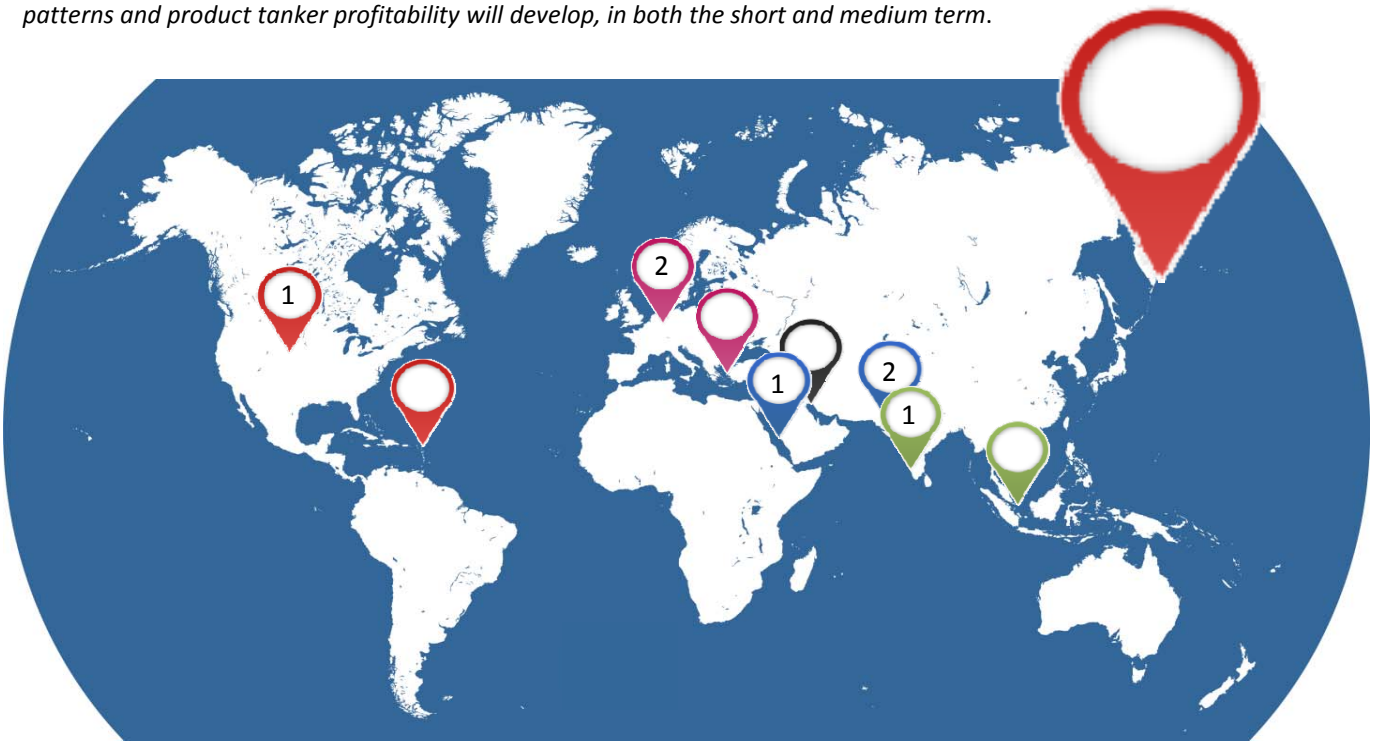
Weber Refinery Report

November 2018

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.



Saudi Arabia strengthens ties with Asian refineries - *Oct 2018* - Saudi Aramco is to acquire a 9% stake in the 400Kbd (20Mnta) Zhoushan Island mega-refinery in China's Zhejiang province. The deal will be completed by the end of next year.

The deal is part of a long-term Saudi strategy of investing in Asian refineries to lock in demand for its crude and secure market share in the region. The world's largest crude exporter has already signed a long-term contract to supply 120Kbd (6Mnta) to the facility.

Aramco is also helping to finance the $27.0 Bn RAPID complex in Malaysia, and agreed to build a plant in China's Liaoning region. Last year, it signed a $ 6.0 Bn agreement with Pertamina for refinery projects in Indonesia. The deal for the project in Liaoning will be completed by the end 2019.

Phase 1 of the Zhejiang refinery is expected to process 400Kbd (20Mnta) when completed. According to Rongsheng Petrochemical's General Manager Shou Bochun, the plant will start trial operations by the end of 2018. Phase 2 will see a doubling of capacity by 2020.

RAPID refinery receives first crude cargo - *Oct 2018* - In October, the new RAPID refinery and petrochemicals joint venture between Petronas and Saudi Aramco in southern Malaysia received its first crude cargo, marking its transition into the commissioning phase for start-up.

Tracking analysis reveals that an Aframax delivered a crude oil shipment to the new greenfield refinery on 19-21 October, having loaded at Al Jubail, Saudi Arabia 5 October. It is anticipated that start-up may commence by January 2019.

Tracking analysis also reveals that, despite its delayed start-up, the new 400Kbd (20Mnta) Hengli Petrochemical greenfield refinery, in northeastern Liaoning province, is continuing to import crude oil into storage, with the latest VLCC having discharged on 23 October.

Latest

If you have questions or comments, please contact Charles R. Weber Research.
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Preliminary agreement reached for St. Croix refinery restart - *Nov 2019* - Limetree Bay Refining has reached an agreement in principle with the supply and trading arm of an unidentified major international oil company to restart the idled 500Kbd (25Mnta) refinery on St Croix in the US Virgin Islands.

Restart operations at the complex are scheduled for commissioning by year end 2019 with an initial crude processing capacity of approx. 200Kbd (10Mnta).

Pacific Future Energy to build Nassiriya refinery - *Oct 2018* - Iraq's Oil Ministry has approved a preliminary agreement for Canada's Pacific Future Energy to build a 150Kbd (7.5Mnta) refinery in Nassiriya in southern Iraq.

STAR refinery officially opened - *Oct 2018* - The 200Kbd (10Mnta) SOCAR Turkey Aegean Refinery (STAR) in Izmir, Aliaga, Turkey has been officially opened, which will help to reduce the nation's dependence on imported products.

The refinery, integrated with Petkim's 3.6Mnta nearby petrochemical complex, will produce 4.8Mnta of low-sulphur diesel, 1.6Mnta of naphtha, 1.6Mnta of jet fuel, and 300Kta of LPG to meet 25% of Turkey's refined petroleum product needs.

IEA predicts increased refinery competition with new capacity - *Oct 2018* - The International Energy Agency (IEA) has predicted increased competition in the refining sector with the capacity additions of over 2Mnbd (100Mnta) between 4Q18 and end-2019. Our analysis supports this assessment, although delays and closures mean that we expect net refinery additions to be around 1.2-1.8Mnbd (60-90Mnta) next year.

The IEA expects refinery runs to grow by 1.3Mnbd (65Mnta) in 2019 against 1Mnbd (50Mnta) product demand growth. This year global refinery runs are set to grow by 900Kbd (45Mnta) according to the IEA.

As shown in our chart (page 3), new capacity will mostly come from new complex refineries in China, Saudi Arabia and Malaysia.

1 **Judge's ruling may remove roadblock for Davis refinery** - *Oct 2018* - A North Dakota judge has finalised his recent conclusion that state regulators don't have a say in the site of the 2.5Mnta (50Kbd) Davis refinery being developed near Theodore Roosevelt National Park, potentially clearing a major roadblock for the project.

1 **Saudi Aramco & SABIC select Yanbu as location for crude-to-chemicals complex** - *Nov 2018* - Saudi Aramco and Saudi Arabian Basic Industries (SABIC) have selected Yanbu in Saudi Arabia to build their fully integrated crude oil-to-chemicals (COTC) complex scheduled to start operations in 2025, which will process 400Kbd (20Mnta) of oil to produce about 9Mnta of chemicals and base oils.

Aramco and SABIC said they expect that, by 2030, the COTC complex will have +1.5% impact on the Kingdom's gross domestic product, with investments to be shared equally by both companies.

1 **Sulphur down by 50% in Baltic Sea** - *Nov 2018* - Sulphur in the air over Denmark has been reduced in the Baltic Sea emissions control area (ECA) by 50% from the start of 2015. Based on testing by the Danish authorities, it is estimated that compliance is running at 95%, with ECA ships required to use bunker fuel with 0.1% sulphur.

2 **Delayed coker commissioned at Antwerp refinery** - *Oct 2018* - ExxonMobil has commissioned a 50Kbd (2.5Mnta) delayed coker at its 320Kbd (16Mnta) Antwerp refinery in Belgium. This is part of a $2.0 Bn investment the company has made in the refinery over the last 10 years.

The delayed coker is designed to convert heavy, higher-sulphur residual oils into transportation fuels such as marine gas oil and diesel, and will expand the refinery's capacity to meet demand for cleaner transportation fuels throughout northwest Europe, and comply with International Maritime Organization lower-sulphur fuel oil standards scheduled to take effect in 2020.

ExxonMobil said the newly commissioned delayed coker is the first of several expansion projects designed to strengthen the competitiveness of its European business. A hydrocracker is currently being constructed at the 191Kbd (9.55Mnta) Rotterdam refinery. An expansion is also being considered for the 270Kbd (13.5Mnta) Fawley refinery near Southampton, UK.

1 **BPCL to shut unit at Kochi refinery for maintenance** - *Oct 2018* - Bharat Petroleum (BPCL) is to shut the 210Kbd (10.5Mnta) crude distillation unit and the secondary units that were installed last year at its 310Kbd (15.5Mnta) Kochi oil refinery for three weeks maintenance in December.

2 **Saudi to build oil refinery in Pakistan -** *Oct 2018* - Pakistan's federal cabinet has agreed to sign an MOU with Saudi Arabia for construction of an oil refinery near Gwadar Port.

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Notes: *Mnta = million tonnes per annum*

Latest continued...

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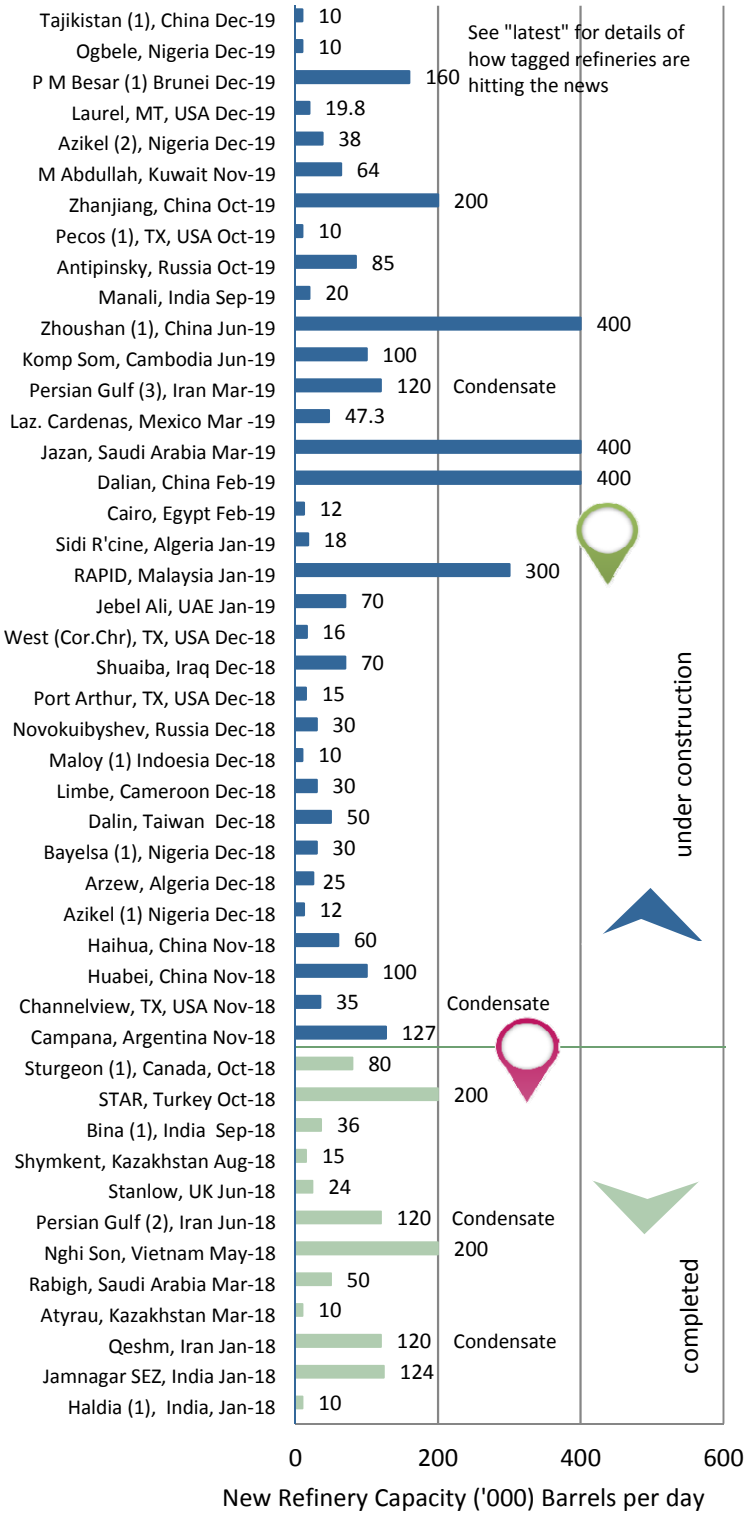
Timeline

Recent and Planned Refinery Additions



We estimate that net global refinery capacity increased by 0.75Mnbd in 2017. This built on increases of 0.8Mnbd in 2016, 1.1Mnbd in 2015, 0.9Mnbd in 2014, 1.4Mnbd in 2013 and 1.1Mnbd in 2012 (the latter two numbers are based on BP data).

In 2018, we anticipate net refinery capacity additions of around 0.8Mnbd. After 16 new refinery additions (each adding >=10Kbd) in 2014, 22 in 2015, 18 in 2016 and 18 in 2017, there are 26 potential projects scheduled for completion this year with a total capacity of 1.4Mnbd. However, many of these projects will be delayed beyond the end of the year, while confirmed closures are running at 300Kbd in 2018. We have 20 potential new refinery additions in 2019 with a total capacity of 2.4Mnbd.

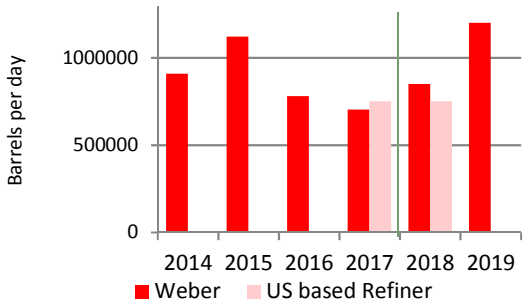
In 2014-15, closures accounted for more than 1Mnbd of capacity. The rate of closures declined to 0.7Mnbd in 2016 and 0.5Mnbd in 2017. Closures in 2018 will be concentrated in the Former Soviet Union and the Middle East.

New Chinese refinery additions coupled with the internationalisation of the independent "teapot" refinery sector helped to galvanise Chinese exports, which increased by more than 30% in 2016, and by 8.3% in 2017 - underpinned by gasoil/diesel exports. With two mega refineries schduled for completion in 2019, Chinese exports have the potential to perform strongly next year.

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 additons 2015-2018 with that provided by a large US based refiner. This comparative forecaster factors in project delays beyond those reported by the refiners themselves. The US refiner has an interest, of course, in taking a conservative view of new projects coming online and has pushed some projects out beyond 2018.

Net Refinery Additions

Confirmed/completed projects add/closures only



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