Middle East – A New Refined Oil Pricing Hub Takes Shape

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Rising energy consumption coupled with massive investments in oil refining and storage infrastructure in the past decade have transformed the Middle East into a dynamic market for refined oil products trading.

Liquidity in the market has surged in recent years with the region's large national oil companies becoming active traders of refined oil products while new opportunities are drawing in international oil companies.

The growth in refining capacity has turned the Middle East into a major exporter of products such as gasoil and jet fuel, changing the region's traditional trading relations with Asia and Europe. And rising local demand is boosting intra-regional trade – the International Energy Agency projects Middle Eastern oil demand will grow by 1.23 million b/d from the 2016 level to 9.69 million b/d by 2022.

The region's growing prominence in the global trade of refined oil products has brought greater focus to the subject of pricing Middle East refined oil barrels, with many in the industry advocating independently assessed price benchmarks.

Historically, prices for refined fuel products in the Middle East have been measured in terms of their relative value to the predominant Asian trading hub, Singapore – primarily because of the lack of local spot market liquidity in the past.

Platts FOB Arab Gulf fuel price benchmarks, widely used in long-term contracts for supply to and from the Middle East and the wider Indian Ocean area, are freight netbacks that derive their values from Singapore for gasoline, jet fuel, diesel and fuel oil, and from Japan for naphtha. Some contracts in the region alternatively reference either Singapore or European price benchmarks directly.

The netback approach has served the region well by leveraging the liquidity and price information from the well-established trading hub of Singapore to provide a representative value for the Middle East.

Given the size of the Middle East's trade with East Asia, the netbacks remain relevant and important price references, and for some fuels they reflect the natural flow of barrels.

In many cases, though, fundamental shifts in the Middle East's demand-supply balances and seasonal factors have changed these trade flows.

The price of a barrel of gasoil or jet fuel produced in the Middle East is now a critical element in determining the arbitrage economics that drive trade between Europe, Asia and Africa.

And seasonal changes in the Middle East's demand or supply – something the netback values don't always fully capture – today have a large bearing on prices and trade flows for the region.

The region continues to see a summer premium for gasoil and fuel oil, for example, reflecting the use of those fuels in providing peak power generation during the hottest months. The spot differential for 180 CST fuel oil reached as high $17/mt in May of this year, well above the winter levels of below $10/mt.

Similarly, the impact of the increase in refining capacity has been visible in the steady fall of middle distillate spot values over the past three years. Jet fuel has fallen from premiums of close to $2/b seen in 2015 to as low as 20 cents/b and even discounts during 2017.

Independent price assessments of refined products in the Middle East have been on the industry's radar for many years now, but the right market dynamics have only begun to take shape relatively recently.
So what are the fundamental catalysts giving rise to this new pricing hub? And what underlies S&P Global Platts new FOB Fujairah independent price assessments launched in 2016?

**Changing supply-demand balances**
The Middle East has added more than 2 million b/d of refining capacity since 2005, an increase of nearly 30%. Further capacity is due to be commissioned by the end of this decade as oil-rich countries such as Saudi Arabia, Kuwait, Iran and the UAE raise downstream investment to meet future domestic demand and profit from adding value to their vast resources of raw material.

The increase in indigenous refining capacity has created pockets of surplus in a region that until recently was either balanced or relied on imports to meet its requirements.

The impact of surplus refining capacity has been most pronounced in the middle distillate balances, as most of the newly built refineries in the region are designed to maximize output of products such as gasoil and jet/kerosene to cater to lucrative export markets.

In 2010, all major Middle Eastern countries except for Kuwait were either balanced or net importers of gasoil. Today, the region as a whole is a large net exporter of gasoil with countries competing for markets in Europe and Africa. Saudi Arabia, Kuwait, the UAE and Qatar now all regularly export cargoes of gasoil and jet fuel into the Mediterranean and Northwest Europe, competing with American and Russian barrels, as well as south to East African markets, competing with India’s established exporters.

The region’s refiners are now among the biggest suppliers of gasoil to Europe in the summer, while some shift focus to Africa in the winter when European requirements become even more stringent.

Middle Eastern exports of jet fuel to Europe have also surged in recent years even as the region’s own demand has grown, with traffic rising at airports including Dubai, the world’s busiest airport for international travelers.

Countries like Iran and Qatar are expected to see gradual increases in net exports of jet going forward, while Saudi Arabia and Kuwait should see sharp rises. The UAE is expected to see only a marginal change in its balance towards 2030 compared to 2010 levels, partly due to the massive consumption at Dubai airport.

The emphasis on middle distillate output and the quality of locally available crude mean the Gulf refiners produce relatively low volumes of gasoline. This, coupled with strong local demand growth, has led to a tighter regional balance for gasoline.

As with most regional gasoline markets, the Middle East has a wide range of national specifications, creating a vibrant flow of components for blending and finished grades across Gulf countries. The region’s premium quality gasoline exporters compete with Asian and Western refiners for buyers within the region as well as Africa.

Over the past decade most large Middle Eastern countries have seen their net imports of gasoline decline because of refining capacity additions. Still, the regional supply-demand balance remains delicate, as was seen after a fire at the Kuwais refinery in early 2017, which turned the UAE into a major gasoline importer overnight.

By 2020, Saudi Arabia, Qatar and the UAE are slated to be the region’s largest net exporters of gasoline. Kuwait and Iran are also projected to become net exporters of the road fuel, but slightly later and only marginally in terms of volumes. Iraq will likely be the only large Gulf producer to remain a net importer of gasoline in 2030.

This shift will not mean the region becomes a large gasoline exporter overall, but it is likely to move into a modest surplus within a decade.

At the bottom of the barrel, residual fuel supplies in the Middle East face the same decline, and for the same reasons, as production elsewhere: new refineries typically
produce little or no fuel oil, while older plants are being upgraded to similar effect.

On the demand side, the region has seen strong growth from power generation and desalination, building on demand from a thriving marine fuel bunkering market centered at the port of Fujairah, where monthly volumes are estimated at about 1 million mt.

Outside of bunkering demand, the Middle East’s fuel oil market remains highly seasonal, with consumption peaking during summer, when countries such as Saudi Arabia burn fuel oil or high-sulfur gasoil for power generation.

Consequently, in contrast to the outlook for other products, most Gulf countries are expected to gradually become net importers of fuel oil. The UAE – home to the Fujairah bunkering hub – will likely remain the region’s largest net importer, while Iran will remain its largest net exporter.

Saudi Arabia and Iraq have already switched from being net exporters to net importers, a trend which will likely continue and intensify, especially for Iraq. Qatar and Kuwait are expected to see little change by 2030 compared to 2010 and will likely remain relatively small net exporters.

However, the global market for residual fuels faces strong headwinds going forward that could dramatically alter demand-supply balances and projections for the Middle East.

The International Maritime Organization has confirmed the implementation of a sulfur limit of 0.5% in marine fuel globally from 2020, down from the current 3.5%. The switch to lower-sulfur fuels is likely to cause sweeping changes in fuel oil markets across the world.

One likely result is an increase in blending of distillate fuels into the residual mix to create marine fuels that meet the new regulations. The Middle East, with its large surplus of distillates and heavy reliance on fuel oil for power generation, could gain in prominence as a result.

Challenges and opportunities for independent assessments

With the shift in product balances outlined above, the need for robust pricing is ever more important. Many counterparties in the region have historically relied on netback pricing for precisely this reason: it provides stability. A fundamental reason why netbacks have become such reliable benchmarks in the Middle East is the open and transparent methodology that underpins the base assessments from which they are derived.

Most benchmarks used in the Middle East today are freight netbacks of FOB Singapore prices assessed by S&P Global Platts using its Market on Close process. The MOC methodology allows for an orderly price discovery process that relies on firm and verifiable market information from named market participants.

The Platts MOC assessment methodology is publicly available and information used in assessments on any given day is published in a transparent manner, giving market participants an in-depth view of how the FOB Singapore values, as well as Middle East netbacks, are arrived at.

Given the industry’s familiarity with the MOC methodology and trust in the process, support has been growing for a similar approach to be used in assessing independent prices for the Middle East region. Until recently, however, various challenges have meant that progress has been slow.

One of the key challenges to the independent approach has been the nature of the Middle East market. In contrast to Singapore, the market in the Middle East is geographically more fragmented. While Singapore is home to both a large surplus refining capacity and massive storage infrastructure, in the Middle East these key assets are spread much further apart from each other.

Considering the dynamics in the Middle East, Platts has anchored its independent assessments in the region to the port of Fujairah, while also ensuring that the assessments capture trade and liquidity emerging from the broader Gulf region.
Why Fujairah?
The refining boom of recent years sharply raised the Middle East’s demand for infrastructure to store and blend refined oil products, and for a couple of key reasons, a large proportion of the independent commercial storage that has been built in the region over recent years has been in and around Fujairah.

Among those reasons are firstly that Fujairah, as the region’s largest bunkering hub, is a natural home for storage of fuel oil and other refined products.

Secondly, it is located close to, but safely outside, the Strait of Hormuz, a key chokepoint for commodity flows that is vulnerable to any regional conflagration. This makes it a strategic choice for many companies.

Fujairah is now home to more than 50 million barrels of refined fuel storage capacity. Nearby ports, including Jebel Ali and Sharjah in the UAE and Sohar in Oman, have also gained prominence owing to their sizable refining or storage capacities. Together, they create a logistical system that’s similar in many ways to the trading hub of Antwerp-Rotterdam-Amsterdam (ARA).

The emergence of Fujairah alongside nearby ports as a trading and storage hub helps to aggregate liquidity in the region, creating a reference point for the price discovery process. Next door, Dubai has become the Middle East’s key financial center, providing further impetus to the development of a trading hub.

However, it should be emphasized that trade in the region remains geographically broad, and Platts FOB Fujairah assessments reflect that range. Fujairah is the basis of the assessments, but not the totality. Loadings in Jebel Ali, or indeed Jubail further west, are also reflected in the assessments.

This is the same approach as for some European benchmarks, where a basis port provides a focus for the assessment but regional loadings and deliveries are also reflected, with adjustments for freight economics.

Going forward, dynamics in the storage market are set to shift further over the next few years. Already, the lifting of sanctions on Iran has squeezed the flow of Iranian fuel oil to the regional storage hubs including Fujairah. In addition, the upcoming shift in global marine fuel standards to 0.5% sulfur from 2020 is also expected to have a widespread impact on the industry.

Overall, the Middle East currently has 17.3 million barrels of commercial storage under construction, either new projects or expansions of existing facilities, almost all of it situated in the UAE, according to the International Energy Agency. These include 11 projects under way in Fujairah and Sharjah, with a combined capacity of 13.4 million barrels.

Elsewhere in the Gulf, the refining boom has created other new significant sources of physical product flows in countries such as Saudi Arabia and Kuwait.

Saudi Arabia has led the way with its refining capacity rising to nearly 3 million b/d after the commissioning of two 400,000 b/d refineries – SATORP on the Red Sea coast in Yanbu in 2014 and YASREF along the country’s Gulf coast in Jubail in 2015.

A third greenfield refinery, with a capacity of 400,000 b/d in the country’s southwestern province of Jazan, is due for commissioning in 2019. The country’s largest refinery, the 550,000 b/d Ras Tanura facility, is also poised to undergo an upgrade to produce cleaner fuels.
Saudi Arabia is now already the region’s largest exporter of fuels, as well as its largest importer.

Its gasoil exports have grown significantly since the commissioning of the SATORP and YASREF refineries, designed to maximize the yield of high-value middle distillate products.

The commissioning of new refineries has also brought an increase in Saudi Arabia’s own storage infrastructure. Total petroleum inventories in the country have grown by more than 22% since the beginning of this decade, almost all in the form of refined oil products, according to data from the Joint Organizations Data Initiative or JODI.

Other countries in the region are also building new refineries and upgrading or expanding old ones to meet regional demand and cater to the export market.

In Iran, the first phase of the Persian Gulf Star condensate refinery came online in 2017 and is expected to reach full capacity of 360,000 b/d by 2018. The refinery, located in Bandar Abbas, is expected to meet all of Iran’s domestic gasoline requirements and even allow for exports.

Tehran is also planning a greenfield at Kermanshah, the Anahita refinery, with a capacity of 150,000 b/d.

Kuwait is scheduled to bring online its massive 615,000 b/d Al Zour refinery in 2019, which will mainly produce light and middle distillates. The refinery will more than offset the loss of production from the country’s Shuaiba refinery, which was idled in April 2017.

The UAE, meanwhile, launched the expansion of the Ruwais refinery in 2015, which doubled its total capacity to 835,000 b/d.

Overall, refining capacity in the region is estimated to grow from 7.75 million b/d in 2015 to 9.84 million b/d by 2025, according to Platts Analytics forecasts.

While the key export refineries are spread across the region, the entire Gulf today is evolving as one large export hub for refined products with its own vibrant intra-regional trade dynamics.

Platts has created its assessment methodology in the Gulf to reflect the full range of infrastructure and market dynamics. Platts FOB Fujairah assessments reflect bids, offers and trades from the entire Gulf, with values normalized back to Fujairah after taking into consideration the prevailing trade flows for each product.

Cargoes loading from the following Gulf ports are considered for inclusion in the assessments: Jubail, Jebel Ali, Mina Al Ahmadi, Quoin Island, Shuaiba, Ras Tanura, Ruwais, Mina Abdulla, Sohar, Bahrain, Fujairah, Ras Laffan and any safe and sound port within this geographic area.

The assessments are normalized to loadings in Fujairah for all products. In practice, this means that all bids, offers and transactions for ports across the region are considered in relation to FOB Fujairah bids, offers or transactions and in the context of the specific commodity being assessed.

For example, for middle distillate products such as gasoil and jet fuel, prevailing flows are currently out of the region, with jet fuel, gasoil and ULSD typically going to East Africa, the Mediterranean and Europe.

Therefore, Platts considers market indications that include ports aside from Fujairah on the basis of prevailing freight economics to ship material to the Mediterranean as a basis destination.

This means that an offer for material loading from Mina Al Ahmadi, Jubail or Jebel Ali is normalized on the basis of freight from the costliest of these load ports to Fujairah.

This reflects the economic consideration for a typical buyer lifting an offer with more than one port specified at the seller’s option.

Similarly, for gasoline and fuel oil, prevailing flows are currently intra-regional, and typically material is taken to Fujairah and nearby ports such as Sohar and Jebel Ali for blending purposes before being shipped to the final destination in the region in the case of gasoline or blended and sold in smaller parcels for bunkering in the case of fuel oil.

Therefore, Platts considers market indications that include ports aside from Fujairah on the basis of prevailing freight economics to ship material to Fujairah as a basis destination. For example, an offer for material loading from Mina Al Ahmadi, Jubail or Jebel Ali would be normalized on the basis of freight from the costliest of these load ports to Fujairah.

How FOB Fujairah Prices Are Assessed
From October 3, 2016, Platts began publishing independent, outright assessments on an FOB Fujairah basis for 95 RON gasoline; 10 ppm sulfur gasoil and 500 ppm gasoil; jet fuel; and 380 CST high sulfur fuel oil.
Platts had already been publishing physical differential assessments for each of these products, which are now utilized in the assessment FOB Fujairah outright values alongside any bids, offers or trades on an outright basis.

Platts uses market information from a wide variety of sources to assess FOB Fujairah prices on a daily basis. These include deals or tenders heard in the broader market, information published in the MOC process and derivatives trades on exchanges or over-the-counter markets.

Over the past year Platts has witnessed growing interest from the market in both physical cargoes and derivatives related to refined oil products in the Middle East, more for some products than others.

Bids, offers and transactions reported to the Platts MOC process are now more common in middle distillates markets, providing key price information for the assessments in a transparent manner.

Alongside the physical outright assessments, Platts also launched assessments for MOPAG derivatives for 95 RON gasoline, 500 ppm gasoil, jet fuel and 380 CST fuel oil. These derivatives settle on the average of Platts netback outright values, known as MOPAG.

On the derivatives side, activity has picked up particularly in the fuel oil market given strong links between the bunkering hubs of Singapore and Fujairah. The Singapore vs Arab Gulf 180 CST spread has drawn interest from traders that need to hedge their flow of barrels or the freight rates for dirty tankers between the Middle East and Asia.

Using the derivative curve, Platts publishes a MOPAG “strip” value, which reflects the average of daily swap values over a 21-day period between 20–40 days from the day of publication.

The strip value published by Platts represents the value the market assigns to future Platts assessments, through trading in physical or derivatives instruments on strip-related prices. This value is determined by analyzing the derivatives market.

The outright assessment for each product equals the sum of the underlying MOPAG strip and the respective MOPAG differential.

**FOB Fujairah Assessments So Far**

Analysis of FOB Fujairah independent price assessments can provide a clearer view of the fundamental picture in the Middle East oil products market.

In the past year, while FOB Fujairah fuel oil and gasoline prices have demonstrated strong links to regional price drivers, for middle distillates the correlations have been much stronger to global markets, given the region’s position as a large net exporter.

In the residual fuel market, for example, spot market differentials have remained relatively sluggish this year, barring the mid-year period when strong demand for fuel oil for power generation usually drives prices higher.

In Fujairah, bunker demand has been weak this year as the OPEC-led crude oil production cuts meant a drop in the number of vessels needed to lift crude oil from the Middle East, while a diplomatic row between Qatar and other Gulf countries has further reduced traffic at the region’s biggest bunkering port.

On the other hand, the gasoline curve over the last year shows much firmer fundamentals, reflecting the region’s tight supply–demand balance and growing consumption. The outage at the UAE’s Ruwais refinery in early January has supported spot differentials through the year as the country turned into a major importer in the regional market.

Planned refinery turnarounds in the latter half of the year have further tightened regional fundamentals, pulling...
Indian barrels away from Asia, even as strong demand in West Africa competes with the Middle East to draw European barrels. Regional demand continues to grow at a healthy pace, driven largely by Iraq, Saudi Arabia, Iran and Pakistan.

The middle distillates prices and differentials have largely tracked global developments from changes in fuel specifications in India to Hurricane Harvey in the US.

Spot differentials for middle distillates have eased in recent years due to a build-up of excess regional supplies. After a sluggish first quarter weighed down by a closed arbitrage window to Europe, Middle East gasoil differentials recovered sharply on the back of buying emerging from India, where refineries went through a busy maintenance period for upgrades as the country moved to high quality diesel.

Following sluggish winter demand in late 2016 and early this year, jet fuel differentials have found some support from robust demand in Europe as well as West Africa. Since August this year, spot differentials for both gasoil and jet fuel in the Middle East have been buoyed by disruptions to refinery operations in the US caused by Hurricane Harvey. The disruption pushed down US middle distillates exports to Europe, and even opened up opportunities for a reverse arbitrage, leaving Middle Eastern refiners to fill the supply gap in Europe.

Conclusion
Over the past year since Platts launched its independent refined products price assessments in the Middle East, the FOB Fujairah values for each product have better reflected the local dynamics in these markets, demonstrated in the spread against the netback assessments.

The FOB Fujairah assessments have been more dynamic than the netbacks, more closely reflecting seasonal changes such as a rise in fuel oil demand in the summer and a drop in gasoil prices in winter as refiners point their barrels away from Europe.

Fundamental drivers such as supply disruptions or demand spikes are also being more closely captured in FOB Fujairah prices as evidenced by a jump in gasoline prices following the outage at the Ruwais refinery in January 2017.

Today, the independent assessments in the Middle East are playing a complementary role to the existing netback benchmarks by providing additional depth to the price information available to the market.

Over the past year, Platts has further refined elements of its FOB Fujairah assessments to more closely reflect the region’s trade. This has included amending the specifications reflected in the FOB Fujairah 95 RON gasoline assessment to ensure it reflects a grade that is typical in the region. Early in 2017 Platts also added a Fujairah ex-wharf assessment aimed at capturing the growing liquidity in the port’s bunkering market.

Also starting in 2017, the Fujairah Oil Industry Zone and Platts jointly began reporting weekly inventory statistics for
Fujairah, mirroring the practices of other trading hubs such as Singapore and ARA.

Similar initiatives from other regional ports would boost much-needed market transparency, a hallmark of successful benchmark pricing hubs globally. Fuel subsidy reforms in many Middle Eastern countries are also likely to further aid in the creation of an open market.

The Middle East is already home to one of the world’s biggest crude oil benchmarks – the Platts Dubai/Oman. Its growing refining prowess and rising liquidity now promises to make it an important pricing point in the global trade for refined products as well.

As a leading price reporting agency, Platts is committed to playing a key role in providing the market and price information emerging from this newest of the world’s trading and pricing hubs.

Platts remains open to further refining and adapting these assessments to meet the region's requirements and welcomes ideas, feedback and comments from all stakeholders.