

Weber Refinery Report



March 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.



New refineries coming on stream in 2021 - Mar

2021 - New refinery additions totalled less than 1Mnbd last year, with many projects delayed as a result of the pandemic. This has resulted in the potential for a large number of projects to come on stream this year.

In fact, we calculate that 3.4Mnbd of capacity across 18 countries is slated for delivery this year. However, almost two thirds of this long list is currently scheduled for delivery in 4Q21. With the pandemic continuing to ravage demand, we anticipate further back tracking with regard to scheduling, with as much as 2Mnbd being pushed into 2022.

Over 80% of the long list of potential refinery additions are located east of Suez, which includes almost all of the major refinery projects. Of the six 250Kbd+ projects located in this region, all are scheduled for completion in 4Q21. We will continue to closely monitor changes in schedules during the year.

New refinery announcements have predictably been very limited during 1Q21 with just 0.33Mnbd reported Ytd. As we have reported in recent months, much of the chatter surrounding potential new projects has focused on renewable projects.



Additional capacity projects progressing in China -

Feb 2021 - Zhejiang Petrochemical's (ZPC) has started trial runs at one of two 200kbd (10Mnta) crude distillation units at the Zhoushan refinery. ZPC expects to commission the 400kbd (20Mnta) Phase 2, in 2021.

In other China related refinery news, construction is underway on the 300kbd (15Mnta) expansion at Sinopec's 460kbd (23Mnta) Zhenhai Petrochemical refinery, while construction had already been completed on CNOOC's 120kbd (6Mnta) expansion project at the 160kbd (8Mnta) refinery in Daxie.



Iran sends more airlifts of refinery materials to

Venezuela - Feb 2021 - Venezuela has begun to receive a second round of airlifts of materials from Iran to help its troubled oil refineries to produce fuel, with the shipment of catalysts to 955kbd (47.75Mnta) Paraguana Refining Complex (CRP) and three flotillas of vessels carrying fuel.

Latest

If you have questions or comments, please contact Charles R. Weber Research.

John M Kulukundis at: jmk@crweber.com

www.crweber.com

1 Dickinson renewable diesel refinery to reach full capacity by end 1Q21 - Mar 2021 - Marathon Petroleum has begun to load trains and ship renewable diesel from its renewable diesel facility in Dickinson, North Dakota, and is currently ramping up operations with full production on track to be reached by the end of 1Q21.

The company has also made progress with plans to convert its Martinez refinery into a renewable fuels facility. Commissioning of 17kdb (0.85Mnta) capacity is expected in 2H22 and full capacity of approx. 48kdb (2.4Mnta) is targeted by the end of 2023.

1 Neste reports strong results for renewable products - Mar 2021 - Neste has released its latest financial results, and reported that its renewable products segment proved to be very resilient despite the impacts of the COVID-19 pandemic. It plans to boost its sustainable aviation fuel (SAF) production capacity from the current level of 2kdb (0.1Mnta) to 30kdb (1.5Mnta) by the end of 2023.

1 Fulcrum plans to develop SAF biorefinery in the UK - Mar 2021 - Fulcrum BioEnergy has announced plans to develop a 30 Mn gallons/yr sustainable aviation fuel (SAF) plant, Fulcrum NorthPoint, at Essar Oil Ltd.'s Liverpool refinery in the UK. Construction on the project is expected to begin in late 2023, with an operational date in 2025.

1 Japanese earthquake knocks out 20% of country's refining capacity - Mar 2021 - Japanese refiners led by the biggest, Eneos, idled a fifth, 743kdb (37.2Mnta), of the country's 3.4Mnbd (170Mnta) crude oil refining capacity after a powerful earthquake struck north-eastern Japan on 5 March.

1 CPCL advances construction of Cauvery Basin refinery - Mar 2021 - Indian Oil (IOC) has broken ground on subsidiary Chennai Petroleum's (CPCL) recently approved project to build a grassroots 180kdb (9Mnta) Cauvery Basin refinery in Nagapattinam District, Tamilnadu, India. Timelines have yet to be determined.

CPCL is currently pursuing environmental approval for the complex, which will involve dismantling of the existing 20kdb (1Mnta) refinery at the site that ceased operations in April 2019. A detailed feasibility report, technology evaluation and process licensor selection for the project have been completed.

2 Bolivia to build renewable diesel plant at Guillermo Elder Bell refinery - Mar 2021 - The Bolivian government is to construct a USD250Mn 9kdb (0.45mnta) renewable diesel plant at the Guillermo Elder Bell refinery, which will reuse discarded cooking oils, vegetables and animal fats as raw materials.

2 Lukoil awards contract for Nizhny Novgorod refinery - Mar 2021 - Lukoil has awarded a contract to Honeywell UOP to provide licensing for a suite of technologies to enable expanded production of Russian Class 5 (equivalent to Euro 5) quality gasoline at its 340kdb (17Mnta) Kstovo refinery in central Russia's Nizhny Novgorod region.

1 IOC proceeds with plan to expand Panipat refinery - Mar 2021 - Indian Oil (IOC) is moving forward with the expansion of its 300kdb (15Mnta) integrated Panipat refining and chemical complex in Haryana, India, which will raise capacity to 500kdb (25Mnta) and is slated for commissioning by September 2024.

2 Saudi Aramco remains committed to RAPID project - Feb 2021 - Petronas has said its joint venture partner Saudi Aramco remains committed to 300kdb (15Mnta) Pengerang Refining and Petrochemical Integrated Refinery and Petrochemicals Complex (RAPID) project in Malaysia, though start-up is now delayed to 2H21, due to the recent surge in COVID-19 cases.

3 Pertamina-Rosneft JV awards contract for Tuban grassroots complex - Feb 2021 - Pertamina Rosneft Pengolahan dan Petrokimia (PRPP), a joint venture of Rosneft (45%) and Pertamina (55%), has awarded a contract to Royal Dutch Shell to provide technology licensing and basic engineering services for new processing units at PRPP's grassroots Tuban integrated oil refinery and petrochemical complex in East Java, Indonesia.

1 Dangote Refinery to commence full production by early 2022 - Feb 2021 - Pre-commissioning of the 650kdb (32.5Mnta) Dangote refinery under construction in the Lekki Free Zone near Lagos, is expected to take place before the end of 2021, will full production to commence by early 2022.

The refinery will process a variety of light and medium grades of crude to produce Euro-V quality clean fuels including gasoline and diesel as well as jet fuel and polypropylene.

Disclaimer: Whilst every care has been taken in the production of this study, no liability can be accepted for any loss incurred in any way whatsoever by any person who may seek to rely on the information contained herein. All information is supplied in good faith and Charles R Weber Company Inc. accepts no responsibility for any errors and omissions contained within this study.

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

Latest
continued...

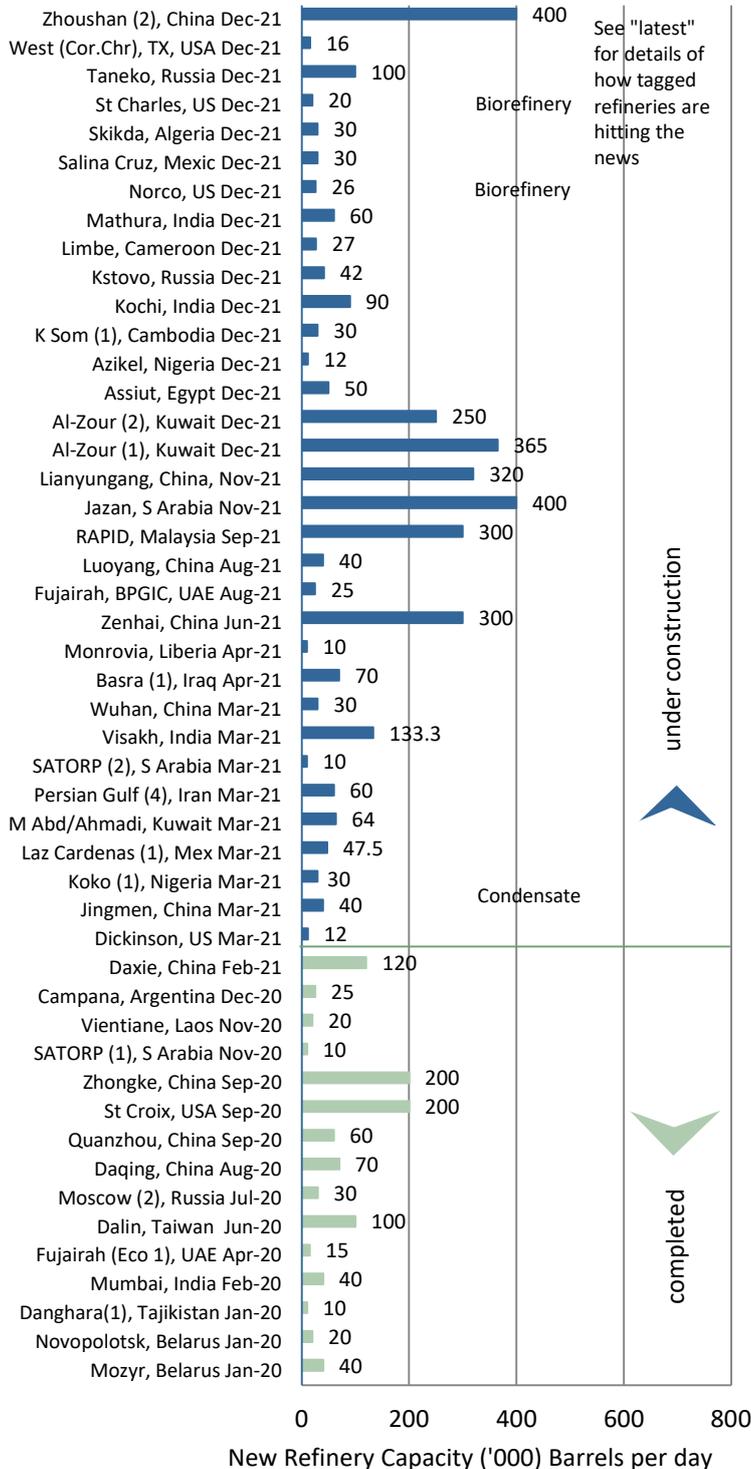
If you have questions or comments, please contact Charles R. Weber Research.

John M Kulukundis at: jmk@crweber.com

www.crweber.com

Timeline

Recent and Planned Refinery Additions



We estimate that net global refinery capacity additions amounted to 0.86Mnbd in 2020, while closures (either permanent or temporary) since March 2020 and the onset of the COVID-19 crisis have totalled 3.6Mnbd. There is 3.4Mnbd of new capacity scheduled for completion in 2021, but we expect commissioning of a sizeable amount of this capacity to be delayed.

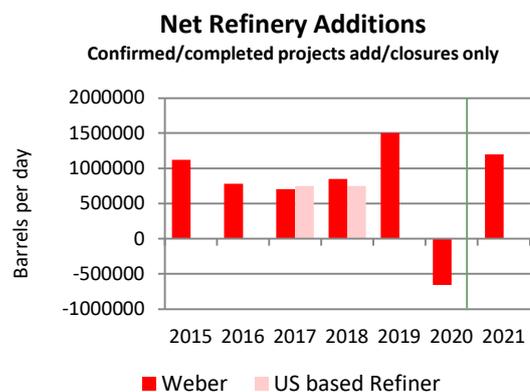
Net refinery additions of 1.5Mnbd were recorded in 2019. This built on increases of 0.8Mnbd in 2018, 0.7Mnbd in 2017, 0.8Mnbd in 2016, 1.1Mnbd in 2015, 0.9Mnbd in 2014, 1.3Mnbd in 2013 and 1.1Mnbd in 2012 (the latter two numbers are based on BP data).

Of the projects slated for completion in 2021, China leads the way with 0.9Mnbd, followed by Kuwait 0.8Mnbd, Malaysia 0.3Mnbd and India 0.3Mnbd. There are a further 14 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.



If you have questions or comments, please contact Charles R. Weber Research.

John M Kulukundis at: jmk@crweber.com

www.crweber.com