## Weber Refinery Report



November 2015

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.



PBF Energy finalises deal for Chalmette refinery - Nov 2015 - PBF Energy has completed its deal with ExxonMobil and PDVSA to become 100% owner of Chalmette Refining, the former ExxonMobil-PDVSA joint venture that operates the 189Kbd Chalmette refinery outside New Orleans.

PBF said it plans to operate the refinery at a total throughput of 170-190Kbd during 4Q15 using primarily medium to heavy-sour crudes.

Valued at USD322Mn plus working capital, the deal was finalised as of 2 November, and includes the dual-train coking refinery, which can process both light and heavy crudes, as well as related logistics assets.

The company is also in the process of acquiring ExxonMobil's 155Kbd Torrance refinery in California, completion due in 2Q16 and with the Chalmette refinery will boost its total throughput capacity to approx. 900Kbd, making it North America's fourth largest independent refiner.

Nigeria to build 30 private refineries close to the state-run units - Oct 2015 - According to the Vice President, Yemi Osinbajo, Nigeria has granted 30 construction licences to private refineries in order to cut the country's dependence on imports. The private refineries will be built near the state-run units to enable them to benefit from the available infrastructure

If you have questions or comments, please contact Charles R Weber Research John M Kulukundis: <a href="mailto:jmk@crweber.com">jmk@crweber.com</a>, George P Los: <a href="mailto:gpl@crweber.com">gpl@crweber.com</a>

Enbridge to Invest USD5Bn in Gulf Coast Oil
Terminals- Oct 2015 - Enbridge plans to spend
USD5Bn building three oil storage facilities in the Gulf of
Mexico region as part of a "full frontal assault" aimed at
fortifying Canada's strategic position in the US market.

Enbridge's Gulf Coast plan calls for three terminals stretching from Houston toward New Orleans at St. James Parish. Each could have crude storage tanks, ship docks, pipelines and other infrastructure to allow for both the import and export of US and Canadian crude, as well as processed condensate and refined products.

The plans are still in early stages, but the facilities are expected to be rolled out in phases over the coming years.

Marathon cancels Garyville refinery upgrade - Oct 2015 - Marathon Petroleum has cancelled a major USD2.2-2.5Bn residual oil upgrade expansion project of its 522Kbd Garyville refinery in Louisiana, citing market conditions.

Latest

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Atyrau refinery to start operating at design capacity soon - Oct 2015 - The new complex for production of aromatic hydrocarbons at Kazakhstan's Atyrau refinery, constructed as part of the modernisation project, is expected to start operating at design capacity by late 2015.

Paradip refinery DHDT unit inaugurated - Oct 2015 - Paradip refinery's diesel hydrotreater (DHDT) unit, designed to process 5.2Mta of blended gas oil to produce ultra-low sulphur finished diesel having 10ppm sulphur (max), has been inaugurated by Indian Oil Chairman B Ashok, in a step towards commissioning.

With highest overall Nelson Complexity Factor, Paradip Refinery is designed to produce clean and environmental friendly next generation Euro-IV and Euro-V fuels. Last month, the first major secondary processing unit of the refinery, the delayed coker unit (DCU) was commissioned.

China fuel surplus to double by 2020 as refining sector opens - Oct 2015 - According to an industry research paper, surplus production of diesel, gasoline and kerosene in China will double to nearly 30Mta by 2020 from last year's level, boosted by increasing output from independent refiners.

Smaller independently operated refineries – 'teapots', mostly in the eastern province of Shandong, are set to churn out more and higher-grade oil products after Beijing allowed them to import crude for the first time to encourage competition and boost private investment.

CNPC Economics and Technology Research Institute said, "With improved feedstock, they'll be able to produce higher quality fuel ... Teapots will become more competitive in the Chinese fuel market."



The teapots are used to produce diesel and gasoline by processing imported fuel oil from places such as Russia or Venezuela, a feedstock heavier and generally of poorer quality than crude oil. They could win quotas to import a total of 1.6Mnbd of crude oil.

China's refining industry has long been dominated by state companies of poper Corp and PetroChina, which have only until recently started scaling down expansion after nearly two decades of building frenzy. The growing fuel surplus will see independents queuing up to apply for permits to export as early as next year, industry experts said. Currently, only a handful of state refiners are licensed oil exporters.

S African deputy president to visit Iran over planned refinery - Oct 2015 - South Africa's deputy president is to visit Iran to explore opportunities for co-operation in the energy sector with a view to attracting investment into a refinery Pretoria is planning to build, to process Iranian crude to bolster its petrol supply and reduce dependence on foreign companies.

The need for a new refinery in South Africa has been questioned. According to Shash Rabbipal, the new chairman at the local unit of Chevron, "Should another refinery be built, it would mean that the country (already amply supplied) would have to increase its exports of products and this would mean a change from the current practice of ensuring that supply catered mainly for local demand."

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2 CNPC in talks to build 10Mta Pakistan oil refinery Oct 2015 - Pakistan's Minister for Petroleum Shahid
Abbasi said the country is negotiating with China
National Petroleum (CNPC) on constructing a 10Mta refinery
that would slash its oil products import bill by up to two-thirds.

He said he hoped the final details of the deal would be agreed within three or four months. The USD3-5Bn refinery could be built in modular stages, with the first phase capable of refining 3Mta (60Kbd).

New Zealand refinery awards service contract for Marsden Point refinery - Oct 2015 - New Zealand Refining (NZRC) has awarded a 5-year contract to Honeywell Process Solutions (HPS), to maintain and modernise control systems as part of a long-term program designed to improve operations and support technology innovation at NZRC's 107Kbd Marsden Point refinery at Northland, north of Auckland.

ExxonMobil plans Rotterdam hydrocracker expansion - Oct 2015 - ExxonMobil is progressing plans to increase its 191Kbd Rotterdam refinery's ability to upgrade heavier by-products into high-quality lubricating oils, greases and ultralow-sulphur diesel.

Ecopetrol advances Cartagena refinery expansion - Oct 2015 - Ecopetrol has commenced commissioning at its expanded Cartagena refinery. The first hydrocarbons were introduced for processing on 21 October. The plant is expected to be fully operational during 2Q16. The upgraded crude unit will double the refinerie capacity to 165Kbd, and allow for the processing of low-cost heavy crudes to produce a slate of high-quality products.

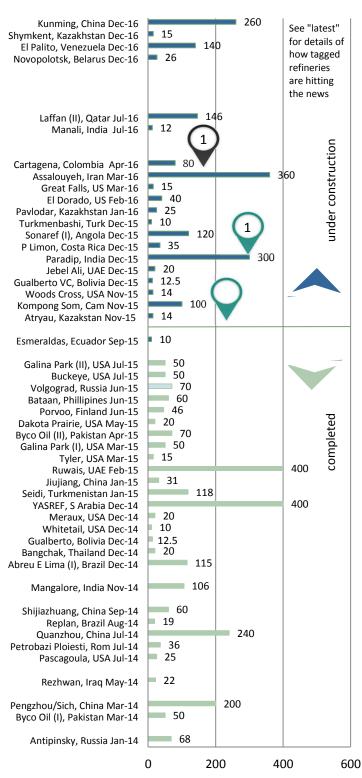
Gdansk refinery revamp progressing - Oct 2015 - Grupa Lotos, Poland's second-largest refiner, has awarded a contract for engineering, procurement and construction of a hydrowax vacuum distillation unit as part of a revamp project of its 10.5Mta Gdansk refinery.

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## **Timeline**

## Recent and Planned Refinery Additions



New Refinery Capacity ('000) Barrels per day

We estimate that net global refinery capacity increased by 0.4Mnbd in 2014 (revised down from 0.8Mnbd in May, as we pushed the new 400Kbd Ruwais refinery opening back from 2014 to 2015), This built on increases of 1.4Mnbd and 1.1Mnbd in 2013 and 2012 respectively (the latter two numbers are based on BP data).

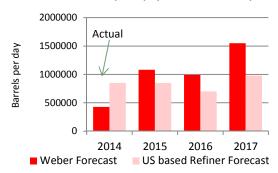
In 2015 and 2016 we anticipate net refinery capacity additions of 1.1Mnbd and 1Mnbd respectively. After 16 new refinery additions (each adding >=10Kbd) in 2014 and 22 sceduled for 2015, 2016 is starting to look increasingly congested with a potential 28 projects. However, we expect delays and cancellations to expansion projects, which may alter the picture significantly.

In 2014, closures accounted for 1Mnbd of capacity, and 1Mnbd has already been confirmed for closure in 2015-16. A further 0.7Mnbd of capacity - spread between Japan, FSU and China - is also thought to be under threat of closure over the next two years.

The Middle East along with the US are key drivers of changing product trade routes in 2015. It will be interesting to see if the new Chinese refinery capacity will succeed in backing out non-Asian imports into Asia, which have been on the rise in the last few years. As of 1H15, North East Asia has seen strong product import growth, with regional exporters holding onto market share in the face of strong competition from the Middle East.

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 2015-2017 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



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