

# KYOS Commodity Risk

## Insight in risks: Aluminium & Coffee

No 1 – February 2022



# Your commodity exposure

Suppose you consume in 2023 an annual volume of the following products.  
The total is calculated as per 26 January 2022:

Commodity	Amount	Average price	Total
Aluminium	18,000 MT	2,682 USD/MT	USD 48.3 million
Arabica beans	20 million Lbs	231 USD cents/Lbs	USD 46.1 million
Total			USD 94.4 million

What are the risks you are facing? At KYOS we offer several analytical modules in our platform to help you simulating the future.

- **Stress tests:** effective financial results after a change in market prices, volatilities and/or positions?
- **Options and accumulators:** what are the values of your derivatives, using Monte Carlo simulations?
- **Value-at-Risk:** what is a '95% worst-case' impact on your MtM in one single day?
- **Cashflow-at-Risk / Profit-at-Risk:** what is a '95% worst-case' scenario of your cash-flows over a longer period?

# Cashflow-at-Risk

The Cashflow-at-Risk is calculated as a '95% worst-case' scenario of your cash-flows over a longer period.

If you do not hedge this “floating priced” position, your cashflow@risk (=CfaR) from today until 31 December 2023 can be presented as the potential cashflow difference between:

Sourcing volume \* (current market prices versus simulated market prices)

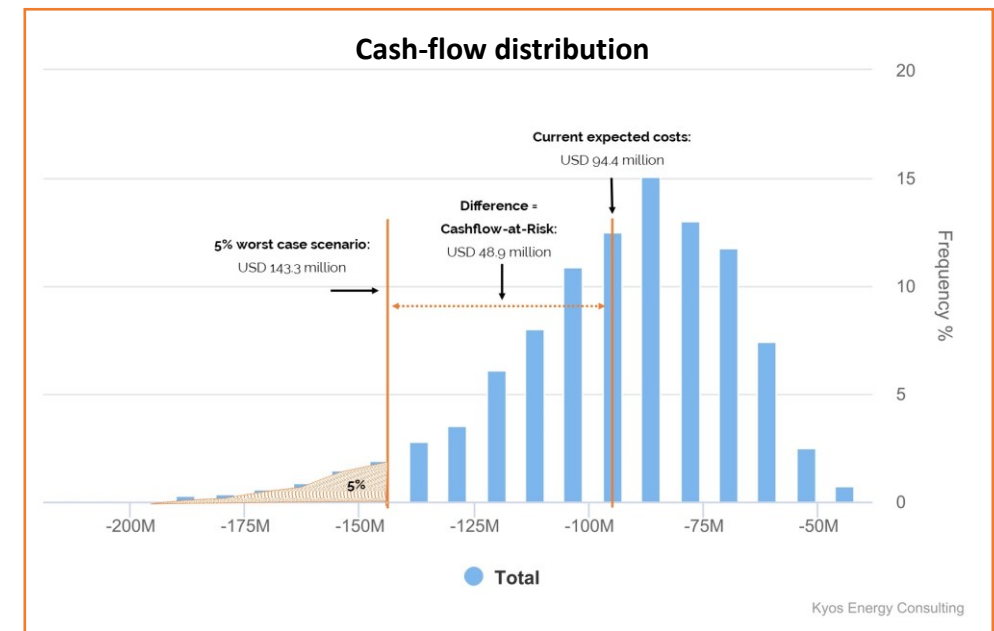
We estimate with 95% confidence that the total costs to source these two commodities will not be more than USD 143.3 million. This means that the difference between the current expected costs and the worst-case costs is the CfaR of USD 48.9 million.

## To hedge or not to hedge?

Current amount	USD 94.4 million
5% worst case scenario	USD 143.3 million
Cashflow-at-Risk	USD 143.3 – 94.4 = <b>USD 48.9 million</b>

What will you do? Hedge now, at the price of USD 94.4?

Or leave it open? There is a 5% chance that costs will have gone up and you have to pay an extra USD 48.9 million.



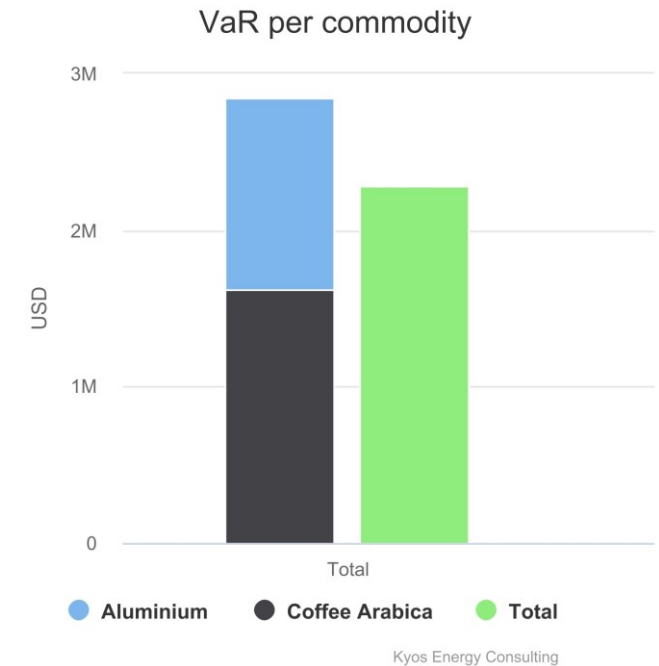


# Value-at-Risk

The Value-at-Risk shows the '95% worst-case' impact on your MtM due to various price changes in the short-term.

The graph shows the Value@Risk for a basket of commodities: left for the individual commodities coffee and aluminium, on the right for both together. Do you notice the difference? The combined exposure is lower than the sum of the two because coffee and aluminium prices are not strongly correlated.

See in the table the Value-at-Risk calculations for 1 day. We also show how quickly the value could go up (or down) for 10 days (holiday scenario). Beware that this is not the maximum. The actual cost increase may be higher with 5% probability.



Value-at Risk	Commodity exposure	VaR per commodity	Total VaR
1 day	18,000 MT of Aluminium 20 million Lbs of Arabica	USD 1.2 million USD 1.6 million	USD 2.3 million
10 days	18,000 MT of Aluminium 20 million Lbs of Arabica	USD 3.8 million USD 4.9 million	USD 7.1 million

# Advantages KYOS Portfolio and Risk Management System



## **Short term versus Long term**

KYOS software is used globally by procurement teams to calculate short- and long-term risks.

Short term risks can be calculated using stress tests or by using Value@Risk (=VaR) calculations. VaR can be calculated using different modelling techniques and depending on the underlying commodity, clients should apply a different technique.

## **Accumulators - embedded options**

Many clients in the food & beverage industry use accumulators to manage the price risk. KYOS has developed software to verify price valuations. It enables our clients to have an independent calculation of

the value as well as the MtM. It also enables clients to play with the strikes to find their optimum.

## **KYOS adds value**

To help you understand price risks and improve your company's cash flow prediction, KYOS has developed risk management software to effectively manage any commodity portfolio. This software is tailor-made to reflect your specific requirements. The KYOS commodity portfolio & risk management system captures years of industrial experience in managing budgets, commodity contracts, physical and/or financial hedging, market price analysis including sophisticated cash flow forecasting.

## **For whom**

Are you still using different spreadsheets to calculate your numbers? Whether you are in Procurement, Sales, Finance or Treasury – every department needs good, dependable figures. We at KYOS are confident a good cash flow forecast will make your life easier.

Please do not hesitate to contact us so we can discuss how we can help you save time – and probably money too.

Interested to learn more?  
Contact us at [info@kyos.com](mailto:info@kyos.com)

Our knowledge center is a great resource for the latest news, where we publish interesting articles and reports.

Do not hesitate to contact us for more information, or ask for a short demonstration: **info@kyos.com**



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