Weber Refinery Report

December 2016

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.

Shale revival underway as OPEC confirms agreement to cut production - *Dec 2016* - OPEC's agreement to limit production to 32.5Mnbd (from current levels of 33.64Mnbd) for 6 months starting from 1 January 2017 signalled a tentative end to the battle for market share and the start of a new era of oil price management - the success of which will be dependent in part on member compliance.

This change in strategy has been forced on OPEC in part by the resilience of non-OPEC producers like the US and Russia, which meant that oil prices were likely to remain trapped below USD50Bbl unless someone blinked. While Russia has agreed to cut production by 300Kbd as part of the OPEC deal, US shale producers have been gradually rebuilding production levels, and are likely to continue to do so.

With oil prices stable in the USD40-50Bbl price band, US rig operators have consistently increased the number of active rigs since the start of the year, and by October this had translated into rising production - up 250Kbd since early October.

The bounce in the US oil sector was further evinced by Raven Petroluem's decision to invest USD500Mn into South Texas to create the largest new refinery in the US in almost 40 years. The project is slated to begin by 3Q17 and construction could be completed by the end of 2018. The facility will be able to process up to 50Kbd of Eagle Ford shale light crude oil, and will have up to 4MnBbls of available storage.

Laffan Refinery 2 commenced operations - *Nov 2016* - Qatar Petroleum's Laffan Refinery 2 started operations in October. It has the capacity to process 146Kbd of condensate. It is thought this could partially offset supplies in the Middle East that have been curtailed by the scheduled shutdowns at Saudi Arabia's Yasref and Ras Tanura refineries in November and December.

Indonesia allows private investors to build oil refineries - *Nov 2016* - The Indonesian government will now allow private investors to develop oil refineries in Indonesia, ending Pertamina's (virtual) monopoly. Prior to this new regulation, private companies had to cooperate with Pertamina to build oil refineries.

The new policy is an effort to boost domestic oil refinery capacity in Indonesia, thereby reducing the need for refined fuel imports, and improve the investment climate by opening this industry to the private sector.

Indonesia's fuel demand may rise by an average annual rate of 2.7% to 2.28Mnbd in 2025. Last year, Indonesia imported around half of the 1.6MnBbls of fuel it consumed daily.

Latest

If you have questions or comments, please contact Charles R Weber Research.
John M Kulukundis & **George P Los** at: research@crweber.com
www.crweber.com

Commercial operation of Sohar Refinery Improvement Project expected in 2Q17 - *Nov 2016* - Commercial operations of Oman Oil Refineries and Petroleum Industries' (Orpic) Sohar Refinery Improvement Project are expected by the early part of the 2Q17, with the expanded capacity (82Kbd) stabilised for sustained operations by the end of the same quarter.

CEO Christiaan van der Wouden said, "Construction activities are in the advanced stage of completion for major units and likely to be completed by end of 2016. Commissioning activities have already been started for utilities facilities."

Indian Oil plans expansion of Nagapattinam & Panipat refineries - *Nov 2016* - An Indian Oil (IOC) unit plans to raise the capacity of its smallest refinery, Nagapattinam, co-owned by Iran to 300Kbd, to help meet a surge in demand for refined products.

The plant operated by IOC's subsidiary Chennai Petroleum requires a complete overhaul to produce the cleaner, higher grade fuels needed to meet rising demand in southern India. Initially capacity will be raised to 120-180bd and in the next phase to 300Kbd.

Nagapattinam site has extra land available that makes expansion easier to accommodate than at CPCL's larger 210Kbd Manali refinery.

IOC is also considering raising the capacity of its Panipat refinery in northern India to 500Kbd from the initially planned 400Kbd.

Curacao refinery to change leaseholder from PDVSA to Chinese firm - *Nov 2016* - Curacao may prematurely revoke Venezuelan state-owned PDVSA's lease to operate the 325Kbd Isla (Emmastad) refinery in favour of China's Guangdong Zhenrong Energy (GZE) that is pledging to upgrade the century-old facility - currently operating at 50% capacity.

An agreement was signed on 19 November with GZE that would transfer operational control of the refinery, before PDVSA's current lease expires at the end of 2019, if PDVSA's current financial and operational difficulties disrupt the refinery's operations.

As part of the agreement GZE must submit written financial guarantees by 17 December 2016 that it can fund a planned USD5.5Bn upgrade of the refinery. A complete first draft of GZE's technical upgrade plans for Isla and the Bullen Bay terminal is due in April 2017. GZE's plans would include an associated LNG terminal.

Pemex plans crude processing ramp-up by year-end - *Nov 2016* - Mexico's state oil company Pemex plans to ramp up crude processing to 920-960Kbd by the end of the year (and 1.1Mnbd by Mar/Apr), after refining hit the lowest levels in at least five years in September following a series of plant stoppages.

According to Carlos Murrieta, director general of Pemex's industrial transformation subsidiary, the company would spend approx. USD120Mn by year-end on maintenance at 24 units halted at its six domestic refineries.

Genoil to invest USD50Bn in Russian projects - *Nov 2016* - Genoil has signed a letter of intent worth USD50Bn with Grozneft in a deal that will support integrated oil projects in Russia. Genoil will develop oil fields and build clean technology upgraders, refineries and pipelines.

At first, Genoil plans to invest USD15Bn into projects in the southern republic of Chechnya developing reservoirs to create a 3-6Mta refinery, and also will explore ways to link the new project to existing pipeline networks in the region. Russia's Economic Development Ministry hasn't reportedly received any documents concerning the deal. The project has raised doubts among the experts.

This latest proposal for a refinery in Chechnya follows a series of delayed attempts to build a refinery in the region after the destruction of the 389.6Kbd Grozny refinery. In 2013, Rosneft launched a tender inviting bids for construction of a 1 Mta refinery in Chechnya, which was to be built and in operation by 2018.

Sonatrach awards CPECC USD410Mn refinery deal - *Nov 2016* - Sonatrach has awarded China Petroleum Engineering Construction (CPECC) a USD410Mn deal to modernise the Sidi R'cine refinery in Bakari, near the capital Algiers, in Algeria. Work will take 21 months.

Algeria has announced modernisation work at its refineries and plans to build five more with the goal of increasing output by 50% in five years. It currently produces 30Mta of oil refined products.

ADNOC increasing petrochemical & oil-flow capacities - *Nov 2016* - Abu Dhabi National Oil (ADNOC) plans to increase its petrochemical-production capacity from its current 4.5Mta to 11.5Mta in 2025, whilst expanding its capacity to produce crude oil by 400Kbd to 3.5Mnbd by 2018. This is part of a new Abu Dhabi strategy for 2030 and 5-year business plan.

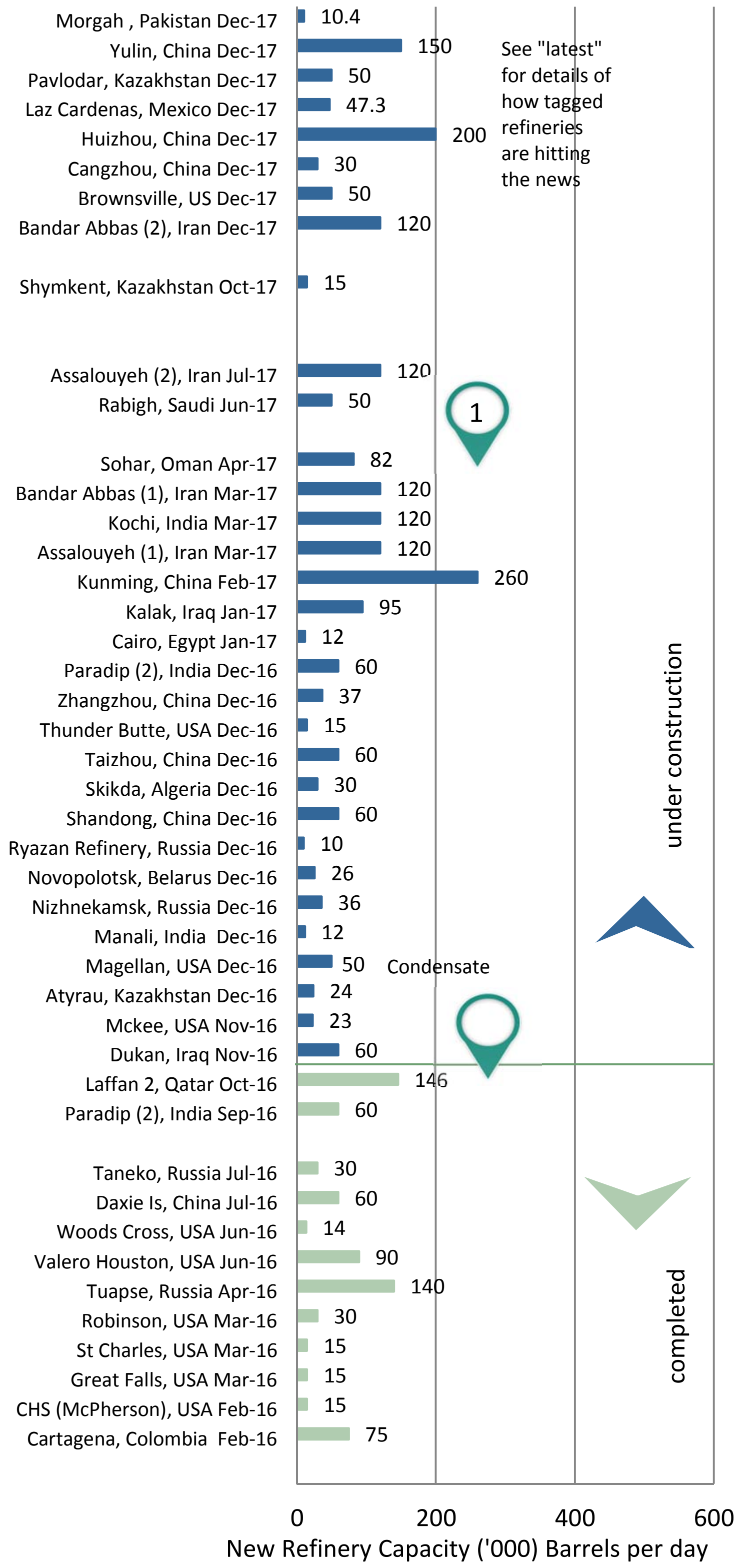
Notes: *Mta = million tonnes per annum*

If you have questions or comments, please contact Charles R Weber Research.
John M Kulukundis & **George P Los** at: research@crweber.com
www.crweber.com

Latest
continued...

Timeline

Recent and Planned Refinery Additions



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

In 2016 and 2017, we anticipate net refinery capacity additions of 0.75Mnbd and 1.3Mnbd respectively. After 17 new refinery additions (each adding >=10Kbd) in 2014 and 23 in 2015, we expect approx 30 (often small) projects to complete in 2016. Projects coming on stream were conceived during a higher oil price era, and we have seen a number of projects pushed back to the end of the year. It may be that some of the projects are pushed further back in to 2017.

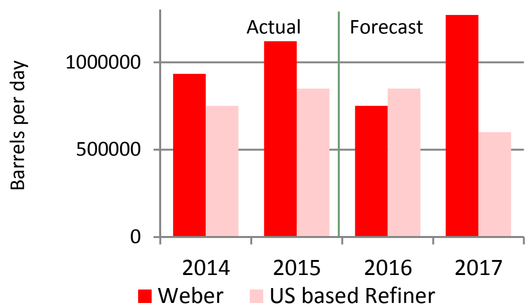
In 2014-15, closures accounted for more than 1Mnbd of capacity, and 0.7Mnbd per annum has been mooted for closure in 2016 and 2017 - spread between China, France, Gabon, Ireland, Japan, Kuwait, South Korea, Taiwan and UK.

It will be interesting to see if the new Chinese refinery capacity will succeed in backing out non-Asian imports into Asia, especially now that Chinese "teapot" refineries have started to export. As of 3Q16 Ytd, Chinese product exports were up 39% with 3Q16 exports (12.6Mntonnes) - the highest level on record.

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 2015-2017 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



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

John M Kulukundis & **George P Los** at: research@crweber.com
www.crweber.com