a largely objective market consensus of a price in the future.

The futures market is pricing in a slow depreciation in the South African rand, weakening from around R18.30/\$ at the time of our modelling to around R18.95/\$ at the end of 2024. Expectations of a weakening in the rand is in line with the long-term historical trend. Our houseview forecasts suggest a similar trajectory: we expect the rand to trade at an average rate of R18.95/\$ next year compared to a projected mean of R18.45/\$ in 2023. In addition, financial markets expect a slow decline in oil prices over the same period. Brent oil is priced to decline from around \$81.80/bbl at the time of our modelling to \$79.50/bbl at the close of 2024.

Figure 4: Rand/dollar exchange rate and Brent oil price



Sources: SARB (historical), CME Group (futures)

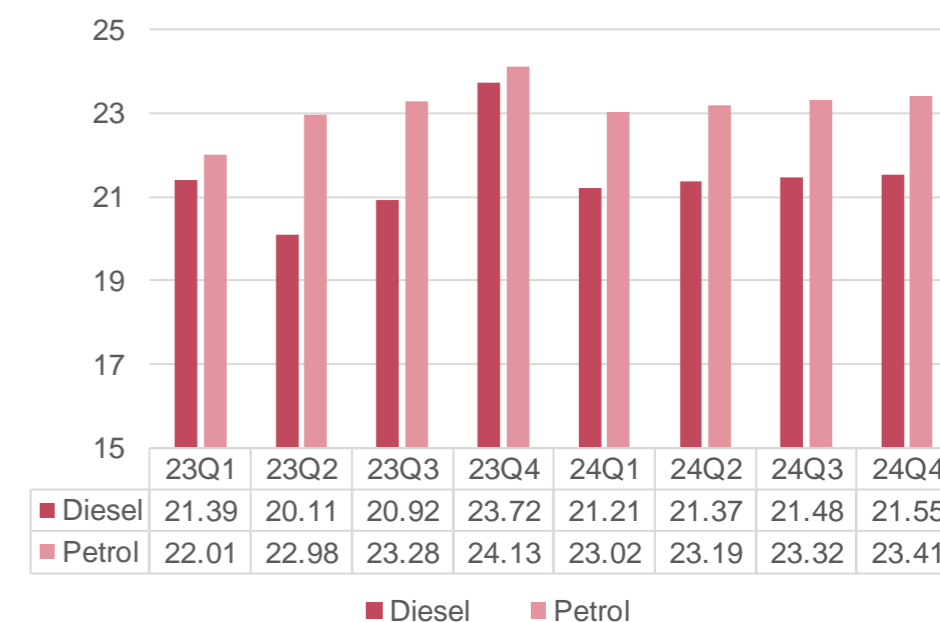
Petrol is expected to cost on average 0.6% more in 2024 versus 2023, while diesel is expected to be 0.6% cheaper.

Our forecasts are made on the Gauteng prices of 95 unleaded petrol (which most people use for personal transport) and 500ppm sulphur diesel (the main fuel for truck transport). Our model suggests that fuel prices should on average be lower in the first three months of 2024 compared to the current quarter. We estimate that the petrol price could decline from an average of R24.13/litre in 2023Q4 to a forecast R23.02/litre in 2024Q1, while diesel could ease from an estimated R23.72/litre to a forecast R21.21/litre. This comes after notable declines in both product prices during November and December 2023, off the 15-month high peaks seen in October.

Based on current assumptions, both petrol and diesel prices are expected to bottom out in 2024Q1 and then slowly increase (on average) during the remaining quarters of 2024 and into 2025.

However, these prices are not anticipated to reach the high levels seen in 2023Q4 over the next two years. Fuel prices are expected to edge higher next year due to a decline in global oil production that puts a floor under these prices. The US Energy Information Administration (EIA) estimates that oil production by OPEC+ members will fall by 340,000 barrels per day next year to 37.8 million barrels per day. On the exchange rate front, the rand is projected to continue its historical depreciating trend in 2024. The slow upward trend in our fuel price forecasts reflects the negative trend in rand futures being slightly steeper compared to the decline in oil price futures.

Figure 5: Fuel price forecasts



Source: PwC

Our model indicates that petrol could cost an average of 0.6% more in 2024 at R23.24/litre compared to an estimated R23.10/litre in 2023. Diesel is projected to cost 0.6% less at R21.40/litre compared to an estimated R21.54/litre in 2023. This is relatively good news, when considering an average consumer price inflation forecast of 5.2% for 2024. However, this will bring little relief to fuel users considering that petrol and diesel prices have doubled over the past seven years.

Pricing formula review: SARB identifies seven areas of possible reform to lower fuel prices.

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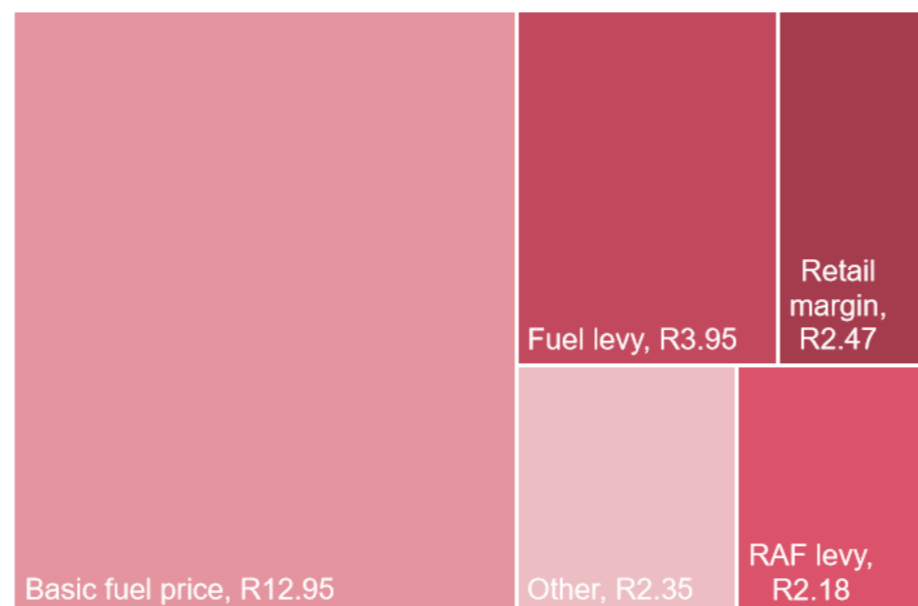
Taxes, levies and duties account for nearly half of fuel prices and are often talked about as a possible solution to lowering the cost of fuel. Pending an official announcement on a pricing formula review, the South African Reserve Bank (SARB) has suggested seven fuel price elements as possible areas for reform. We estimate that cutting taxes on diesel by just R0.10/litre would reduce the cost of retail transport by more than R100m per year.

Basic fuel price represents only 54% of the petrol price — the rest are taxes, levies and duties.

There is widespread interest among South African fuel buyers for some kind of reform that would result in structurally lower fuel costs. There is also interest from the fuel industry itself: Fuel Retailers' Association CEO Reggie Sibiyi told Business Day in September that fuel retailers would welcome an official review of the pricing methodology. One often-mentioned solution to high fuel prices is to change the pricing method. This month, some 46% (R10.95/litre) of the petrol pump price (R23.90/litre) consisted of various taxes, levies and duties, with the basic fuel price — the cost of the liquid — accounting for 54% (R12.95/litre) of the overall cost per litre. It is the R10.95/litre in non-product cost that is often talked about as a target for pricing reform.

The government has already made some adjustments in this regard by recently removing the Demand Side Management (DSM) levy (R0.10/litre) from the inland price of 95 octane unleaded petrol and the 15% premium from the freight rate (R0.10/litre). The National Treasury and the DMRE also implemented a temporary price relief campaign last year as local fuel prices reached record highs. During 2022Q2, buyers were given a R1.50/litre tax break on fuel prices. The support measure was phased down to R0.75/litre in July 2022. The April-July 2022 price reprieve, combined with no annual change to the general fuel levy and Road Accident Fund (RAF) levy for the 2022/2023 fiscal year, provided R14bn in tax relief in the past fiscal year.

Figure 6: Petrol price composition (November 2023)



Source: Central Energy Fund (CEF)

SARB identifies seven elements within the fuel price that could be considered for reform.

In August 2023, the SARB noted that the finance minister had affirmed an ongoing process to review the petrol price. This comes after last year's Medium Term Budget Policy Statement (MTBPS) stated that the National Treasury and DMRE would review the fuel price methodology. However, nothing was said about this in the MTBPS 2023. Elsewhere, the latest progress report on the Operation Vulindlela initiative (aimed at accelerating the implementation of structural reforms and supporting economic recovery) notes that reviewing and adjusting the pricing formula is "facing significant challenges", without elaborating further. Until a formal announcement is made on reforming fuel prices, there will be many perspectives on what exactly could be done. The SARB, for instance, said in an August 2023 publication that it has identified seven elements (see Table 1) within the fuel price that could be considered for reform.

Table 1: Possible fuel price interventions

Component	Intervention	Potential impact
RAF levy	Review the viability of compulsory third-party insurance as an alternative to the RAF.	High
Retail margin	Consider transitioning the petrol price to a maximum price, rather than a regulated price.	High
Retail margin	Review the entrepreneurial compensation and owner remuneration elements of the benchmark service station.	Medium
Retail margin	Update the survey underpinning the benchmark service station and/or require mandatory annual disclosure of costs and assets by service stations.	Low
Basic fuel price	Update the methodology for calculating insurance, coastal storage and ocean loss.	Low
Basic fuel price	Increase the regularity of basic fuel price updates to every two weeks.	Low
Transport costs	Publish and review the methodology for calculating inland transport costs.	Low

Source: SARB

The SARB notes the reforms that could offer the most significant benefits are 1) a review of the RAF system and 2) the shift to a maximum petrol price. These are also the most challenging to implement and would require "significant additional evaluation work and weighing of large, vested interests". However, big changes are not necessarily the only solution, as even a small adjustment in fuel prices would have a substantial impact on the economy. Let us consider, for example, the cost of fuel as part of wholesale and retail operations. This industry uses one billion litres of fuel per year in direct (own fleet) and indirect (transport service providers) logistics to distribute goods across the country. Reducing taxes on diesel by just R0.10/litre would reduce this transport cost by more than R100m. This magnitude of potential savings represents a substantial amount for South African households: if passed on to the consumer it could, for instance, fund the purchasing of 400,000 pairs of school shoes.



There are many reasons why South African companies should reduce their fuel consumption, ranging from financial benefits to environmental considerations. Optimising hardware and software elements within the logistics function, and improving strategic planning throughout the supply chain, could reduce the volume and overall cost of fuel consumption. This can ultimately advantage many stakeholders, including customers benefiting from lower transport costs, and a reduction of emissions across the value chain.

Retief Ferreira, PwC South Africa Procurement Transformation Leader



Reducing fleet fuel consumption: Seven actionable strategies to improve logistics planning and transport decisions.

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With an imminent end to fuel price declines and the absence of tangible progress on reforming the fuel price methodology, South African companies need actionable strategies to reduce their fleet fuel consumption. We have highlighted seven approaches: load planning; route optimisation; scheduling of logistics; cold chain management; driver monitoring and training; electrified powertrains; and partnerships with fuel suppliers.

The reported challenges on reforming the fuel price methodology and the prospect of no further decline in fuel prices in 2024 highlights that South African businesses need actionable strategies to reduce their fleet fuel consumption. From an environmental perspective, reducing emissions is also a climate change imperative. Companies' supply chain emissions often dwarf the carbon impact of direct operations: for most, supply chain emissions account for between 65% and 95% of their total carbon impact. These are the so-called Scope 2 and Scope 3 indirect emissions due to company operations but emanating from activities not owned or controlled by the enterprises.

We explore seven options that could have a positive impact on fuel consumption and emissions, namely:



Load planning and optimisation: It is essential to make the best use of available cargo space as transporting air (i.e., having empty space in trucks) is inefficient. Trucks in the European Union clocked 34 billion kilometres of 'deadhead' distances (where vehicles travel empty) in 2021, equal to 21.2% of total distance travelled. Load building software can consolidate outbound customer orders into loads that utilise the maximum carrying capacity of the fleet and thereby reduce deadhead loads or partially full cargoes. Load building is part of the outbound scheduling process where an optimisation program takes deliveries (customer orders with specific delivery preferences) and the available fleet (with consideration for weight, capacity, dimensions, etc.) to optimise loading. The software presents the optimal loads, vehicle combinations, and best delivery sequence.



Route optimisation: In urban settings, choosing the optimal route can reduce travel duration and cost. UPS trucks, for example, almost never make left-hand turns in markets like the USA where vehicles drive on the right-hand side of the road. Turning left results in delays due to the need to stop for oncoming traffic before turning. As part of route optimisation, this strategy aims to achieve all planned deliveries within the allowable time window, with the available fleet, and by travelling the shortest or fastest routes possible. Computer software can create optimised itineraries based on these principles. Most software packages allow users to select the basis upon which the itinerary must be optimised depending on the type of logistics, e.g., multi-stop last-mile delivery, long-haul, fixed routes, etc.



Scheduling of logistics: An optimal route is highly dependent on the time of day the route is taken. DHL Freight Denmark, for example, has a delivery-by-night approach making deliveries to factories and construction sites between 00:00 and 07:00. Driving at night — when roads are emptier compared to during the day — saves fuel and reduces CO₂ emissions by reducing idling, accelerating, and decelerating. Significant time and cost savings can be achieved by planning delivery slots at night when commuter and business traffic is at its lowest. Reducing and/or eliminating the likelihood of a vehicle experiencing stop-start traffic can significantly reduce fuel usage.



Cold chain management: Aside from the fuel needed to power the movement of refrigerated trucks, energy is also consumed to cool cargo areas. This can also be done using renewable energy sources. UK-based Ocado Logistics, for example, has fitted lightweight, high powered solar panels to its refrigerated trailer fleet and stores the generated energy in long-life light-weight lithium batteries to provide power to refrigeration units. There are other avenues that can have an impact on preserving the cold chain and in doing so reduce the fuel consumed for refrigeration, including off-the-shelf monitoring equipment that provide real-time temperature tracking.



Driver monitoring and training: Driver styles and actions can have a significant impact on fuel economy. Volvo Trucks, for example, offers driver training globally that moulds driving habits like accelerating and braking. This reduces direct fuel usage while also lowering mechanical wear and tear. In addition to driver training, there are several add-on systems that can be installed into vehicles that record data on the performance of drivers, such as over-acceleration, harsh braking, speeding, etc. Some of these off-the-shelf systems also employ smart technologies that monitor signs of driver fatigue.



Electrified powertrains: Commercial vehicle manufacturers are all too aware of the need to create vehicles that are more fuel efficient, with modern vehicles using 30% less fuel than those manufactured in the 1970's. Mercedes Benz's Citaro urban buses, for example, have a diesel engine that receives assistance on pull away from an electric motor that generates energy when coasting and braking. Many Original Equipment Manufacturers (OEMs) are investing in hybrid technology for commercial vehicles, incorporating electric motors into the drivetrain design for use at vehicle pull-off and low speeds. Some companies are even moving to electric-only commercial vehicles to completely abandon liquid fuels.



Partnerships with fuel suppliers: Petro-chemical companies have a vested interest in building long-term relationships with large clients. This could, ironically, be cemented by providing clients with resources that could make their fleets more fuel efficient. For example, multinational petro-chemical company ExxonMobil works closely with its major clients to understand their operational requirements and offers customised solutions by combining their additives with fuels to achieve optimal performance and efficiency. Fuel suppliers can offer a range of products that could improve fuel efficiency, including lubricants like engine oils; non-fuel consumables like detergents and other cleaners; custom fuel blends based on client needs; and corrosion inhibitors, among others.

Purpose-Led Economics services and contacts.

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How we can help.

PwC helps clients to respond to the evolving transport and logistics environment, which includes the rise of e-commerce, increased connectivity, flexible and visible transportation networks, trade risk and volatility, and increasing customer expectations. According to Pieter Theron, PwC South Africa Connected Supply Chain Leader, the post-pandemic world is seeing automation, artificial intelligence, robotics, and other emerging technologies cause changes in the flow of people, goods, and services across aviation, rail transport, shipping and logistics, travel and tourism, and more.

In this context, the challenges posed to the end-to-end supply chain include volatile fuel prices, supply delays or cancellations, delivery restrictions, decreasing demand, supplier bankruptcies, pricing movements on goods and services, and limited workforce availability. Coupled with the rapid pace of technological advancement and climate change, this is challenging companies to deliver on their customer service promise while maintaining an efficient transport cost base and asset utilisation.

Our experts have deep insight into the sustainable optimisation of each client's transport cost base. We use this to link transport strategy with broader capabilities in sourcing for direct and indirect materials, sales-force effectiveness optimisation, general and administrative expenses cost reduction (e.g., shared services, outsourcing, offshoring), and supply chain optimisation (e.g., operating asset effectiveness, transportation network redesign, logistics optimisation).

Part of our supply chain optimisation process is to assist clients in managing their fuel consumption due to financial and environmental imperatives. There are many actionable strategies to reduce fleet fuel consumption and we have highlighted seven approaches on [page 9](#).

Our services

The PwC South Africa Strategy & Purpose-Led Economics team is a specialised unit of economists who serve our clients in a variety of ways. Our services include:

Measure your impact on the economy and society

- Environmental, Social and Governance (ESG) and Just Transition
- Economic Impact Assessment (EIA)
- Socio-Economic Impact Assessment (SEIA)
- Regulatory Impact Analysis (RIA)
- Total tax contribution
- Localisation calculations

Make decisions about risk and investment

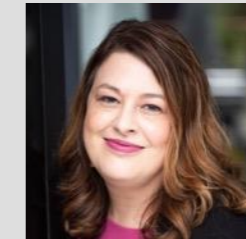
- Macroeconomic research
- Market entry analysis
- Country and industry risk assessments
- Commercial due diligence assistance

Plan for future economic scenarios

- ESG scenario planning
- Economic and political scenario planning
- Industry and macroeconomic modelling
- IFRS 9 audit assist

Please visit our website to learn more:

<https://www.strategyand.pwc.com/a1/en/solutions/purpose-led-economics.html>



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