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Renewable Diesel is a Game Changer for Sustainable Aviation and Low Carbon Fuel Markets in the U.S., Canada, Europe and Southeast Asia

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According to a new study by market research firm Emerging Markets Online, renewable diesel is becoming a game changer for several key areas of the low carbon fuels industry, including:

(1) the global aviation industry, representing a $4 trillion global market opportunity.

(2) U.S. west coast markets for LCFS programs in California, Oregon, Washington and British Columbia, representing approximately $3 billion gallon/year in low carbon diesel demand.

(3) the utilization of sustainable, waste-based feedstocks from fats, oils, greases, agricultural residuals, municipal solid waste, and dedicated energy crops for low-carbon transport fuels.

(4) conversions of petroleum refineries into low-carbon biorefineries to produce multiple products, including renewable diesel, renewable naphtha, bio-plastics, bio-based marine fuels, and bio-based petrochemical feedstocks.

By the year 2030, Emerging Markets Online's study Renewable Diesel 2030: Low Carbon Fuels for Air, Land and Sea, estimates global renewable diesel production will increase four-fold from a current capacity of 4.1 billion gallons/year in 2019 to 16.7 billion tons. This rapid expansion of renewable diesel is being driven by strong demand from U.S. refineries for low carbon fuels from California, the Pacific Northwest states of the U.S., Canada, Europe, and by major demand from forthcoming biojet regulations in the 2020s currently underway.

Low carbon diesel demand in California has grown from zero in 2011 to over 561 million gallons per year (MGY) in 2018, achieving a 135% increase in the state's Biojet Diesel fuel pool. According to LCFS data calculations, one demand scenario from California’s ARB finds renewable diesel consumption to grow to 1.35 billion GPY in 2030, or 36 percent of the diesel pool. A more recent pre-implementation analysis in 2018 by California Governor Gavin Newsom sets an ambitious target for 100% decarbonization of California’s diesel pool, currently estimated at 4 billion GPY, by the year 2030.

Some of these plants, such as the Bio-Sim Green Omega project to produce green diesel and jet fuel in Paraguay, are reaching sizes well over 600 million gallons/year. Most of these new renewable diesel biorefineries are being constructed to initially supply the states in the U.S. Pacific northwest, Canada and their new LCFS (Low Carbon Fuel Standard) plans. California, Oregon, and Washington state together represent more than 5 billion gallons of renewable diesel demand by 2030.

To handle these large-scale 2030 LCFS transitions, low-carbon diesel producers in California, Oregon, Washington, Canada and Europe are building larger-than-normal refineries. The Renewable Diesel 2030 study notes the average size of a current renewable diesel biorefinery in 2019 is currently 116 million gallons/year. New plants under construction are being built more than twice that size, with expected annual production capacity at 260 million gallons/year or average by 2023. More than a handful of plants, if all will, surpass 560 million gallons/year in production capacity. The largest renewable diesel biorefineries planned to be deployed by 2023 include REG/Phillips 66 in Washington State, NEXT Renewable Fuels in Oregon, and Phillips 66 Biofuels will have two 260 million gallon plants each in Florida and California.

Avenue Bioenergy has plans for a 560 million gallon/year biorefinery in Texas and a 260 million gallon/year biorefinery in Ontario. Fehr & Associates expects a 550 million gallon/year biorefinery in Paraguay. In addition, the Phillips 66 Biofuels 260 million gallon/year biorefinery in Florida with a 500 million gallon/year biorefinery in California are currently under construction.

Will Thurmond is the President and CEO of market research firm Emerging Markets Online, the leading research firm for the Biofuels Digest; and is a regular speaker and session moderator at industry conferences. For more information, contact Emerging Markets Online in Houston, TX. info@emerging-markets.com or visit www.emerging-markets.com

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