

The background of the image is a dark blue gradient. A large, stylized, light blue lightning bolt graphic runs diagonally from the bottom left towards the top right. Several bright yellow and white lightning bolts are depicted striking across the scene, with one prominent bolt following the path of the large blue graphic. The text 'hallow energy' is positioned on the right side of the image.

**hallow
energy** 

Pricing

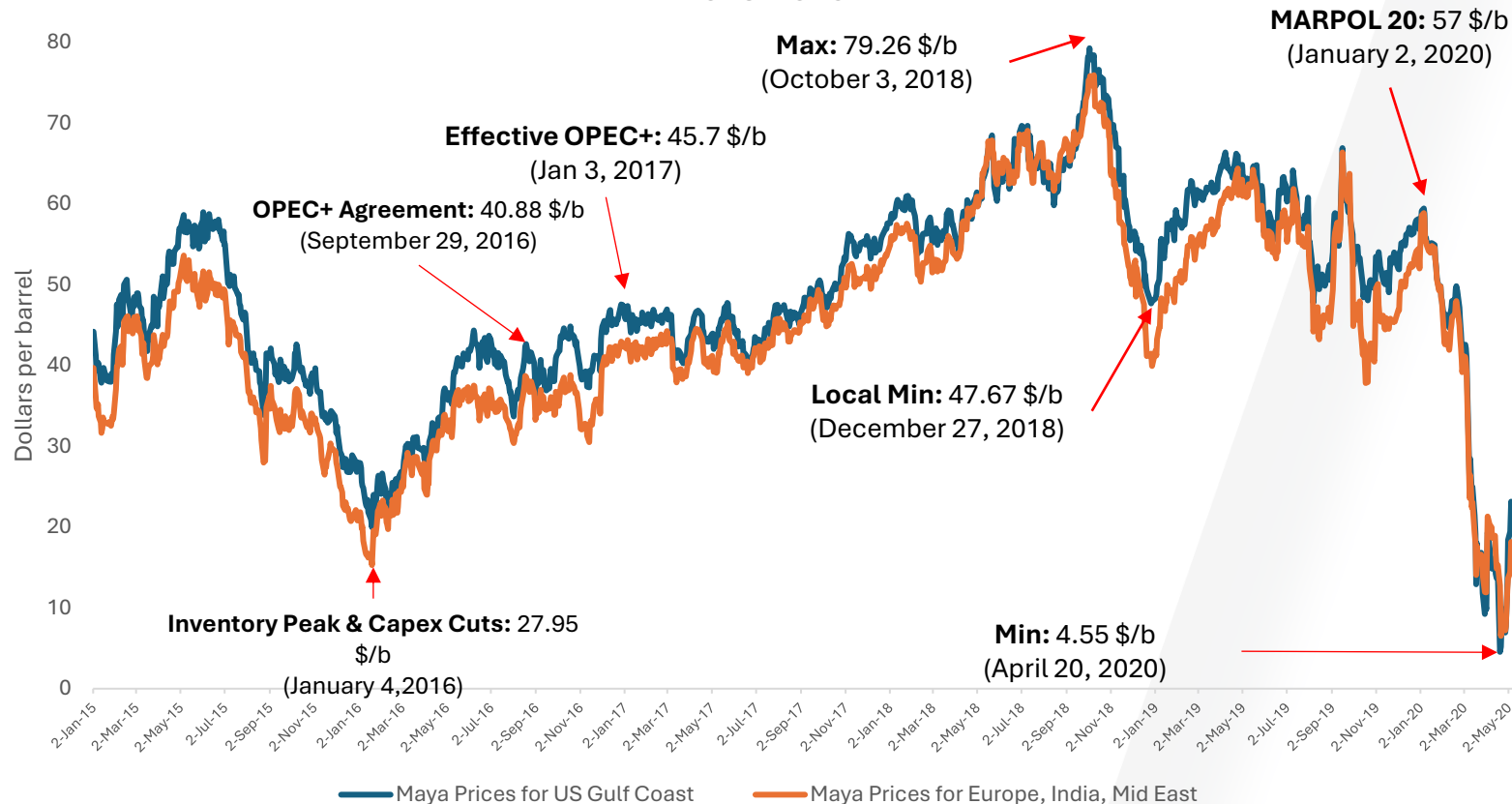
EXTRACT

Market Rationale

Historic Prices

- USGC Maya Price tends to be above Maya price for Europe, India and the Middle East.

Historic prices for Maya
2015-2020



- There are important arbitrage opportunities for traders
- Auctions can erase the price differentials between the Asian and USGC markets

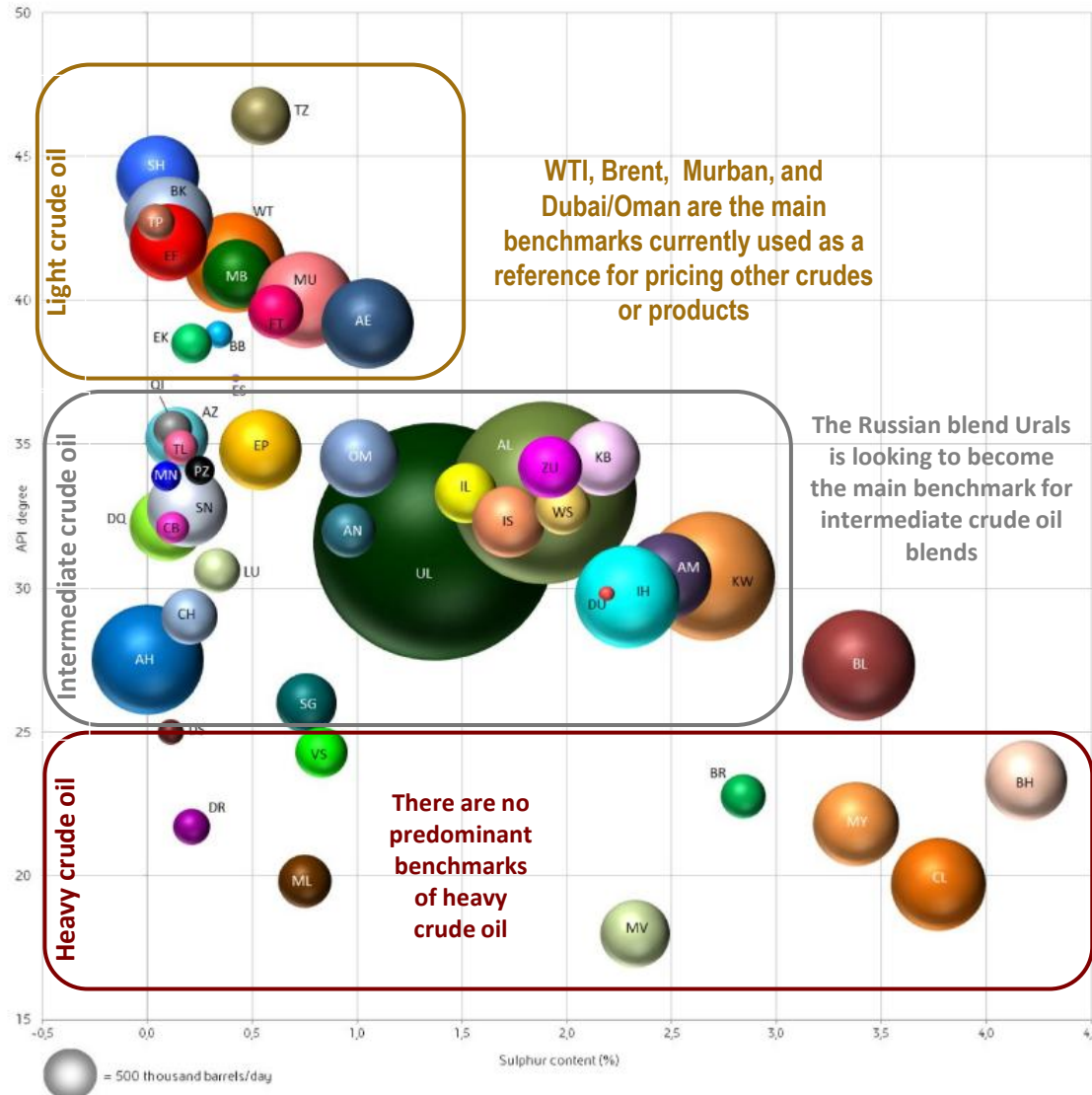
Pricing formula :

$$\alpha * \text{Brent Price} + \beta * \text{WTI Price} + K$$

Caveats: This pricing formula has been in use since the early '80s.

- PMI estimates Maya's price based on Brent and WTI, however both are light-sweet, however Maya is heavy-sour with its own market dynamic.
- The weighting factors α and β do not come from regression analysis - instead, they are arbitrarily defined by bureaucrats.
- The K factor helps to adjust the price to actual market fluctuations, but PMI lacks a proper understanding of Asian and European markets dynamics

API Gravity and Sulphur Content for the Main Crude Oil Blends and Benchmarks



Key elements

- Mayan blend is currently used as an informal international benchmark thanks to its longtime presence on the market.
- Key heavy oil producers such as Iran and Venezuela are facing US economic sanctions.
- Iraqi heavy oil production is tampered by political turmoil and insecurity that hinders its market attractiveness.
- Canadian heavy crude oils have to travel thousands of kilometers before reaching a port where they can be physically traded.
- In 2018, Petroecuador auctioned its Napo heavy oil at the spot market and got a favorable price.
- Brazil is still not a strong participant in the heavy crude oil market.
- Colombia, Peru, and Ecuador are relatively new producers and have future production estimates that are too weak to support a long-term pricing mechanism.

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Monte Carlo Simulation

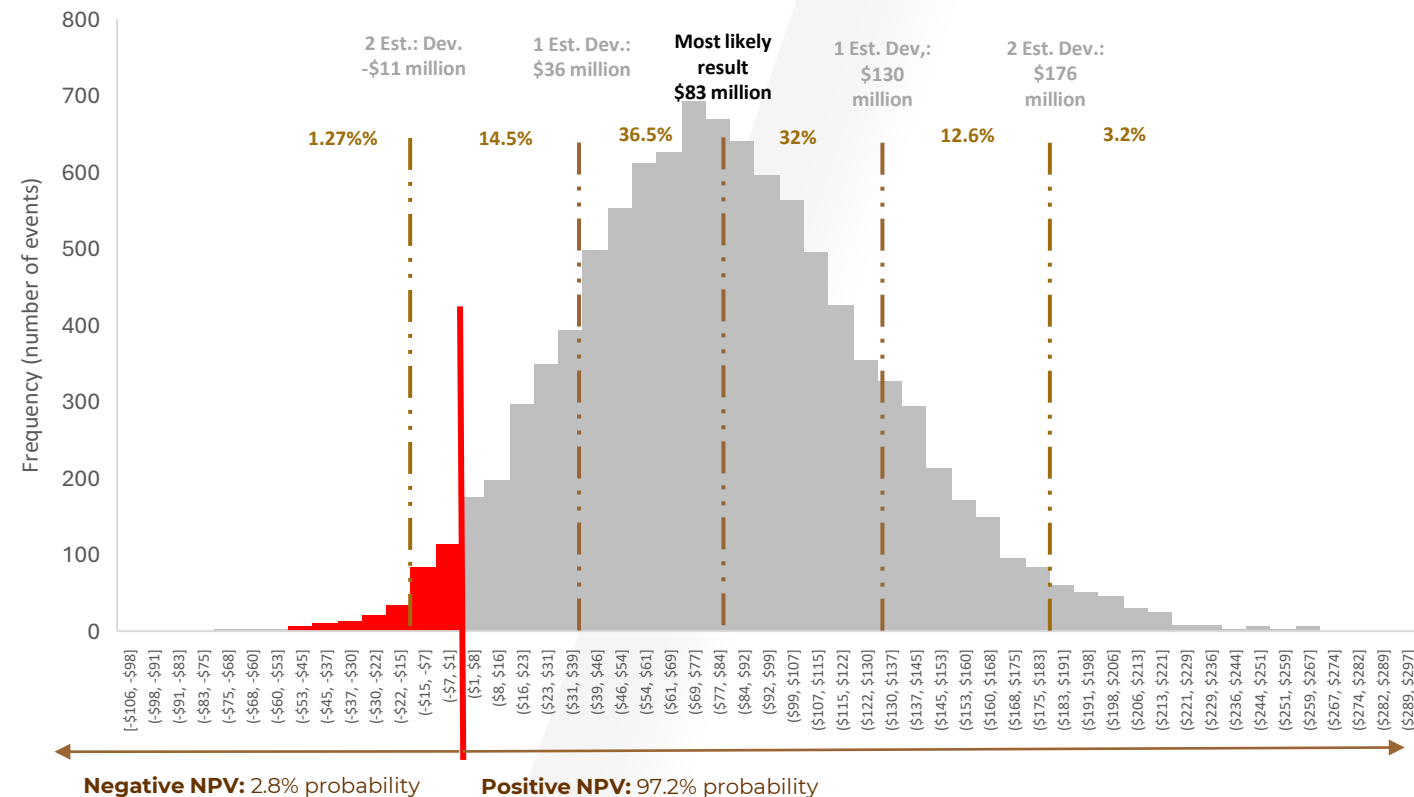
Probabilistic Analysis

The Monte Carlo analysis revealed that the project's most likely NPV stands at USD\$83 million.

- With 97.2% certainty the project would have a NPV above zero.
- With 68.5% certainty, the project would have a NPV between USD\$36 million and \$130 million.

Distribution of Results @10 thousand simulations

(Scenario: Change in volume & Capex)

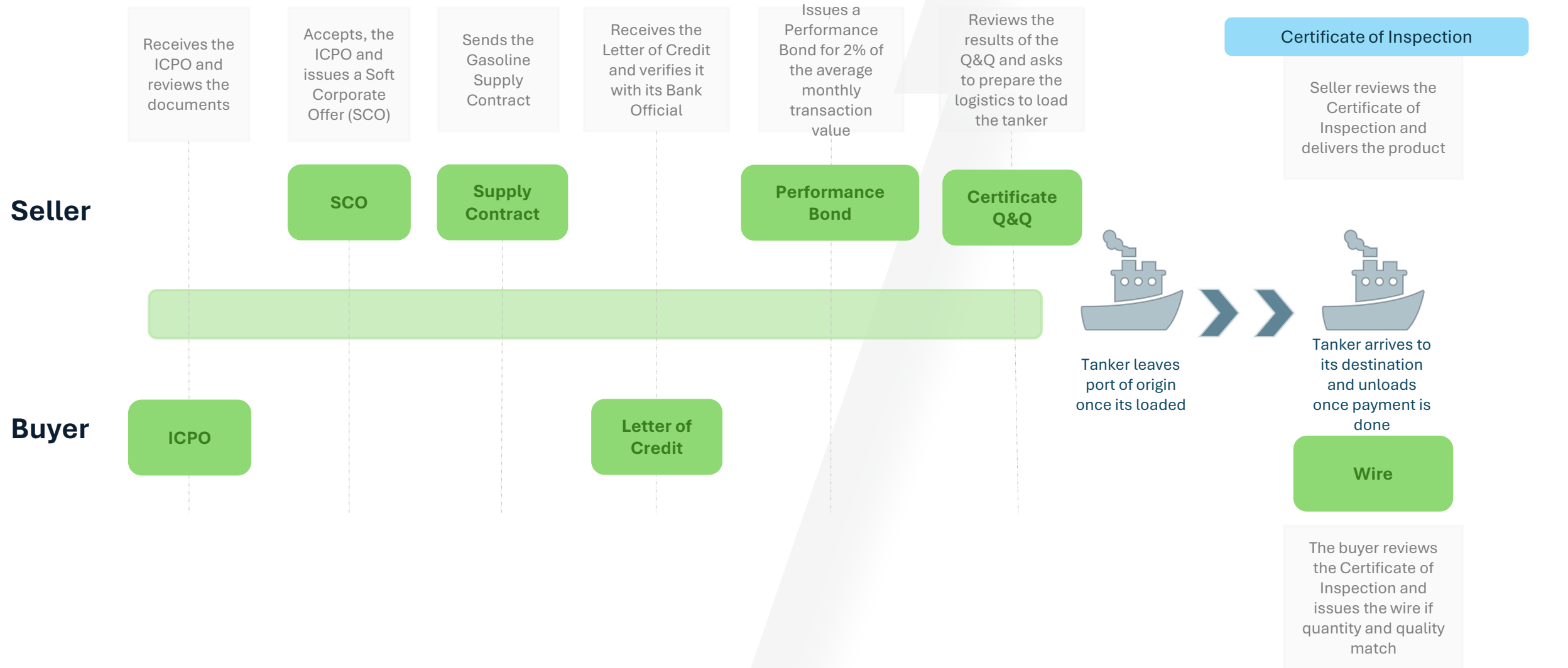




Processes for Buying Crude

Buying Crude Oil - CIF Based on Tender Contracts

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Buying Crude Oil - FOB Based on Tender Contracts

