



Bachelor Thesis

The global diesel market and the role of changing crude oil mixes

Diesel remains essential for global transport, logistics and security-relevant sectors, including military mobility. Recent developments, however, point to structural pressures in the diesel market. According to the IEA's Oil 2025 report (IEA 2025), diesel demand is stabilising while regional refining capacity and trade patterns are shifting, contributing to tighter product balances and more volatile crack margins. Merino Garcia and Peral Partida (2022) argue that reduced Russian exports, low inventories and limited secondary refining capacity have contributed to elevated diesel prices in both Europe and the United States.

At the same time, changes in the global crude oil supply may further constrain the availability of diesel. Günther et al. (2023) show that crude oils vary considerably in terms of their American Petroleum Institute (API) gravity and sulphur content, which impacts refining yields. As the global crude mix shifts towards lighter, sweeter grades, the average yield of diesel declines because these crudes naturally produce more gasoline and fewer middle distillates. This shift could reduce the global capacity to produce diesel from each barrel of oil unless refiners invest in additional conversion and hydrocracking capacity. These constraints on crude quality, combined with evolving trade flows and refining bottlenecks, could pose a risk to the availability of diesel in the coming years, particularly for the transport and defence sectors that rely on it the most.

This bachelor's thesis aims to analyse the current state of the global diesel market. To achieve this, data on diesel demand and supply, trade flows, diesel and crude oil prices, refinery capacities, and refinery crack margins should be gathered. This data should then be analysed to provide a comprehensive overview of current diesel market conditions, which will be benchmarked against past periods of supply stress. Secondly, multiple scenarios for the potential development of the crude oil mix should be defined and analysed quantitatively to determine their potential impact on diesel supply and prices, considering the capability of refineries to produce diesel from these different crude oil mixes.

Key tasks and objectives of the thesis

- Gather data on the development of diesel demand and supply, trade flows, diesel and crude oil prices, refinery capacities, and crack margins of refineries
- Analyze the data gathered to create a comprehensive overview of the current diesel market conditions
- Benchmark the results against past periods of supply stress
- Quantitatively analyse the impact of crude oil mixes on diesel supply and prices in multiple scenarios, considering the capability of refineries to produce diesel from these different crude oil mixes.

Your profile

- Bachelor student in economics or a related field with an interest in energy markets
- Strong analytical skills and the ability to work independently with data and literature
- Interest in working with market data (IEA, JODI, EIA, Refinitiv, etc.)

Literature

International Energy Agency (IEA) (2025): *Oil 2025 – Analysis and Forecast to 2030*. Paris: IEA.
<https://iea.blob.core.windows.net/assets/c0087308-f434-4284-b5bb-bfaf745c81c3/Oil2025.pdf>

Merino Garcia, A. and Peral Partida, J.A. (2022): *Middle Distillates Market Situation: A Global, not only European Problem*. Repsol Economic Research, *Economic Insights No. 17*, pp. 131–142. https://www.funcas.es/wp-content/uploads/2022/06/Antonio-Merino-Garcia-and-Jose-Alfredo-Peral-Partida1_PE_17.pdf

Güntner, J., Irlacher, M. and Öhlinger, P. (2023): *Not All Oil Types Are Alike*. CESifo Working Paper No. 10652, Munich: CESifo. <https://www.ifo.de/en/cesifo/publications/2023/working-paper/not-all-oil-types-are-alike>

Contact



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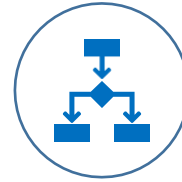
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Topics



- Global diesel market
- Trade flows & crack margins
- Impact of crude mix changes

Methods



- KPI comparison (crack spreads)
 - Literature review
 - Data analysis
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