

**04 November 2021**

Attention: Customers

Our Ref: BT/04112021/2

Dear All

**NOTICE REGARDING PRICE INCREASE OF HIGH-DENSITY POLYETHYLENE PIPES**

Following our circular dated 4 November 2021, wherein we detail the challenges faced by HDPE manufacturers, please take note of our 5.5% price increase effective from 1 December 2021.

We trust that we will continue to receive your support in our efforts to maintain high-quality standards and sustain jobs in these unprecedented times.

Should you have any queries concerning this notice, please do not hesitate to contact us.

Yours sincerely,

**Kgomotso Lekola**

**Founder and Group Managing Director**

**BT Industrial Group (Pty) Ltd**

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**HDPE PIPE MANUFACTURING • MEDICAL DEVICES MANUFACTURING • SCIENCE AND ENGINEERING**

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**04 November 2021**

Attention: Stakeholders

Our Ref: BT/04112021/1

Dear All

**CIRCULAR NOTICE TO ALL STAKEHOLDERS ON THE ANTICIPATED SHORT TO MEDIUM TERM PRICE MOVEMENTS IN HDPE**

**Overview**

Since the advent of the global coronavirus pandemic, there has been unprecedented disruption and continued global economic decline where businesses remain under pressure to maintain economic activity and participation. The international response to the pandemic has been to close borders and impose internal lockdown restrictions, which has harmed trade and other factors. South Africa took the same approach to curb the spread of COVID-19 with imposed lockdown restrictions and enhanced containment measures ever since the pandemic entered our shores. We have previously written on COVID19 progression and the effects of the early lock downs, the article can be found online at <https://www.linkedin.com/feed/update/urn:li:activity:6658653611641356288/>.

Several factors have the potential of causing further shocks to the South African economy and industrial sector - the volatility in the global economy, the depreciating Rand, escalating oil prices, and predictions that South Africa could be entering into its fourth wave of COVID-19. Given this, it has become prudent and necessary for the BT Industrial Group to undertake a longer-term analysis of the HDPE market to anticipate better and manage potential upcoming price shocks.

Consequently, the purpose of this circular is to share with our stakeholders the perspectives we have derived from our forecast models on the short to medium-term pricing impacts we anticipate in HDPE products.

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Firstly, the increase in the costs of ethylene caused by the unstable economy is the crucial factor that has resulted in a material change in HDPE pricing. In summary, this effect has been driven by the ever-increasing Brent crude oil price caused by an increased demand coupled with a relatively muted supply response as more economies re-open from the lockdown restrictions imposed by most countries.

Secondly, the decrease in production throughput caused by supply disruptions and the increase in production costs due to the ongoing electricity supply in South Africa have added significant cost-push pressures for manufacturers.

These factors will require manufacturers to materially adjust pricing in a bid to remain viable. It is also critical for HDPE consumers to understand the causal factors of the recent as well as upcoming price increases.

## **Factors Impacting HDPE Prices**

### ***Brent Crude Oil***

HDPE is a polyethylene thermoplastic produced through the polymerization of ethylene, a hydrocarbon obtained from refining various fossil sources, including oil, coal, and natural gas.

Ethylene is used to produce polyethylene, of which HDPE PE100 is a variant; put differently, ethylene is the primary raw material in the production of HDPE PE100 and thus dictates the pricing thereof. Currently, the most significant global source for ethylene is the refining of crude oil, and the price of Brent crude oil has a material effect on the cost of ethylene.

In Figure 1 below, we have plotted the annual average ethylene prices against Brent crude from 2014 to 2021, and the data shows that the cost of ethylene and the price of oil have a high correlation of 84% and  $R^2$  0.71. The model further indicates that Brent crude oil has significant explanatory power for ethylene prices (greater than 95%, p-value less than 0.01) when regressing oil price on the cost of ethylene.

Furthermore, our data show that HDPE PE100 pricing moves with global ethylene prices, although with a somewhat lagged effect. The average price of ethylene increased by 45% from 2020 to 2021,

and the HDPE PE100 price moved by a similar margin in the corresponding period. As a result, we can rely on the price of oil to predict the price of ethylene and, therefore, HDPE.

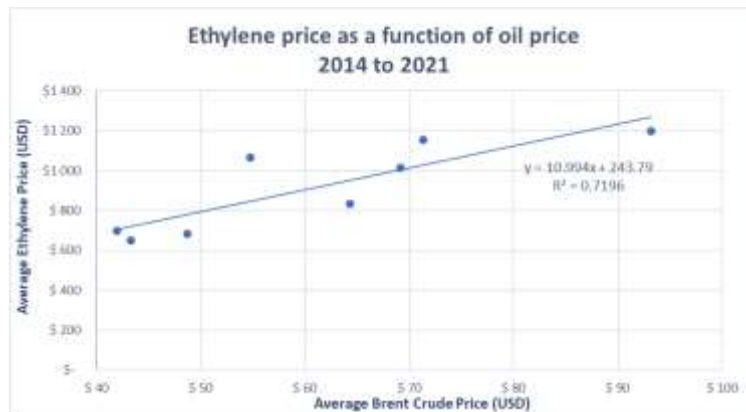


Figure 1 - Ethylene prices vs. oil price model

Figure 2 below shows the monthly average of Brent crude prices in ZAR from 2001 to September 2021. Notably, from the observations, the expected business cycle effects and general trends depict a consistent upward trend in oil prices until a significant global event causes a sharp descend for several months, which then returns to ascension for a stable period. More specifically, we note that the average price of Brent crude oil in USD in 2020 was at \$41.96 as last recorded in 2004. It later reached its lowest point in 21 years at \$9.12 – thus contributing to the low ethylene and HDPE prices in the corresponding periods.

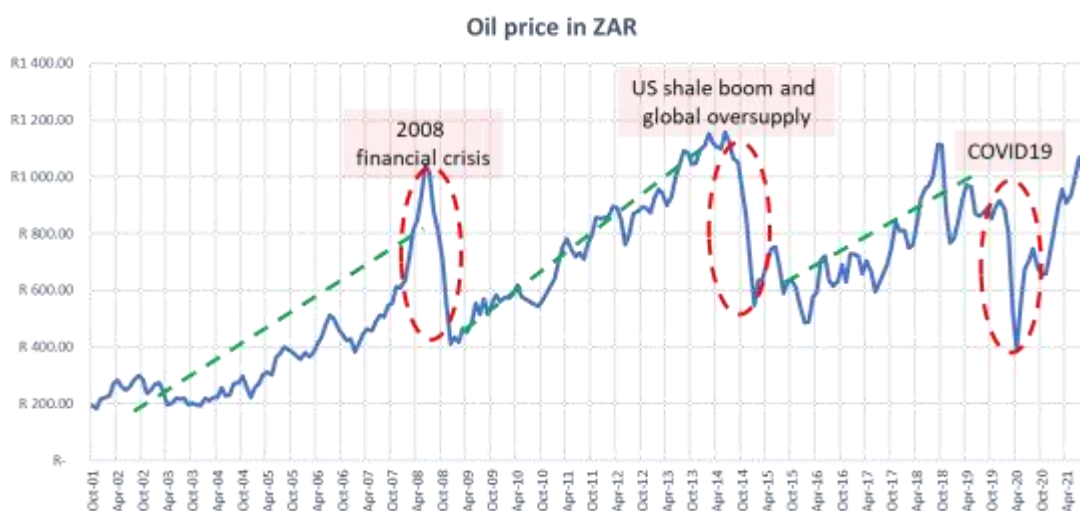


Figure 2 - Brent Crude Price History

Assuming that these historical cycles will re-occur, save that another significant global crisis occurs in the forthcoming few months, the price of Brent crude oil is expected to begin a long and sustained trajectory upward. This increase will be driven by, amongst others, the demand recovery rate as global economies re-open post the pandemic and the weaker supply response by producers.

According to data obtained from [www.longforecast.com](http://www.longforecast.com) shown in Figure 3 below, the 2022 Brent crude price will nearly double to an average of \$111. Bank of America similarly projected a doubling of the oil price towards the latter parts of the year<sup>1</sup>. In translating these facts to our ethylene pricing model above, we, therefore, anticipate ethylene and consequently HDPE prices to increase proportionally throughout the year at an average monthly increase of 3.37% (ranging from 3% to 6%, depending on the time of year) starting from December 2021.

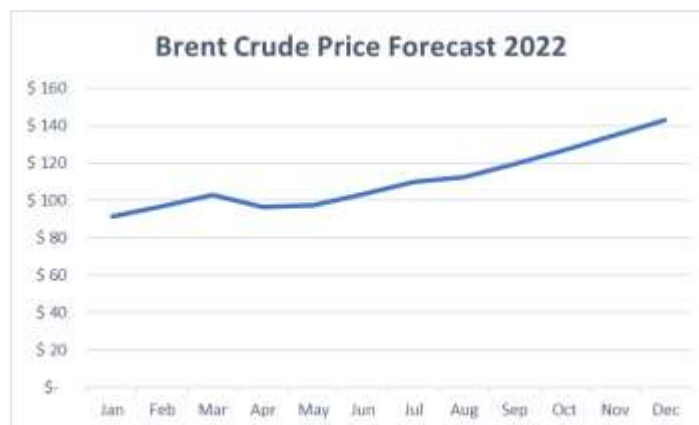


Figure 3 - Brent crude price forecast for 2022

### ***Inflation and cost increase***

According to Statistics South Africa, the annual inflation rate has accelerated for a second consecutive month to 5% in September of 2021 from 4.9% in the previous month, in line with expectations, and remaining above the 4.5% midpoint target from the South African Reserve Bank. It's recorded that the upward pressure derives from the transport prices, specifically fuels (19.9% vs. 19.6%).

<sup>1</sup> <https://www.bloomberg.com/news/articles/2021-11-01/oil-headed-for-120-in-a-matter-of-months-bank-of-america-says>

Fuel has been reported as a significant contributor to the annual transport inflation in September, increasing 19.9% over the previous year. This aspect is further expanded on in the electricity section below.

Furthermore, the South African Reserve Bank states that South Africa has recorded an increase in labour costs to 164.80 points in the first quarter of 2021 compared to the 163.20 points recorded in the fourth quarter of 2020.

### ***Electricity and fuel adjustments***

Eskom has been grappling with a lack of sufficient power supply, which has constrained the national electricity grid over the years. A detailed report released by the CSIR presented that the system demand increased by 5% in the first half of 2021 compared to the same period a year ago, although this was still 2.2% lower than the first half of 2019.<sup>2</sup>

CSIR spokesperson David Mandaha stated that "the concerning shift of the unplanned outage component of the energy availability factor has also been highlighted, where unplanned outages of up to 15 300 MW were experienced and were greater than 10 000 MW for more than 80% of the first half of 2021." Further, that "South Africa, unfortunately, experienced load shedding for 650 hours in the first half of the year 2021 (15% of the time) wherein 963 Gigawatt of estimated energy was shed (mostly Stage 2 load shedding). This represents 76% of the total load shedding experienced during 2020,"<sup>3</sup>

In June 2021, the country experienced rotational stage 4 power cuts, significantly impacting the economy, especially considering the lockdown restrictions imposed to fight the coronavirus pandemic. It was then reported that the country could see an increase in load reduction measures from now leading up to 2027.

Statistics revealed by Eskom se Push (a locally developed application that notifies its users of anticipated load shedding schedules) illustrate that Eskom had implemented more than 559 hours of

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<sup>2</sup> <https://researchspace.csir.co.za/dspace/handle/10204/12067>

<sup>3</sup> Eskom load shedding last year worst since 2015, at <https://www.iol.co.za/pretoria-news/news/eskom-load-shedding-last-year-worst-since-2015-51c03727-a763-4cf1-8bd6-b9d4e1f387fa>



Stages 1, 2, and 3 load-shedding in the first half of 2021.<sup>4</sup> Load-shedding has reportedly caused a significant loss to economic productivity of approximately R1-billion thus far.<sup>5</sup>

The National Energy Regulator of South Africa (NERSA) later approved the increase of electricity tariffs for Eskom's direct customers and municipalities, effective from 01 April 2021 and 01 July 2021, respectively. NERSA has caused a 17.80% average increase for municipalities applicable for the 2021/2022 cycle.<sup>6</sup>

Recently, on 02 November 2021, the power utility announced further stage 2 rotational load-shedding citing that units each at Matimba and Arnot power stations failed to return to service as it had previously anticipated. Eskom over the past weeks has also interchanged between stage 2 and stage 4 load-shedding, which results in an approximate shedding per consumer of up to six times over a four-day period for two hours at a time, or six times over eight days for four hours at a time (stage 2) or up to 12 times over a four-day period for two hours at a time, or 12 times over eight days for four hours at a time (stage 4).<sup>7</sup>

The instability in electricity supply has reduced the number of productive hours as manufacturers are unable to operate at optimal capacity with the low power supply extracted from standby diesel generators. Furthermore, generators operate on high diesel consumption, and these costs are expected to worsen considering the recent announcement by The Department of Minerals and Energy (DMRE) approving an adjustment to fuel prices for November 2021. At current prices, our costs for electricity are 4.5 times higher when using our standby generators when viewed against standard generation consumed from the municipal grid.

The DMRE has advised that the fuel prices are affected by two main components – the Rand to dollar exchange rate; and the charges to international petroleum product costs, which are driven by oil prices. In its statement, the DMRE says, "the Rand depreciated against the US dollar during the period under review, on average, when compared to the previous period. The average rand/US dollar

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*Eskom warns load-shedding risk is rising, urges public to curb electricity usage, at <https://www.timeslive.co.za/news/south-africa/2021-07-22-curb-electricity-usage-as-load-shedding-risk-is-rising-warns-eskom/>*

<sup>5</sup> Siyo, A., 2021. *Eskom's woes add darkness to an already cold winter*. [online] lol.co.za. Available at: <<https://www.iol.co.za/capetimes/news/eskoms-woes-add-darkness-to-an-already-cold-winter-782df95a-3f45-486e-aa07-ae8038049040>>

<sup>6</sup> [https://www.eskom.co.za/CustomerCare/TariffsAndCharges/Pages/Tariffs\\_And\\_Charges.aspx](https://www.eskom.co.za/CustomerCare/TariffsAndCharges/Pages/Tariffs_And_Charges.aspx)

<sup>7</sup> <https://loadshedding.eskom.co.za/loadshedding/ScheduleInterpretation>

exchange rate for 01 October 2021 to 27 October 2021 was R14.82 compared to R14.57 in the last period".

The price of diesel (0.05% and 0.005% sulphur) has consequently been increased by R1.48c per litre effective from 03 November 2021. It is also said that the combined cumulative petrol and diesel slate balances at the end of September 2021 amounted to a negative balance of R1.657 billion.

The DMRE said that a slate Levy of 15.36 c/l (an increase of 2.2 c/l) would have to be incorporated into the fuel prices of petrol and diesel with effect from 03 November 2021, in line with the provisions of the self-adjusting slate levy mechanism.

### **Conclusion**

All indications are that businesses in the HDPE industry will face significant cost-push pressures coupled with Ethylene prices doubling into 2022 which should result in a proportional increase in HDPE prices. This fact will necessitate adopting new business strategies to sustain optimal and economically viable HDPE product production.

Given all these realities, we have no option but to review our pricing models to mitigate liquidity risks and retrenchments at this stage. We will therefore write separately to our customers with specific details relating to price increases.

Yours sincerely,

**Kgomotso Lekola**

**Founder and Group Managing Director**

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