# **FUTURE OF FUELS**

RFA Outlook for Crude Oil, Refined Products, Biofuels, and EVs



- "Energy Transition" will be slower than most analysts predict, with petroleum demand growing globally through 2040.
- Fear of transition slows investment in refining capacity, leading to a sustained tight refined product supply/demand balance.
- Electric vehicle supply growth creates a mismatch between gasoline and diesel supply and demand.
- The Russia-Ukraine war has initiated an even more impactful transition, with significant changes in crude and product trade flows in the Atlantic Basin and beyond.
- Natural gas dynamics will play a major role in setting regional refining margins and competitiveness.
- Multiple "wild cards" will impact petroleum markets and refiners' prospects in the coming years. These include geopolitical, market, technological and environmental developments.
- To effectively respond to these unknowns, refiners and other industry participants will need operational and strategic flexibility. This will in large part require a profound understanding of the risks and probabilities associated with energy transition, market dynamics and all the "wild cards" which will come into play.

# **Refining Industry Faces Significant Uncertainties**

## New RFA Forecast Provides Detailed Road Map

The first three years of this decade have been a wild ride for petroleum markets. The refining industry has been particularly impacted, with fortunes ranging from plant closure-inducing red ink during the COVID lockdown years of 2020 and 2021, to record breaking margins in 2022. Meanwhile, a significant amount of new refining capacity is expected to start up before the end of 2023. With both short- and long-term threats and uncertainties facing petroleum markets, this wild ride is likely to continue, making it difficult for industry participants to plan for the road ahead.

### "Energy Transition" - the Green Version

For many it seems a foregone conclusion that "green" energy will rapidly replace petroleum in the energy sector. The move towards electrification of the transportation fuel market is seen as a particular threat to petroleum demand. While EV sales growth will continue, economic growth in the developing world and the slow pace of fleet turnover means that gasoline is unlikely to fall globally in the near term. In fact, while gasoline demand in the developed economies (including the U.S.) has already peaked, we see global gasoline demand higher in 2040 than it is today.

This measured view extends to middle distillates (diesel and jet) as well. While there is currently significant growth in Renewable Diesel and Sustainable Aviation Fuel is beginning to attract a lot of attention, various factors will limit their impact on petroleum-based demand, with petroleum-based diesel and jet growing at a faster rate than gasoline over the next two decades.

#### "Energy Transition" - the Euro Version

While we have a restrained view on the speed of the transition away from petroleum globally, we believe a more immediate transition will take place over the next few years in Europe as trade flows into and out of the region drastically change, largely (but not wholly) due to the conflict in Ukraine. This will impact all segments of the petroleum industry, as more U.S. crude, natural gas and refined products move across the Atlantic to replace that lost from Russia. This is bullish for all segments of the U.S. industry, assuming government policies (including threatened product export bans) don't get in the way.

#### Natural Gas Market Impacts Refining Margins

Natural gas markets have always had an impact on the economics of petroleum refining, considering their important function in providing process heat, generating power and in the production of hydrogen. The recent explosion in the differential between U.S. and international gas prices has radically increased their importance in driving refining margins, setting a very high floor for U.S. refiners bottom lines as prices have to support breakeven economics for the marginal European/Asian refinery. This differential will close as LNG export capacity from the U.S. increases and links North America to the global market, but the timing of this linkage and the duration of the differential remain key questions.

# The Future of Crude Oil and Refined Products

To provide some clarity about the future uncertainties, RBN's Refined Fuels Analytics division (RFA) is developing a new study exploring the outlook for crude oil and refined products markets called Future of Fuels. The report will provide comprehensive analysis and forecasts for the key factors influencing petroleum market dynamics – prices and price relationships, petroleum supply and demand, alternative fuels, and refining capacity and utilization.

For demand, we consider economic growth, alternative fuels (biofuels/EV's), demographics, price response, and multiple other factors. On the supply side, we take a deep dive into how much refining capacity will be added and our expectations of refinery shutdowns and conversions. Since crude market dynamics are critical, we provide a detailed forecast of crude production by grade and region, which is especially important to refiners, all of which have different processing capabilities. Midstream developments and regulatory policies also play a major role in refining markets and our perspectives on these issues will be addressed in detail. Our forecasts will be provided on an annual average basis through 2040. Price forecasts will include over 100 separate crude oils and over 200 unique refined products, intermediates, feedstocks and biofuels.

The first edition of **Future of Fuels: RFA Outlook for Crude Oil, Refined Products, Biofuels, and EVs** is now available and includes an optional virtual presentation of our findings by RFA senior analysts scheduled on a first-come, first-served basis. Subsequent issues of this product, which will include fresh updates of all the market analysis and forecasts within Future of Fuels will be issued on a bi-annual basis in late June and mid-January each year. For more information, visit <u>www.rbnenergy.com/products/Future-of-Fuels</u> or contact TJ Braziel at tjbraziel@rbnenergy.com.

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<sup>(1)</sup>Regions include Canada, Mexico, Other Latin America, Europe, Africa, CIS, Middle East, China, Japan, India, and Other Asia/Pacific

Learn more at: <u>www.rbnenergy.com/products/Future-of-Fuels</u> About RFA: <u>www.rbnenergy.com/refined-fuels-analytics</u>

# **FUTURE OF FUELS REPORT**



# 8 Spreadsheets 70 Data Tables

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