Evolve or die: US refiners grasp renewables lifeline to stay viable

New York — Once the scourge of the US refining industry, some refiners are now looking to renewable fuels to help their bottom lines and keep their facilities operational.
Despite many millions spent over the years on Capitol Hill lobbying against the Renewable Fuel Standard, some US refiners now are moving quickly to repurpose their oil refineries into renewable fuel facilities.

This attitude shift allows them to keep plants running while reducing overcapacity of US hydrocarbon refining capacity laid bare by the sharp coronavirus-led drop in transportation fuel demand, thus increasing traditional hydrocarbon refining margins.

According to S&P Global Platts' calculations, about 1 million b/d of North American refining capacity is soon to be shuttered, with rationalization needed for another 1 million b/d to 1.5 million b/d to balance the market.

Refurbishing hydrocarbon plants to run renewable feed stocks like soybean oil, tallow and used cooking have an added bonus to shore up sagging refining cash flow -- opening access to government credits by making renewable diesel and sustainable aviation fuel, or SAF.

"The federal Renewable Fuel Standard (RFS) and Blenders' Tax Credit (BTC) incentivize the use of renewable diesel and SAF. In addition, California Low Carbon Fuel Standard (LCFS) credits provide a significant credit premium for low carbon transportation fuels used in that state," said Corey Lavinsky, biofuels expert at S&P Global Platts analytics.

The layering of these credits creates economically attractive possibilities to make renewable diesel and SAF biofuels for the California market, where the LCSF has been in effect since 2011.

The difference credits makes to price is stark -- recently US West Coast prices of SAF with credits averaged $3.74/gal compared with the 8 cents/gal for SAF without credits, Platts price assessments showed.
Adaptability to change

It was Charles Darwin who said "It's not the strongest of the species that survives but the most adaptable to change" and that adage is proving true for refiners who jumped early on the renewables bandwagon.

Valero, a first mover in the renewables space, formed Diamond Green Diesel with feedstock purveyor Darling Ingredients, reported Oct. 22 increased third-quarter sales and earnings from renewable diesel, cushioning the loss from its traditional refining operations.

As more refiners latch onto the renewable bandwagon, renewable diesel and SAF production will grow, with nearly 20 US renewable diesel projects in the planning stage -- including Phillips 66's plan to convert its San Francisco refinery to the world's largest renewables fuel plant.

Platts Analytics forecasts that the total renewable diesel supply will exceed 3 billion gallons in 2023 and 5 billion gallons by 2025. And California's LCFS incentives make it the target market for most of the supply, according to Platts Analytics' California Low Carbon Fuel Standard Scorecard.

California Here I come?

Much of this new renewable diesel and SAF production expected online in the next few years is aimed at California just to get the added benefit of the LCFS credit plus RINs cost mitigation and the BTC.

According to California's CARB board, just under 12% of all renewable liquid fuels used in the state in 2019 were produced there with the majority imported from other US states or abroad.

In 2020, California's demand for renewable diesel is estimated at 800 million gallons annually, according to Platts Analytics, far surpassing any other region, with estimates for 2022 demand at as high as 2 billion gallons.
But as more renewable diesel projects come online in 2022 and beyond, supply could overwhelm demand, creating a surplus and lowering the price of LCFS credits and RINs -- two key enticements keeping renewable diesel and sustainable aviation fuel economically attractive to producers.

"It does not seem there is enough Cali LCFS demand, as the program is currently structured, to take all of the announced RD," said Jennifer McIsaac, Emissions and Clean Energy analyst at Platts Analytics, which forecasts a surplus of LCSF credits in 2022.

By 2025, Platts Analytics forecasts that the total renewable diesel supply will reach 5 billion gallons. But 2025 demand is expected to be 1.2 billion gallons, including potential renewable diesel demand from states considering LCFS, transportation cap-and-trade initiatives and Canada’s planned 2022 roll out of the federal Clean Fuel Standard.

However, lower RINs prices have a silver lining for refiners -- it reduces their costs to meet blending obligations under Renewable Fuel Standard.
RENEWABLE DISTILLATE SUPPLY TO SOAR AS STATES TARGET CLIMATE GOALS

Carbon reduction targets are driving investments in US renewable diesel and sustainable aviation fuel plants, including accelerated plans by US refiners to reconfigure excess capacity to take advantage of various incentives.