OVERVIEW

Low price environment looks set to continue

Plentiful supplies provided the basis to low oil product prices in 2015, boosting demand for gasoline. But a growing global middle distillates surplus could end the run of strong refining margins, reports *James Burgess*, Editor, European Products, Argus Media.

The downturn in oil prices since late 2014 dramatically shifted oil product market dynamics in 2015, with the scale of gasoline demand growth taking many by surprise. Weaker retail prices spurred demand growth, especially for gasoline, while slowing economic growth weighed on diesel demand just as large amounts of new diesel production were coming onstream. Gasoline demand is expected to remain firm in 2016, but companies are eyeing building global middle distillates warily, expecting high stocks and slower demand to undermine refining margins. The refining boom from strong gasoline demand and persistently weak crude feedstock prices should provide short-term support for the industry, particularly propping up European refiners that have benefitted from the unexpected boost this year.

While plentiful US shale oil – rich in low-octane light naphtha content – has made the US almost self-sufficient in its gasoline requirements, unexpectedly firm demand left the country short of high-octane blending components during the peak summer driving season in 2015. US gasoline consumption will average 9.1mn b/d for the full year in 2015 according to the US Energy Information Administration (EIA), up by 2.1% on 2014 levels. The demand spike in 2015 falls just short of 2007's highs of 9.3mn b/d, as increased vehicle fuel efficiency eats into consumption. Improving fuel economy makes it unlikely the US will hit that mark again, the EIA said in its November 2015 *Short-term energy outlook*. The EIA forecasts broadly flat gasoline demand growth in 2016, with some limited growth in middle distillate demand. US refiners have announced 300,000 b/d of capacity expansions for 2016, mostly in the second half, so throughputs are likely to rise.

With increased US refining capacity and the benefit of the lessons learnt from 2015, the market is unlikely to see similar gasoline margin spikes repeated in 2016. Trading firms, blenders and refiners will be better prepared to meet the higher demand, and the series of refinery problems taking units out of action in the US that accentuated the shortfall is unlikely to be repeated. Another summer of high US gasoline demand combined with lower domestic crude production could provide an outlet for light sweet West African crudes in the year ahead. Gasoline demand is also growing strongly in India and China. Chinese gasoline apparent demand – production minus net exports – was up by 13% in 2015, bolstered by lower prices. But wage growth in the country, which appears to play a larger role than retail pricing in gasoline demand, is stalling, rising by around 8% in 2015 compared with 12% in 2012.

Gasoline demand is coming to the fore just as global refining gears itself towards increased diesel output. The abundance of medium and heavy sour crude grades as Middle East Gulf and Russian producers battle for market share is turning the global refining slate heavier and sourer, especially in the Atlantic Basin, increasing middle distillates output and curtailing production of lighter products such as naphtha and gasoline. The trend is expected to continue into 2016, especially when Iran returns to the international market as and when sanctions are lifted.

The increase in gasoline demand and lower crude prices could support margins for refiners in the medium term. But increased competition from large, export oriented plants in the Middle East and elsewhere will become a problem for European refiners again by 2018, according to Swiss bank UBS. Operational and energy costs in the Middle East Gulf are far more favourable than in Europe.

Diesel demand in Europe – a net importer – has also risen sharply. Demand in the top five European consuming nations rose by 3.5% year-on-year in the period January–August to 3.6mn b/d. European middle distillates output in October 2015 – the latest month for which data is available – stood at 5.8mn b/d, 275,000 b/d higher than a year before.

Hot topic

The simmering debate about whether European domestic consumers should consider shifting away from diesel-aspirated cars to gasoline ones acquired fresh focus from the Volkswagen emissions scandal. The German manufacturer, which owns a quarter of the European car market, was caught red-handed cheating on emission tests for its diesel cars. Consumer groups had already been advocating a switch to gasoline-driven cars for domestic users, and the scandal will accelerate the process. This could cut diesel demand in Europe in the medium term, and aid European refiners that are long gasoline and short diesel.

High run rates and persistent imports from Russia, the US, the Middle East and India are now outpacing demand. New refining capacity at Jubail and Yanbu in Saudi Arabia and Ruwais in the UAE totalling over 1.2mn b/d has come onstream since 2013. These plants are large diesel producers, with much of their output geared towards exports. And much of the refinery upgrade work in Europe in recent years has been focused on hydrocracking units to boost diesel output, to meet the structural regional short fall in production. On top of this, high output from US refineries and increased diesel production from Russia is flooding the Atlantic Basin diesel market,

Refinery	Country	Operator	New capacity (in, 000 b/d)	Start-up Actual / likely	Start-up Previous
Jubail	Saudi Arabia	Satorp (Aramco-Total)	400	Dec 13	
Yanbu	Saudi Arabia	Yasref (Aramco-Sinopec)	400	Sep 14	
Ruwals 2	UAE	Adnoc	417	Feb 15	
Ras Laffan 2	Qatar	Qatargas	146*	2H16	2H16
Sohar	Oman	Orpic	84†	1H17	2016
Jizan	Saudi Arabia	Aramco	400	2018-19	2016
Fujaira	UAE	Ipic	200	2019-20	2016
Sitra	Bahrain	Bapco	88	2019-20	2018
Al Zour	Kuwait	KPC	615	2020	2019
Duqm	Oman	Ipic/OOC	230	2020+	2019
Total new capacity			2,980		

*condensate splitter †expansion to 200,000 b/d

Table 1: Middle East Gulf refining projects
Source: Argus Media

dramatically increasing diesel and jet fuel stocks in the Atlantic Basin.

Particularly low water levels on the Rhine have further added to the Amsterdam, Rotterdam and Antwerp (ARA) middle distillate stock build, limiting product movement inland. Storage has become particularly tight for jet fuel, backing product out into effective storage as tankers await available tank space to discharge. Pipeline space is at capacity, as companies seek alternative routes to ship product inland, and suppliers diverted railcars to the Rhine route. Barge freight rates up to six times higher than usual and tight supplies pushed German inland diesel prices south of Kaub to large premiums to ARA and seaborne import destinations such as Hamburg.

Market participants say it may take several months for the German downstream fuel and heating oil market to return to normal. The Rhine looked set to reach normal levels again in early December, helping to ease the coastal supply glut, but it will take well into 2016 for depots to be replenished. A mild start to the 2015–2016 winter, as *Petroleum Review* went to press, will help mitigate tight supply of heating oil, and fundamentals elsewhere appear weak, with long-range weather forecasts pointing to above average temperatures in the US north-east where stocks remain high.

Marine emissions controls

Around 240,000 b/d of global marine fuels demand shifted from low-sulphur fuel oil to middle distillates from the start of the year, according to IEA estimates, as tighter sulphur emissions limits in Emission Control Areas in northern Europe and North America came into effect (for more on this, see *Petroleum Review's Future Refining & Bulk Storage* supplement, to be published in February 2016). Refinery upgrades and the heavier crude slate mean residual fuel oil is becoming denser and more viscous. Increasingly, global shipping firms are opting to burn this cheaper product in modern container ships and tankers with more sophisticated engines. The next deadline on the horizon is the 2020 global marine fuels sulphur emissions cap of 0.5%, subject to a review of fuel availability by the International Maritime Organisation (IMO). The study will be presented to the IMO in October 2016, with a decision expected in 2017.

Russian refinery upgrades have added to 10 ppm sulphur diesel supplies in the Atlantic Basin. Most major upgrades have been completed, although several smaller plants continue to add hydrocracking and desulphurisation capacity to meet European diesel specifications, while diesel pipeline infrastructure continues to expand. But further investment in refinery upgrading capacity has been put into question by the crude price collapse and weaker Russian economy.

China's middle distillates exports are increasing, pressuring Asia-Pacific prices and sending cargoes from the region. Chinese diesel net exports were over 220,000 b/d in October 2015, and 275,000 b/d in September, significantly above the January–August average of 90,000 b/d.

Refinery project delays in other regions are still providing opportunities for European refiners, with opportunities in West Africa and south-east Asia, where less onerous specifications make it easier to blend for sulphur and benzene content. Chronic operational problems at Nigerian

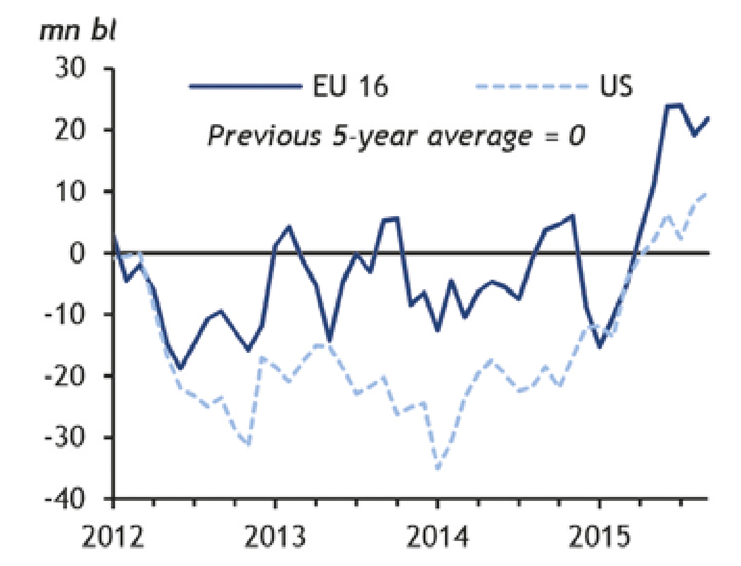

Figure 1: Middle distillate stocks versus five-year average
Source: Argus Media

refineries are unlikely to be resolved soon, providing a sink for surplus European gasoline production.

European and US refiners see Latin America as another potential outlet. European refiners already ship gasoline to Mexico and some naphtha and gasoil to Brazil and Argentina. But Europe faces increasing competition from the US. US gasoline exports rose by 60,000 b/d in 1H2015, largely to Mexico. State-owned oil companies own 97% of the refining capacity in Latin America. Meanwhile, 70% of the region's capacity is concentrated in Brazil, Mexico and Venezuela. Lower crude prices have dramatically hurt the balance sheets of crude-producing countries in the region, and budget restrictions mean that many refinery investment projects are on hold or have been delayed. Petrobras' 115,000 b/d Abreu e Lima refinery in Brazil will cost around nine times its initial budget and has been delayed by over three years.

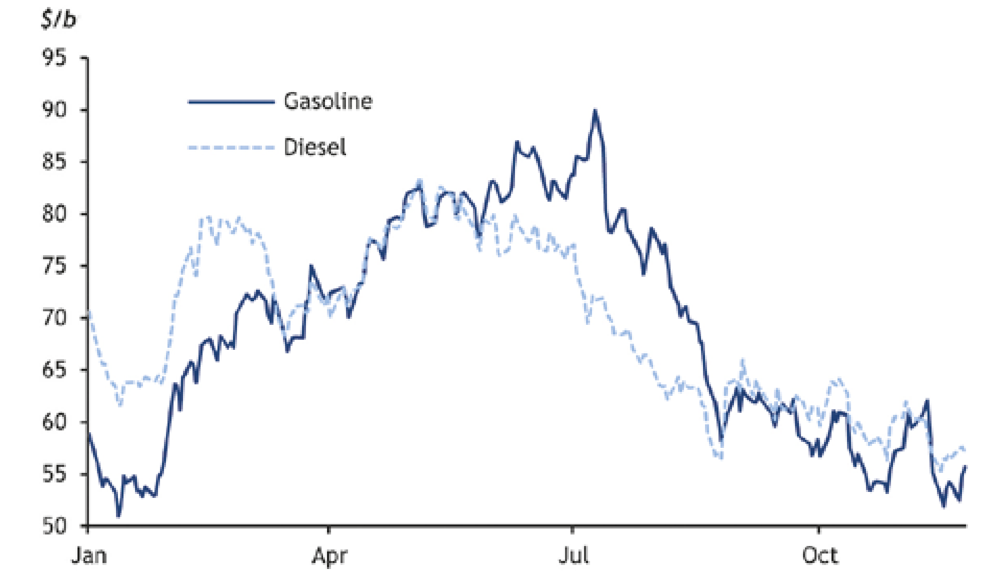

Figure 2: North-west Europe barge prices in 2015

Source: Argus Media

A sour world

Oil supplies are expected to remain high throughout 2016, with the global surplus forecast to run at 2.3mn b/d in 2015, remaining high at 2.1mn b/d in 1Q2016 and falling to 0.9mn b/d for the full year in 2016. High crude stocks have kept prices low throughout 2015, and that trend looks set to continue – barring a dramatic shift in global oil balances. The heavier, sourer global crude mix should add to the diesel surplus, unless demand – driven primarily by economic activity – picks up substantially.

Consumers are adjusting to the 'lower for longer' price environment that has become the mantra of oil executives. But concerns over the strength of the demand response are starting to grow, and high stock levels will take months, if not longer, to run down. ●