Weber Refinery Report

July 2017

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.

IOC, BPCL & HPCL sign agreement to set up Maharashtra refinery - *Jun 2017* - Indian Oil (IOC), Bharat Petroleum (BPCL) & Hindustan Petroleum (HPCL) have signed an agreement to jointly set up the world's largest refinery and petrochemical complex – a 1.2Mnbd (60Mta) plant at Babulwadi, Taluka Rajapur in Ratnagiri district of Maharashtra.

The refinery will include three 400Kbd crude units with completion scheduled for 2022. The refinery will produce fuel meeting Euro 6 emissions standards and will be able to process a wide range of light and heavy crude grades. IOC will be the lead partner with 50% stake, whilst HPCL and BPCL will each have a 25%.

Oil Minister Dharmendra Pradhan said domestic oil demand was likely to climb from 4.6Mnbd to 10Mnbd by 2040. He also expressed a desire that India should increase its refined product exports.

India has a refining capacity of approx. 4.7Mnbd. IOC has 11 refineries with a total capacity of 1.6Mnbd, BPCL has four refineries with a total capacity of 0.7Mnbd and HPCL has three refineries with a total capacity of 0.5Mnbd.

We estimate that India has confirmed and drawing board plans for 4.7Mnbd of additional refinery capacity, which includes 1.1Mnbd of confirmed brownfield refinery expansion. Some of these projects are discussed later in this report.

New unit at commissioned Yaroslavl refinery - *Jun 2017* - Slavneft-Yanos has started a new 100Kbd unit for production of group III base oils at its 300Kbd Yaroslavl refinery – Russia's fourth largest, designed to produce four types of high-tech base oils and enable the refinery to replace up to 40% of finished products currently imported into the domestic market.

Other projects to be executed at the refinery involve ongoing implementation of an environment project to build a hydrogen sulphide utilization unit as well as projects to improve operating efficiency, including conversion of process furnaces to run on natural gas as well as replacement of Atmospheric Vacuum Distillation Unit 4's furnace.

By year end 2017, Slavneft Yanos also plans to complete a feasibility study and select technology for a proposed oil residue refining plant at the refinery.

Latest

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Processing capacity of Belarusian oil refineries expected to reach 24Mta by 2020 - *Jun 2017* - According to Belarus Deputy Prime Minister Vladimir Semashko, following planned upgrades the Mozyl and Naftan oil refineries will be able to process 480Kbd of oil, up from its current 360Kbd.

Construction and assembly works at the Mozyl oil refinery are expected to be completed by the end of 2018, with the plant reaching design capacity in 1H19. The upgrade program at Naftan will be finished by November 2019, with operations to start at full capacity in late 2019/early 2020.

Indonesia interested in building refinery in Nigeria - *Jun 2017* - Indonesia's Intim Perkasa has expressed an interest in building a 10Kbd modular refinery in the southern Akwa Ibom state of Nigeria.

The project comes as part of the Nigerian federal government's initiative to expand the country's existing refining capacity through the use of modularly constructed refineries. NNPC and its greenfield refinery department would provide professional support to the proposed project in line with the government's policy on modular refinery construction.

Pakistan's Byco to Restart Crude Refinery 2 Years After Fire - *Jun 2017* - Byco Industries is set to become Pakistan's largest fuel producer when it restarts its 120Kbd Balochistan oil refinery next month that was shuttered almost two years ago following a fire. The Karachi-based company will boost output to approx. 85Kbd of refined products within three months.

Persian Gulf Star refinery output level progressively rising - *Jun 2017* - Close to 100MnL of gasoline has been produced in the Persian Gulf Star Refinery located in Bandar Abbas, Hormozgan Province, since its launch at the beginning of May, 21Mn of which has been sent to oil storage tanks in the city.

PGSR is designed to produce 12MnL/d of Euro-4 grade gasoline, 4.5MnL/d of Euro-4 diesel, 1MnL/d of kerosene and 0.3MnL/d of LPG in the first development phase. The refinery's output level is rising progressively and its isomerization unit will go on stream next week.

NIORDC MD Abbas Kazemi rejected claims about disruptions in the PGSR gasoline production, saying those who claim that all the processing units of a refinery should operate simultaneously have poor knowledge about how a refinery works. In the Star refinery, the launch of one plant, such as the isomerization unit, requires functioning of other facilities.

BPCL to raise Bina refinery capacity to 310Kbd in 4-5 years - *Jun 2017* - Bharat Petroleum (BPCL) aims to expand the capacity of its Bina refinery in central India from 120Kbd to approx. 310Kbd by 2021.

Venezuela & China advance plans for Nanhai refinery - *Jun 2017* - PDVSA and CNPC have formed a joint venture, Petrochina-PDVSA Guandong Petrochemical and entered a series of agreements related to the development and operation of the long-planned 400Kbd Nanhai refinery in Jieyang, Guandong Province, China. The new refinery is scheduled to open in towards the end of 2020.

TCG seeks land for new Haldia refinery - *Jul 2017* - The Chatterjee Group (TCG) has submitted a proposal to the Bengal government to set up a new refinery in Haldia and is seeking suitable land near the port for the mega project. TCG has yet to confirm the proposed capacity, which may either be 300Kbd or 600Kbd.

Finance Minister Amit Mitra said, "The TCG group has given a proposal to set up a refinery in Bengal. HPL and Mitsubishi Chemical are already operational in the state. The government is taking a holistic view, including the benefits for downstream industries."

Takreer lets contract for Ruwais refinery repairs - *Jun 2017* - Abu Dhabi Oil Refinery (Takreer) has awarded a contract to GS Engineering & Construction (GSEC) to repair damages caused by a fire in January at the 417Kbd West plant of its 800Kbd Ruwais refining complex in the UAE.

As part of the USD865Mn contract, GSEC will deliver engineering, procurement, and construction services for restoration and repair of units at the West plant and will take 18 months to complete. Details regarding when rehabilitation works will begin were not disclosed.

HMEL lets contract for Bathinda refinery - *Jun 2017* - HPCL-Mittal Energy (HMEL) has awarded a contract to Haldor Topsoe for a project designed to expand production of Bharat Stage (BS) 6-grade fuels (equivalent to Euro 6-quality fuels) at HMEL's 180Kbd Bathinda (Guru Gobind Singh) refinery.

Dangote awards hydrogen production contract for Lekki refinery - *Jun 2017* - Dangote Oil Refining has awarded a contract to provide hydrogen production technology for its 650Kbd grassroots integrated refining complex now under construction in Lekki Free Trade Zone, southwest Nigeria, which is on scedule to be completed during 4Q19.

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Notes: *Mta = million tonnes per annum*

Latest continued...

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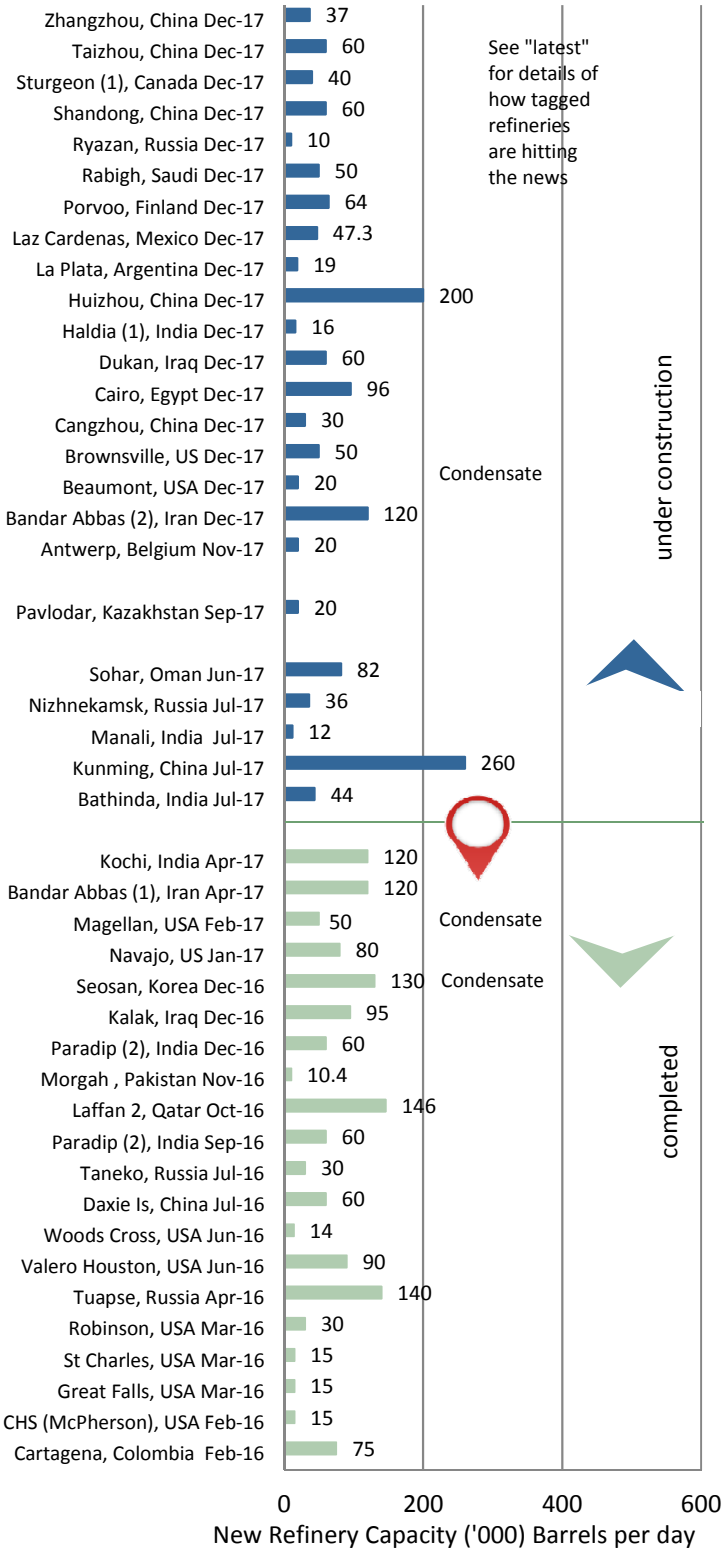
Timeline

Recent and Planned Refinery Additions



We estimate that net global refinery capacity increased by 0.8Mnbd in 2016. This built on increases of 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 2017, we anticipate net refinery capacity additions of just under 1Mnbd. After 17 new refinery additions (each adding >=10Kbd) in 2014, 23 in 2015, and 15 in 2016, we expect approx 31 (often small) projects to complete in 2017. However, it should be noted that a number of projects were pushed back in 2016, in part due to weak oil prices, and the project completion rate this year will be similarly dependent on oil prices continuing to at least sustaining plus USD50Bbl.

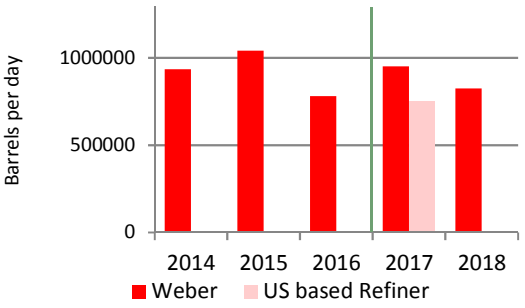
In 2014-15, closures accounted for more than 1Mnbd of capacity. The rate of closures declined to 0.7Mnbd in 2016, and we expect a similar rate this year with closures scheduled in the Middle East and Asia.

New Chinese refinery additions coupled with the internationalisation of the independent "teapot" refinery sector helped to galvanise Chinese exports in 2016, which are estimated to have expanded by 26% last year - underpinned by gasoil/diesel exports.

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 2017.

Net Refinery Additions

Confirmed/completed projects add/closures only



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