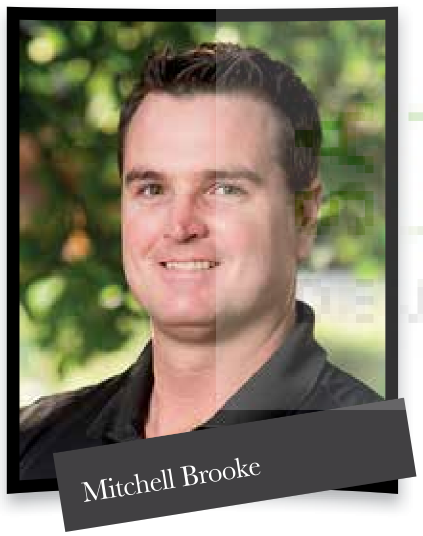
The impact of price **inflationary trends**

Pressures from price inflationary trends will be the driving force behind the need for supply chain innovation in combating prevailing inflationary demands. By Mitchell Brooke



Mitchell Brooke

An important consideration in the discussion around price inflationary trends is the fact that the exporting of citrus requires enormous amounts of energy. From the commencement of setting a crop to harvesting, production, transportation, cold storage, terminal handling, shipping and ultimately, receiving the produce in markets, the energy demands are intensive and exacerbated by the parallel need for cold-chain requirements. All the way along the supply chain there is a demand on energy in the form of electricity, diesel fuel and marine bunker fuel. In the South African context, the cost of energy has increased exponentially in the last few years, and is expected to keep climbing.

So, what are the cost trends of the three main energy components (i.e. electricity, diesel fuel and marine bunker fuel)?

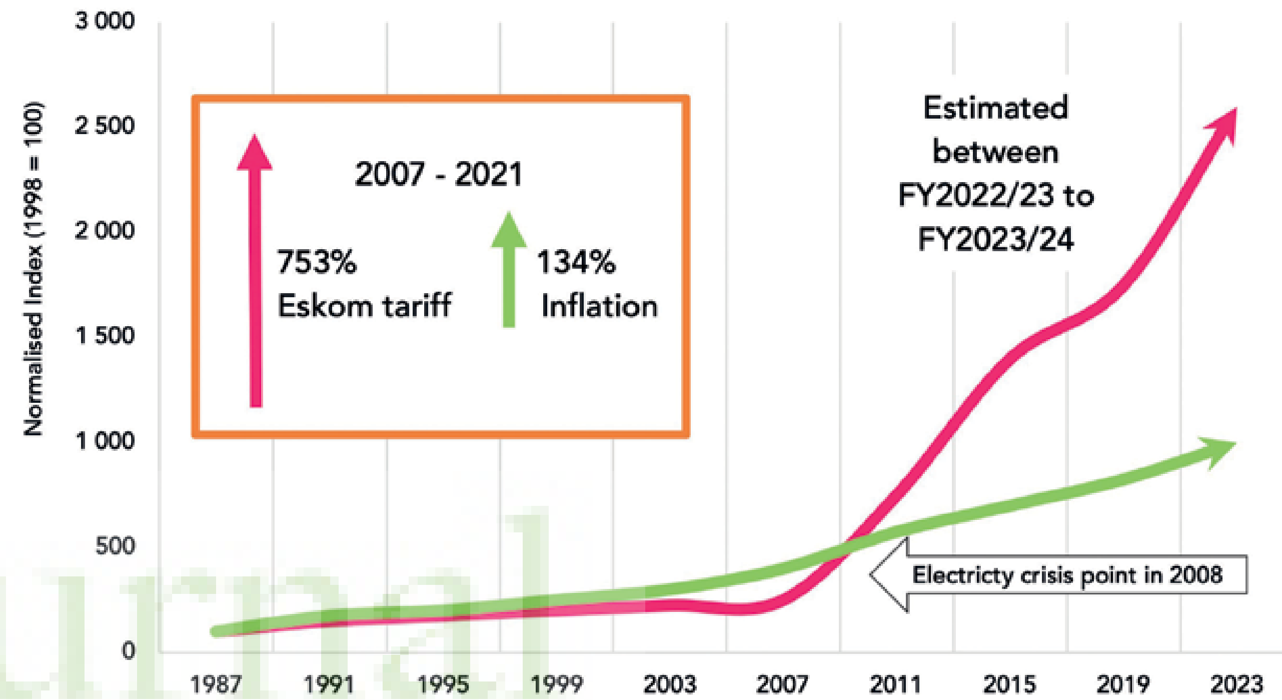
1. The price of electricity in SA

At one point, electricity production and supply in SA was perceived to be amongst the cheapest worldwide. Energy generation and supply are managed through Eskom, a state-owned company. Up until 2007, annual electricity price increases in SA were below CPI inflation. From 2008, electricity price increases shot up drastically to above inflation; and from 2007 to 2021, the price increased by 753% compared to 134% CPI inflation. Currently, mismanagement at Eskom has given rise to the current complications surrounding electricity generation in SA. The company has applied to the National Energy Regulator of SA (Nersa) for a multi-year tariff adjustment of 38.10% for standard-tariff customers from the 2023/24 financial year. Bear in mind, in 2021 a global review highlighted that SA is the 19th most expensive supplier of electricity.

Ranked in terms of priority, electricity supply outweighs cost. Both aspects bring very serious concerns regarding Eskom's generation capacity and short-term cost inflation. Some of the main electricity demands in the citrus export supply chain are 1) farm-level irrigation and production, 2) rail transportation, 3) the application of cooling in cold-storage facilities, and 4) the ports' container terminals equipment, as well as the power supply to reefer containers whilst in stack. There is an absolute necessity to begin to find alternative and more cost-effective and sustainable sources of electricity. This is most relevant in the case of cold-storage facilities because of the extensive energy consumption utilised. Citrus exports from Southern Africa demand stringent precooling measures, which will inevitably increase energy consumption at cold stores. Should Eskom be granted an increase by Nersa that takes this into account, the price of cold storage will spike even further.

PART 2

This is the second instalment in the "Importance of unlocking innovation in the citrus export supply chain" series. The first was published in the Oct/Nov '22 edition. The final one will draw on the need for drastic innovation across the supply chain, for citrus producers' sustained economic success.



Eskom average tariff vs. CPI inflation index

2. The price of diesel fuel in SA

Currently, SA has the most expensive diesel price in the southern hemisphere (source: Vivid Maps, global diesel price heat map) and ranks amongst the top-10 highest prices globally. The global price of diesel fuel is closely associated with the price of Brent Crude Oil, and the differentiating factor in a country's price of diesel fuel is the distance of marine transport (from point of source), local manufacturing costs and local tariffs and levies. In SA fuel tariffs have escalated quite considerably since 2007 and account for 27.8% of the basic price of diesel fuel. In 2009 the wholesale price of diesel fuel at the reef was R6.46 p/ℓ, while in 2022 the price has increased to R25.49 p/ℓ (up 295%). The fundamental driving factors behind the local increased price of diesel fuel has been the international increase in the cost of Brent Crude Oil and the weakening of the rand against the US dollar. In 2011 the price of Brent Crude Oil reached levels of USD116 p/barrel, although the ZAR/USD exchange rate was R7.00/USD at the time. With crude oil prices reaching USD115 per barrel in 2022, the ZAR/USD exchange rate average of R16.90/USD pushing up the price of diesel fuel locally. The fundamental contribution to the price of diesel fuel relates to farming implements, road and rail transportation and generator power to reefer container aboard ships. Since citrus is transported over very long distances in Southern Africa, the diesel price increase has had a significant bearing on the price of transportation. To reduce the cost of transportation, more innovative solutions are required.

3. The international price of marine bunker fuel

Another major price influencing factor in the citrus export supply chain is the price of marine bunker fuel. In 2022 the average price of marine bunker fuel increased to USD1.120 p/metric ton, from a USD222 increase in 2020 (up 400%). Since SA transports fruit over long distances to global markets, the cost of marine bunker fuel has a significant bearing on the cost of shipping. Presently, there is a softening of the global price of marine bunker fuels, which should be a welcome reprieve to fruit producers in SA. But whether this trend continues into the 2023 citrus export season, remains to be seen. The International Maritime Organization (IMO) introduced a regulation prohibiting the use of heavy marine fuels in Emission Control Areas (ECAS), to reduce the sulphur oxide emissions within these areas. Further regulations are to

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Average rand price of Brent Crude Oil

be introduced over time, restricting the maritime sector from using heavy marine fuels globally. The consequence of the new regulations means that low-sulphur fuels will be needed in order to comply with this regulation. On average, low-sulphur marine fuels are 65% more costly to carriers than heavy marine fuels. There is no immediate alternative to marine bunker fuel as a more cost effective and sustainable energy source. Alternatives such as liquid nitrogen gas (LNG) as a more cost-effective and cleaner propulsion energy source is being investigated. However, it's complete roll-out will take many years, should it be adopted as a viable alternative fuel source.

Thus, in the context of the Southern African citrus export supply chain, the main sources of energy have seen cost inflation rise to extremely high levels simultaneously, across the board. This has undoubtedly placed extreme economic strain on producers who have had to absorb these price pressures.

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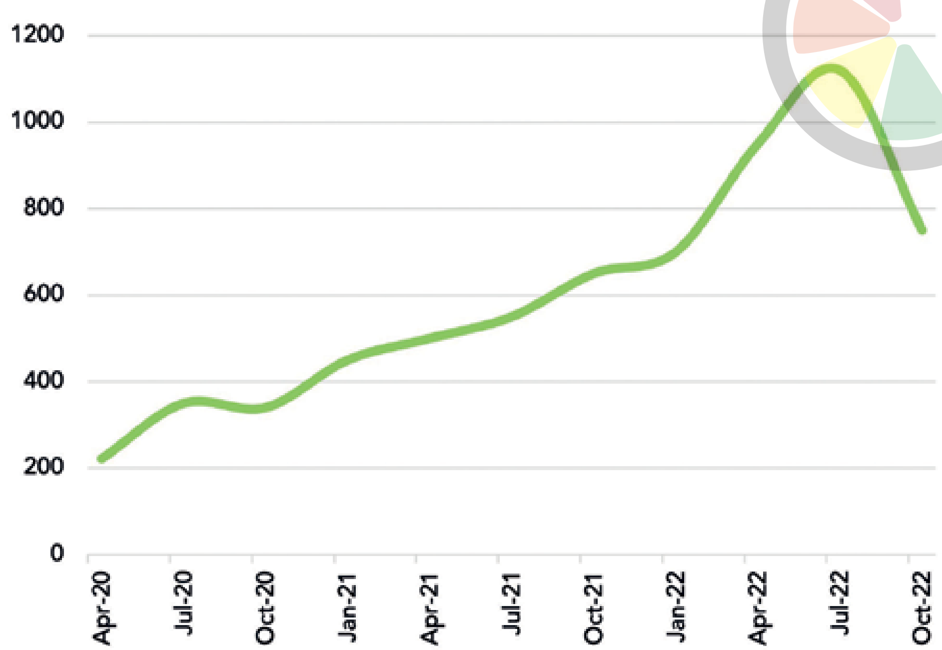

Global average ship bunker fuel price (VLSFO USD/ Mt)