

New model refining margin 2021

February 11th, 2021

Overall assumptions behind the new margin

- The margin model only presents a hypothetical profitability of the refinery operating within a specific technological setup, based on prices from NWE markets published by Refinitiv.
- The model margin is calculated for a yield structure in the averaged scenario of the refinery operation (without taking into account annual seasonality);
- It was assumed that 100% of the feedstock is Urals crude, whose value is determined as the sum of Dated Brent price and the Brent/Urals spread;
- The model is based on simplified assumptions, i.e.:
 - it aggregates yields in three key product groups,
 - it does not account for differences in the prices obtained by Grupa LOTOS S.A. on different geographical markets, including the Polish market (premium and discounts vs benchmark),
 - it disregards the different types of crude used as feedstock for the refinery.

Product groups and mathematical calculations

- The margin calculation is based on a simplified yield structure, with the following price tickers:
- **23% gasoline** (including xylenes, LPG, reformat, naphtha) – Gasoline Premium Unleaded, ticker: PU-10PP-ARA,
 - **63% diesel** (including aviation fuel, light fuel oil, base oils) – Diesel, ticker: ULSD10-C-NEW,
 - **8% heavy fuel oil** (including bitumen, petroleum coke) – Fuel Oil 3.5%, ticker: HFO-ARA,
 - **6%** of the feedstock is the **refinery's own consumption**;

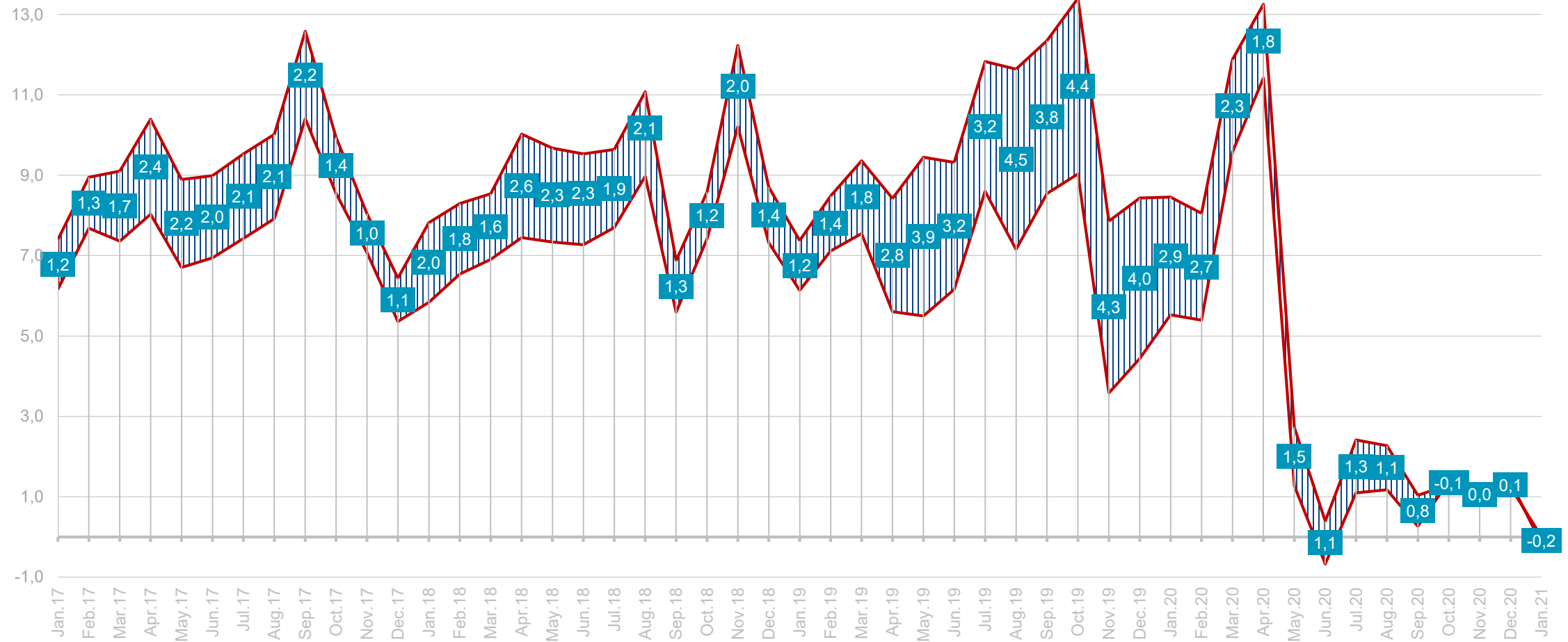
➤ In the calculation, the margin was reduced by the estimated cost of natural gas (the main fuel used in refining processes) used per barrel of crude processed, calculated as the product of 0.1 and the gas index for the Day-Ahead Market of the Polish Power Exchange (TGEgasDA index), converted into USD/MWh.

➤ The mathematical formula for Grupa LOTOS S.A.'s model margin is as follows:

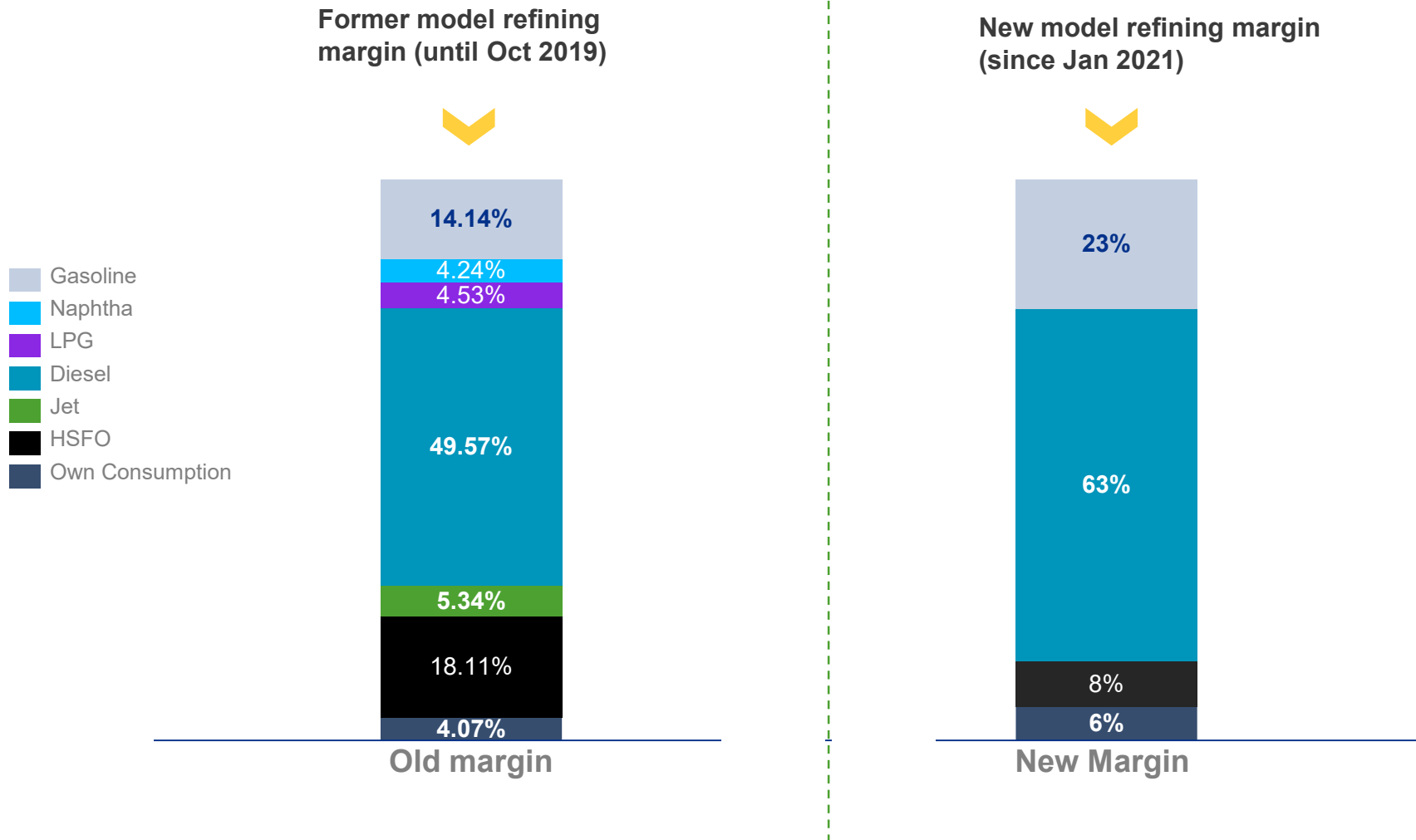
Model refining margin [USD/bbl] = revenue (products from 94% of crude processed = 23% gasoline + 63% diesel oil + 8% heavy fuel oil) - **costs** (100% of crude processed + cost of natural gas used)

Model refining margin 2021

Difference (delta) between the Company's previous refining margin and the current margin following the launch of the EFRA project units (USD/bbl)



Comparison of the refining margin models





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