

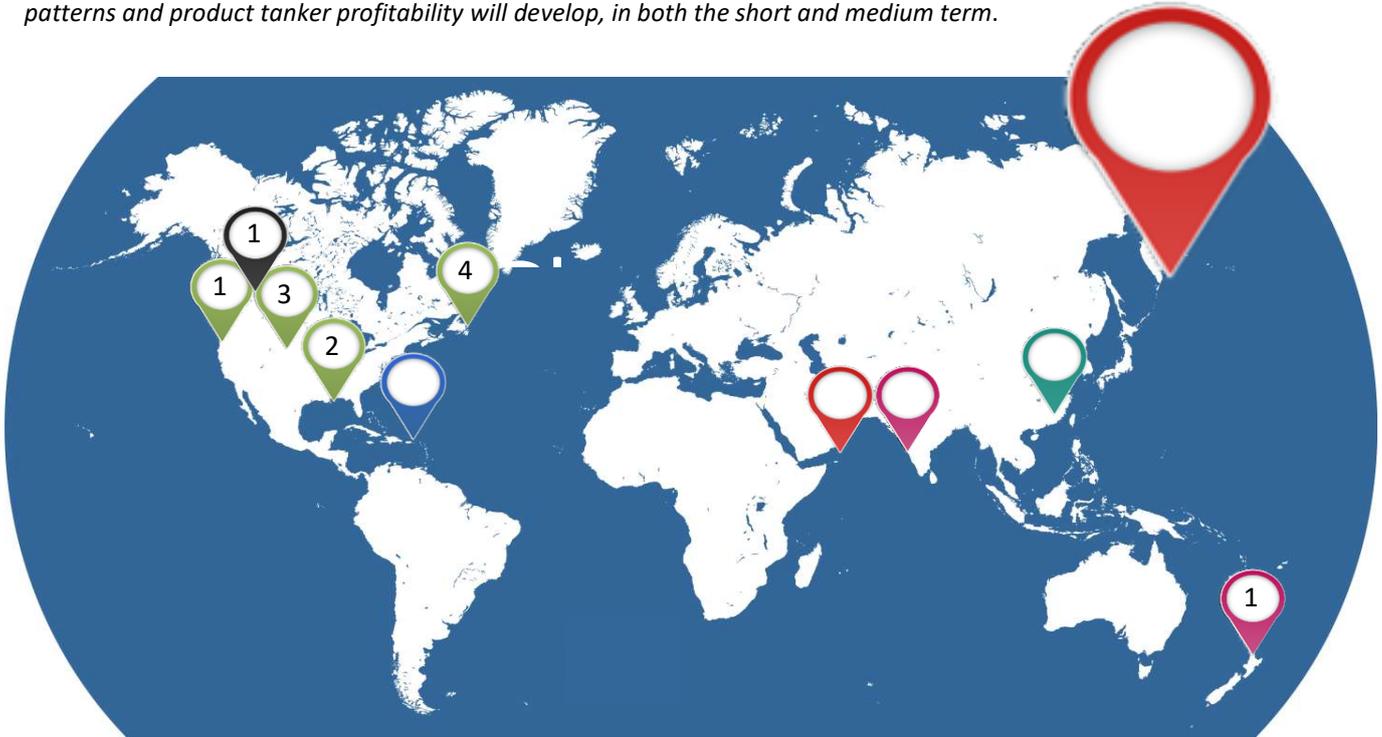
Weber Refinery Report



August 2021



In this month's Charles R. Weber refinery report, we provide readers with the latest developments in the refinery sector as they relate to the seaborne refined product trade and refined product tanker shipping. The report mixes up-to-date news with detailed information about global refinery capacity and seaborne trade in order to understand how seaborne trade patterns and product tanker profitability will develop, in both the short and medium term.



US renewable diesel capacity could increase to 330kbd by end 2024 - Jul 2021 - US production capacity for renewable diesel could increase significantly by the end of 2024, up to 330kbd (16.5Mnta) from 38kbd (1.9Mnta) in 2020, if all projects, currently under construction or soon to be in development, come to fruition, and make up approx. 5% of US diesel production capacity.

Most of the new capacity will be on the West Coast, though some projects have been announced on the Gulf Coast. California and other western states such as Oregon and Washington will likely consume the majority of renewable diesel produced on the Gulf Coast to meet future Low Carbon Fuel Standard (LCFS) program targets in those states.

A number of former petroleum refineries plan to begin producing renewable biodiesel, including Marathon Petroleum's Martinez refinery in California, which plans to start production in 2022 and could reach its full capacity of 48kbd (2.4Mnta) in 2023. Phillips 66's Rodeo Renewed project in San Francisco, California, plans to produce 52kbd (2.6Mnta) of renewable fuels when its conversion is completed in 2024, making it the world's largest facility of its kind.

BPGIC advances Phase 3 refining and storage project at Fujairah - Aug 2021 - Following the results of a recently completed feasibility study, Brooge Petroleum and Gas (BPGIC) is looking to start the anticipated two-year construction period for its proposed Phase 3 refinery and storage expansion as early as 2H21, with a targeted commissioning date sometime in 2023.

Alongside adding up to 22MnBbls (1.1Bntonnes) of fresh oil storage capacity Phase 3 will also include a new 25kbd (1.25Mnta) modular refinery to produce very low-sulphur fuel oil, as well as construction of a 180kbd (9Mnta) conventional crude oil refinery.

Construction starts on 60kbd heavy oil DCC unit at Anqing refinery, China - Aug 2021 - Sinopec's Anqing Petrochemical has started construction of a 60kbd (3Mnta) heavy oil deep catalytic cracking (DCC) unit as part of the site's \$1.32 Bn project to reducing production of fuel oil products such as gasoline and diesel and generate more chemical products.

Latest

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John M Kulukundis at: jmk@crweber.com

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Product tanker utilisation starting to rise - Aug 2021
- Based on AIS data, we observed a significant increase in laden product tanker activity in July in LR1 and MR sectors. We estimate that 43% of the active LR1 fleet was laden at a sea in July, the highest level since March 2020. The corresponding figure for MR was 40%, the highest level since March 2019.

1 Rodeo Renewed project advancing - Aug 2021
Phillips 66 is continuing to advance its Rodeo Renewed project at the San Francisco refinery, with the newly reconfigured hydrotreater equipped to process 9kdb (0.45Mnta) of soybean and other vegetable oil feedstock to produce renewable diesel.

Full production rates of renewable diesel from the hydrotreater conversion was reached in July, two months ahead of the operator's originally planned schedule.

Complete conversion of the facility is expected in early 2024, subject to permitting and approvals, at which time production capacity of renewable fuel will be over 50kdb (2.5Mnta).

2 PBF Energy advances plans for proposed Chalmette refinery renewables conversion - Aug 2021 - PBF Energy has awarded a preliminary contract to Honeywell UOP to license technology for the possible retrofit of an existing hydrocracking unit at the 185kdb (9.25Mnta) Chalmette dual-train coking refinery outside of New Orleans, to enable 20kdb (1Mnta) of renewable diesel production

Should the project advance, the revamped unit would enable the Chalmette refinery, which has been idled since 2010, to begin renewable diesel production before competitors are able to get their units online.

3 Dickinson biorefinery reaches full capacity and Martinez conversion progressing - Aug 2021 - Marathon Petroleum's Dickinson renewable diesel facility in North Dakota reached full capacity during 2Q21. Conversion work is also ongoing at the Martinez refinery in California, with production of renewable diesel targeted to commence during 2H22, before reaching full capacity by the end of 2023.

Revamped Mumbai refinery to restart with increased capacity - Aug 2021 - HPCL is to restart the second crude unit at its Mumbai refinery this month following a revamp, and operate at a new capacity of 190kdb (9.5Mnta) by early to mid-October, increased from 150kdb (7.5Mnta) prior to the maintenance and upgrade shutdown in April.

The refiner also plans to restart a 70kdb (3.5Mnta) crude unit at its 166kdb (8.3Mnta) Visakhapatnam (Vizag) refinery in August, following a fire in late May. In addition, the project to upgrade and expand capacity at the site to 300kdb (15Mnta) is expected to be completed before the end of March 2022. A new residue upgrade unit will be also finished in 2022.

1 Alberta government to invest in facility aimed at turning farm waste into fuel - Aug 2021 - The Alberta government is investing \$4.7 Mn in Canary Biofuels' \$28.6-million Lethbridge facility, targeted to begin operations in the autumn, which will convert agricultural waste, inedible fat and used cooking oil into biodiesel fuel. The biodiesel created at the southern Alberta facility will have a little as one-third the carbon intensity of petroleum diesel.

Limetree Bay files Chapter 11 - Aug 2021 - Limetree Bay Refining and several affiliates have filed for Chapter 11 Bankruptcy. Plans to restart the 200kdb (10Mnta) St. Croix refinery, in the US Virgin Islands were indefinitely suspended in May due to severe regulatory and financial constraints. Oil storage terminal operations are expected to continue.

1 Marsden Point refinery to be convert into import terminal - Aug 2021 - Shareholders in the Marsden Point refinery, operated by New Zealand Refining, voted almost unanimously to stop refining crude oil at the site in 2022 and convert it into a gasoline import terminal.

The refinery meets approx. 70% of the country's gasoline, jet fuel and diesel supplies but demand has become uneconomic due to low margins and competition from larger, more efficient refineries in Asia.

New Zealand, currently reliant on imported crude, will shift its dependence to a reliance on imported refined fuels following closure of the refinery. Unions have expressed alarm at the loss of jobs and strategic national asset, and the possible implications for long-term fuel security.

4 Come-by Chance refinery to be converted to renewables plant - Jul 2021 - Cresta Fund Management has agreed to buy a controlling stake in the North Atlantic Refinery's idled 135kdb (6.75Mnta) Come-by Chance oil refinery in Newfoundland, and plans to convert it into a facility producing renewable diesel and aviation fuel.

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Notes: Mnta = million tonnes per annum, Kdb = 1000 barrels per day, Mnbdb = million barrels per day.



Latest
continued...

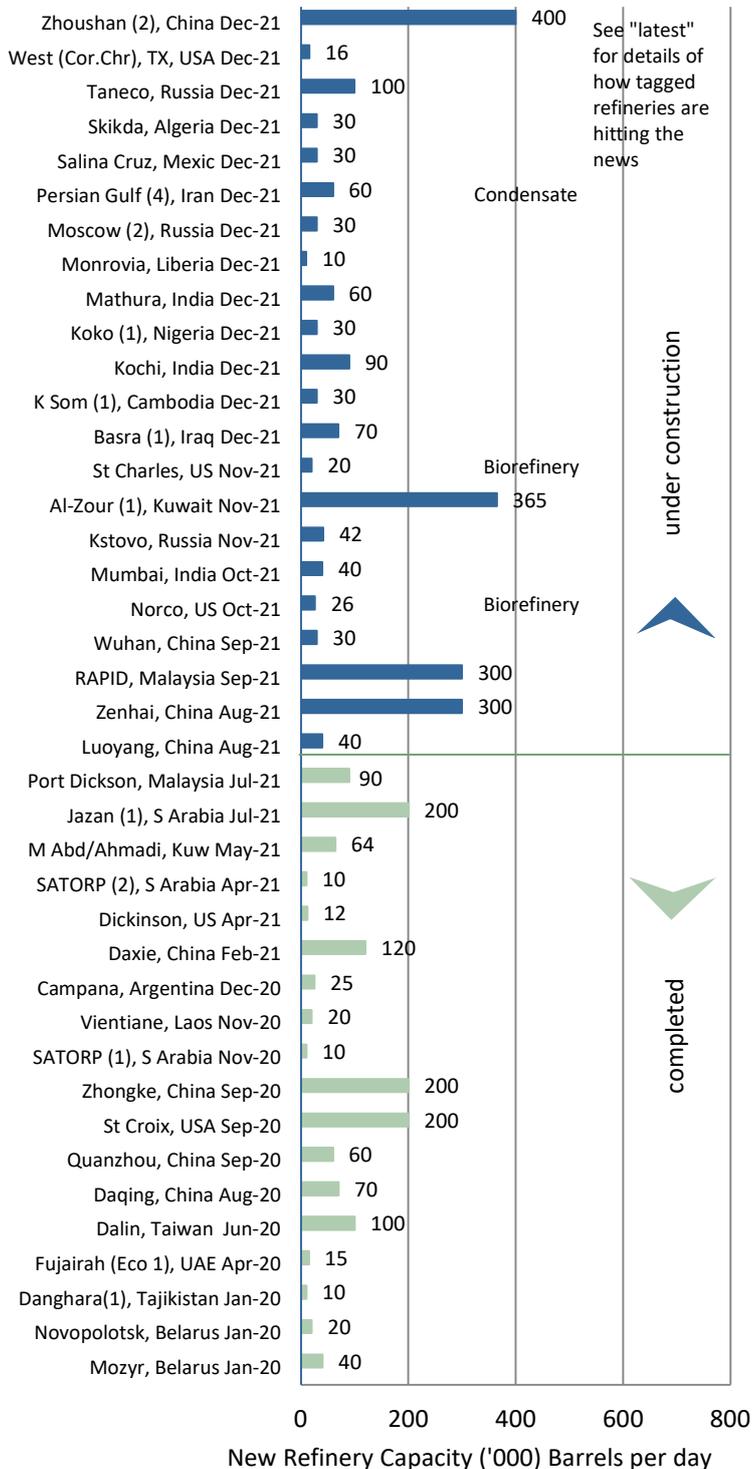
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Timeline

Recent and Planned Refinery Additions



We estimate that net global refinery capacity additions amounted to 0.81Mnbd in 2020, while closures (either permanent or temporary) since March 2020 and the onset of the COVID-19 crisis have totalled 3.8Mnbd. There is 2.4Mnbd of new capacity scheduled for completion in 2021, but we expect commissioning of a sizeable amount of this capacity to be delayed.

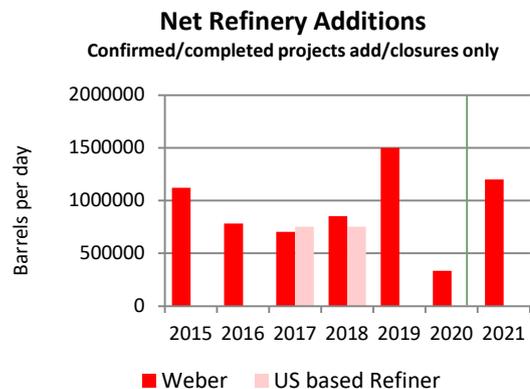
Net refinery additions of 1.5Mnbd were recorded in 2019. This built on increases of 0.8Mnbd in 2018, 0.7Mnbd in 2017, 0.8Mnbd in 2016, 1.1Mnbd in 2015, 0.9Mnbd in 2014, 1.3Mnbd in 2013 and 1.1Mnbd in 2012 (the latter two numbers are based on BP data).

Of the projects slated for completion in 2021, China leads the way with 0.9Mnbd, followed by Kuwait 0.5Mnbd, Malaysia 0.4Mnbd and India 0.2Mnbd. There are a further 10 countries having >10Kbd under construction.

16 new refinery additions (each adding >=10Kbd) in 2014, 24 in 2015, 20 in 2016, 15 in 2017, 17 in 2018 and 10 in 2019.

In 2014-15, closures accounted for more than 1Mnbd of capacity. The rate of closures declined to 0.5Mnbd in 2016, 0.9Mnbd in 2017 and 0.2Mnbd in 2018/19 combined. We saw around 1.4Mnbd of planned or completed capacity closure or conversion in North America alone from late 2019 to end 2020.

The refinery timeline chart (left) is derived from Weber's own detailed tracking of new refinery projects. The chart below compares our summary forecast for refinery additions 2015-2020 with that provided by a large US based refiner. This comparative forecast factors in project delays beyond those reported by the refiners themselves.



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