

THE RE-EMERGENCE OF LIBYAN OIL AND THE OBSTACLES AHEAD

OIL SPECIAL REPORT

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INTRODUCTION

In December 2016, Libyan oil production rose above 600,000 b/d, the largest volume in two years, according to S&P Global Platts data, following the re-opening of fields in the Sirte Basin in the east and the Murzuk fields in the western part of the country. Other recent estimates from both Libya's National Oil Company (NOC) and trading sources peg exports at 550,000 b/d and production figures at 690,000 b/d. Further increases are also imminent with renewed pumping at the El Sharara field – one of the largest fields in the country that came online at the end of December. While there have been false starts since 2011's overthrow of Moammar Qadhafi, which left the country politically divided and with extensive damage to infrastructure, steps taken over the past year have led many in the oil industry to believe that the country is well on its way to regaining its place in the international oil markets, despite remaining roadblocks.

At this pivotal moment, Platts has decided to take stock and examine the progress made over the past 12 months, including recent production figure estimates and infrastructure updates, recent international buying interest in Libyan crude, and what a return of the country's crude oil has meant for the wider Mediterranean crude market. A quick overview of Libya's product exports is also made, and finally, a round-up of the continued roadblocks that the country is currently facing.

TIMELINE

December 2015

Libya's two opposing governments – the internationally recognized House of Representatives in Tobruk and the Islamist-led General National Congress based in Tripoli – reach a preliminary agreement December 4, aimed at solving the country's long-standing political paralysis, brokered by the United Nations.

January 2016

The UN announces the formation of a new Tunis-based interim government, a "national unity government" on January 19 to implement the agreed peace agreement between the different factions.

April 2016

Blockade of 110,000 b/d Marsa El-Hariga port. The dispute between rival institutions of the NOC leads to a three-week blockade in April-May of the Marsa el-Hariga port but exports resume late May after a preliminary deal between the two is reached

June 2016

The NOC agrees to unify its rival administrations under one management structure, a much needed step for the country's beleaguered oil sector.

September 2016

The Libyan National Army (LNA) led by General Khalifa Haftar, which is loyal to one of the rival governments based in the east, seizes so-called "Oil Crescent" terminals Es Sider, Ras Lanuf and Zueitina. The terminals were previously under the control of the Petroleum Facilities Guards which are loyal to the UN-backed Presidential Council/Government of National Accord. During the same offensive, Haftar's forces also took control of the 60,000 b/d Marsa el-Brega port.

NOC lifts force majeure at the 360,000 b/d Es Sider and 220,000 b/d Ras Lanuf terminals, the largest and second largest terminals in the country. The 70,000 b/d Zueitina terminal also has its force majeure lifted at the same time.

October 2016

The first cargo of flagship Es Sider crude since 2014 is exported from Ras Lanuf

December 2016

The first cargo of Es Sider is exported from a slowly rebuilding Es Sider terminal
In early December militias launch an operation to retake the eastern oil ports they lost in September. The militia forces include the Petroleum Facilities Guards and Benghazi Defense Brigade. Non-essential personnel are evacuated from Ras Lanuf but reports of fighting are concentrated in towns 30-50 km away from the ports.

The pipelines connecting the Sharara field to Libya's Zawiya refinery and the El-Fil field to the Mellitah complex were reopened after a unit of the Petroleum Facilities Guard militia lifted its two-year blockade. Sharara, operated by NOC in a joint venture with Spain's Repsol and with production capacity of 330,000 b/d, was closed in November 2014.

January 2017

Three cargoes of Sharara grade were expected to load in January

Libya exported an average 1.3 million b/d before the rebellion against Qadhafi's regime started in February 2011. During the eight-month civil war, all crude oil production, which had increased to an average 1.6 million b/d before the crisis, was halted and fields were shut in. Products exports also saw a large dip in production. Following the war, the country fractured into numerous factions and there have been rapid rises and falls in production, with the period between late 2014 and early 2016 especially bereft of oil exports as various factions fought over the country's oil industry.

Oil production fluctuated significantly throughout 2016 – from 180,000 b/d at its lowest point and up to 635,000 b/d by the end of December, due to issues such as electricity generation outages at oil fields and stoppages of pipeline output on militia activity. Oil output levels in 2015 were also volatile, with a peak of more than 600,000 b/d in March and an overall average of around 400,000 b/d – compared with output of 460,000 b/d in 2014 and 920,000 b/d in 2013.

Before its civil war, Libyan crude was a staple for many of the Mediterranean refineries, with a number of both oil majors and regional companies actively involved in joint projects with Libya's NOC. Grades such as its flagship Es Sider as well as light, sweet grade Sharara were seen as "easy run" crudes and had not only regular buyers from the Mediterranean but also attracted interest throughout Europe, Asia and the Americas.

RETURN OF LIBYAN CRUDE EXPORTS

Out of its main export grades, by the end of 2016, eight out of the 12 Libyan export grades had seen cargoes leave the country, compared with only five earlier in the year.

Offshore fields **El Bouri** and **Al Jurf** have been unaffected by the country's turmoil, with a steady stream of exports seen each month. Two cargoes of each crude grade regularly load each month.

The blend of **Mesla** and **Sarir** crude, coming from the Eastern port of Marsa el-Hariga have seen both Aframax and Suezmax cargoes load, with between three to six cargoes scheduled to load monthly throughout the past 12 months. At separate points during 2016, in May and July, Marsa el-Hariga was a battleground for dispute between the previously separate factions of NOC, disrupting loadings out of the crude terminal.

Typically, two to three cargoes a month of **Brega** crude have been regularly loading out of the eastern port of Brega, trading sources have confirmed. Brega has been seen as one of the most stable export terminals in the country.

After NOC lifted force majeure in September at the Es Sider and Ras Lanuf terminals there were immediate moves by the recently reunified NOC to resume exports from the two ports. Previously, force majeure was declared at Es Sider and Ras Lanuf terminals on December 14, 2014, because of fighting by militias led by rival governments and militias aligned with so-called Islamic State.

Es Sider saw its first lifting from Ras Lanuf in October and in the following months saw an average two to four cargoes exported per month. In late December, a cargo of Es Sider was also lifted from Es Sider terminal.

The 70,000 b/d Zueitina terminal also had its force majeure lifted at the same time as the other two Oil Crescent ports. Zueitina had force majeure declared on November 3, 2015, due to security concerns at the terminal at the time.

Zueitina, Buatifel and Sirtica grades have seen the odd cargo exported but nothing regular. Issues remain for Sirtica and other grades coming from the Sirte basin due to the continued presence of forces loyal to the Islamic state in the region where the grades' fields are found. However, stored volumes of these crude grades found their way to the international markets in 2016, typically via Zueitina terminal.

Amna has seen around four to five Aframax cargoes load per month, exporting out of both Zueitina and Ras Lanuf.

No **Mellitah** crude has been exported to the international markets since late 2014. However, Waha condensate, also known as Mellitah condensate, has seen a regular flow of volume, as its pipeline was not interrupted by the conflict.

Following the blockade being lifted on the **Sharara** pipeline in late December, three cargoes of Sharara were planned to be lifted for January.

IMPACT OF LIBYA ON MEDITERRANEAN OIL MARKETS

Libyan crude volumes return to a changed Mediterranean picture compared to the late 2014/early 2015 period, when it was last available to international buyers in more than sporadic volumes. The availability of light, sweet crudes has been growing, with refineries in the Mediterranean spoilt for choice, from the increased volumes seen in Kazakhstan's CPC Blend crude, from the giant Kashagan field in the Caspian Sea, a consistent monthly overhang of Nigerian light, sweet crudes hoping to find homes in the region, or US Gulf crudes, now allowed to be exported and seen offered into Europe.

For other buying regions, specifically Asia, focus has switched to heavier, sourer crudes as upgraded refineries become more complex and as the pricing environment has become more competitive, disadvantaging sweet crudes, which typically command higher premiums than sour crudes.

Despite a more competitive environment in 2017, the return of Libyan crude has been welcomed by many market participants, as a supply of light, "easy run" crude, well-priced to compete against its nearest competitors, namely Kazakhstan's CPC Blend, Azerbaijan's Azeri Light, Algeria's Saharan Blend and to a lesser extent Russia's Siberian Light. "Quality wise – Libya has historically been very good, with few bad characteristics when

POLITICS IN LIBYA

Libya has been without a stable and lasting national government since the toppling of the Qadhafi regime in 2011. Last January, the UN announced the formation of a new interim government based in Tunis, the capital of neighboring Tunisia, but it has been rejected by the rival governments in Tobruk and Tripoli who do not accept its authority. This has left the country with three centers of power – the Presidential Council (overseeing the Government of National Accord) and the Government of National Salvation in Tripoli, and two authorities in the east, the House of Representatives in Tobruk and the Abdullah Thinni's government in Bayda.

The country's political and military power has disintegrated into a vacuum and into numerous factions, with no one group overall having been able to assert control in the past five years. The country's oil facilities have also been separated, with different government factions, along with militia groups, controlling the oil terminals. Libya's NOC has expressed neutrality in the conflict, working with different factions to re-open the ports and fix damaged infrastructure and merging its rival operations together in June. However, wide divisions remain – oil export payments currently are paid into the accounts of the Central Bank of Libya under the control of the Presidential Council, while the major oil terminals in the east of the country are under the control of the Libya National Army, which is associated with the House of Representatives in Tobruk.

Two major militias connected to the oil industry

Petroleum Facilities Guards (PFG): The militia forces include the Petroleum Facilities Guards, which was ousted from Zueitina, Es Sider and Ras Lanuf oil terminals in September after a surprise assault by the Libyan National Army. Also fighting alongside the PFG has been the Benghazi Defense Brigade, based in the eastern town of Jufra. Disharmony between the PFG and state-owned NOC at Libyan oil terminals has been a regular feature in the country and has had a sizeable impact on its oil output.

Libyan National Army (LNA): The LNA is another militia group, led by General Khalifa Haftar, who is recognized as general commander of the armed forces by the House of Representatives in eastern Libya. Styled as a national army, the force is a mix of military units and tribal or regional-based armed groups. The LNA currently has control over the main oil ports.

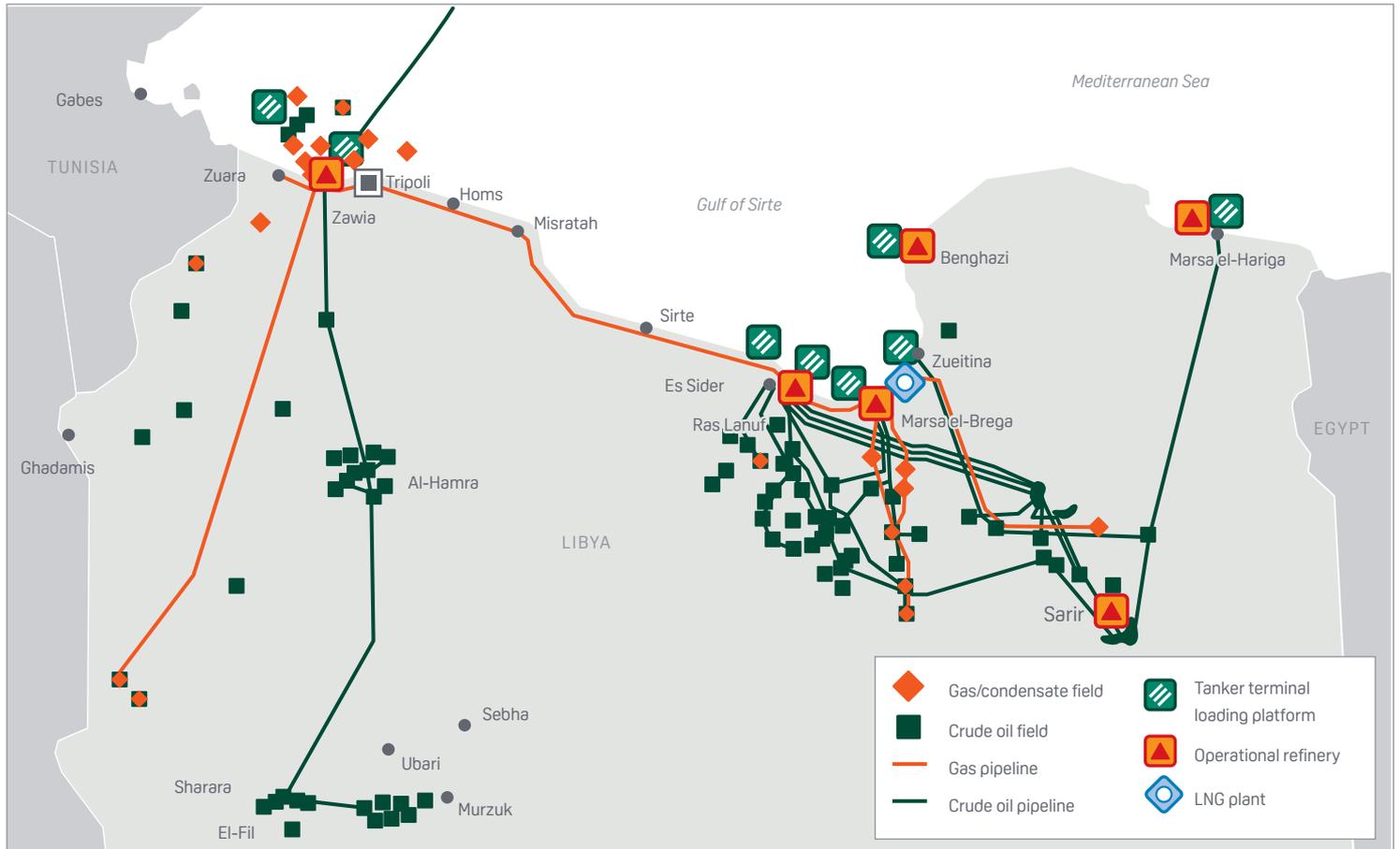
The constant boundary shifts in Libya have been condemned by the international community. In September, Martin Kobler, the UN's special representative to Libya, condemned the seizure of the oil ports by Haftar as "flagrant aggression." He called for an immediate cessation of hostilities in the Oil Crescent, and for recognition of the GNA as the sole executive authority in the country. A statement from the governments of France, Germany, Italy, Spain, the UK, and US also condemned the attacks on the oil terminals. But complicating matters has been the support for the other Libyan regional governments by international players such as Egypt for the LNA. International experts looking at the Libyan political system have deemed it "fragile."

it comes to running in a refinery," according to one sweet crude trader active in the Mediterranean.

In the last three months of 2016, buyers of Libya have included those companies historically involved in the country, including Austria's OMV, Italy's Eni, France's Total and Spain's Repsol, while trading houses Glencore, Vitol and Petraco have been active as marketers of Libyan crude. Other smaller Mediterranean refineries as well as refineries in Northwest Europe have also sampled the odd Libyan cargo.

Asian buyers have also taken Libyan volume, with cargoes heading to destinations in China and Thailand. US buyers have been less prominent, with US companies Conoco and Hess –

LIBYAN OIL AND GAS INFRASTRUCTURE



Source: Platts, IEA, criticalthreats.org

major equity holders of Es Sider crude – disadvantaged, due to restrictions of only being able to lift at the heavily damaged Es Sider port. At least one cargo of Libyan crude has been sold to a US refinery, trading sources said. Cross-Libyan cargoes from ports such as Brega and Hariga in eastern Libya to western Libyan refinery Zawiya have also been observed.

Despite the sometimes precarious security situation in the country, loadings at Libya's terminals have typically been smooth, if sometimes lengthened by a couple days due to the damaged infrastructure. But while buyers have begun to diversify and grow, there is still a large majority that has been hesitant to look at Libyan grades due to security concerns. "Not all refineries are willing to assume the risk. Libya still needs to build up its reliability. So far, they've had some success, but for refineries like us, we're still not yet ready to cope with the recent risks [we see in the country], so we don't buy Libyan for now," one Mediterranean refinery trader said. In addition to security concerns, other trading sources have mentioned potential changes to quality in the grades, due to long outages and damaged, ill-maintained pipelines as another reason for staying away at the moment. One other concern noted by buyers has been the legal status of the crude being offered – with several sources reporting being offered cargoes by "NOC East" – and who have not been able to verify that these were official volumes being marketed by the re-unified NOC.

Pricing of cargoes has been tied to the official NOC OSPs, with trading sources citing 10-20 cents/b discount to the monthly OSPs for Es Sider, with similar pricing also seen for other grades. According to ship-owners surveyed by Platts, the ongoing instability in Libya typically has them push for freight rate premiums to load at Libyan ports, compared to more standard Mediterranean loadings.

As Libyan crude begins to return to the market in more regular volumes, the market has been gauging how it could affect the market share for other sweet grades, particularly from October onwards, when the Eastern terminals re-opened.

At this juncture, Libyan export volumes are dwarfed in comparison to the massive volume of naphtha-rich CPC Blend, which since October 2016 and the launch of the Kashagan volumes into the grade, has seen its daily volume rise to 1.1 million b/d, with the potential to rise to 1.3-1.4 million b/d as further Kashagan volumes are expected to come online in 2017.

Likewise, Azerbaijan's Azeri Light monthly volumes are typically above 700,000 b/d – larger than the current total amount of Libyan volumes available for export. But with Libyan crude available a short trip across the Mediterranean, traders have said it has started affecting demand for Azeri Light among some of the regular Mediterranean buyers who switched from Libyan to Azeri in the intervening years and are now starting to move back.

“I think Libya is doing some damage to [Azeri demand]. It’s a fact that we have more offers from NOC – so despite not all refineries being willing to assume that risk [on Libyan] it’s still having an impact,” said one sweet crude trader. “The picture for the Azeri market is different these days,” another trader said. “We have close to 700,000 b/d production in Libya, some of which is competing with Azeri.” Differentials for Azeri Light have been volatile recently, with the grade hitting highs above \$2.00/b against the BTC Dated Strip in mid-December, before falling back down in early January to hover around \$1.20/b against the BTC Dated Strip.

CPC Blend’s differential against the Mediterranean Dated Strip has also slid over the past three months, although market consensus has been that a large part of the fall is attributed to the larger monthly volumes available for the grade, as well higher freight costs seen in the Mediterranean during November and December, which first had an impact on FOB loading crudes, such as Algeria’s Saharan Blend but eventually fed through to pricing of delivered crudes like CPC Blend. Additionally, the majority of the Libyan crudes available for export have been more on the distillate-heavy side, while in the future, with the restart of naphtha-rich Sharara crude in Libya, CPC Blend could see its market share erode.

LIBYA AND OPEC

Libya’s oil output rise comes at a critical juncture as it coincides with global efforts to curb the global supply glut after prices went on a downward spiral since mid-2014. Libya was in the top 10 oil producers in OPEC, but in the past few years due to civil unrest, production has been driven to around one-third of its total capacity of 1.6 million b/d, and its relevance within the organization to make an impact has been on the wane. But with production now recovering, and output doubling in the past few months, its role within the producer group is expected to expand, especially as it comes at a time when OPEC has agreed to cut production for the first time in eight years.

OPEC decided on November 30 to hold production at 32.5 million b/d starting January 1, 2017, amounting to an approximate 1.2 million b/d cut from current output levels, for the first half of this year – the deal exempts Libya and Nigeria because of the internal strife both countries face. Then on December 10, non-OPEC countries led by Russia also agreed to cut output by 558,000 b/d in the first half of 2017, with Russia set to cut 300,000 b/d.

Since the deal, Libyan production has risen at a steady pace with some analysts stating that if Libyan oil output continues to accelerate, OPEC’s commitments to curb the global oil supply glut might be jeopardized. But most doubt Libya will be able to produce much beyond 800,000 b/d without significant investment and political capital to negotiate reopening of fields held by militias. The political situation in the country remains prone to instability, with rival militias, Libya’s UN-backed Government of National Accord and various other political parties and tribal groups, all fighting a power struggle across the country, which poses a serious challenge for the country to sharply increase current output levels.

Historically, Libya has played an active and key diplomatic role ever since it joined the producer group in 1962, two years after OPEC was formed. Libya gained prominence in the 1973 oil crisis, when it became the first country to embargo oil shipments to the US, after which the likes of Saudi Arabia and other OPEC members followed suit. Four of OPEC’s 28 secretary-generals have been from Libya, further outlining its importance within OPEC. Analysts have noted that the country typically adopts a neutral stance when rifts between OPEC members have threatened the organization’s unity. Libya also has significant crude oil reserves, leading the way in Africa, with 48.363 billion barrels, as of 2015, according to OPEC’s Annual Statistical Bulletin last year.

LIBYA OIL OUTPUT



Source: Platts

But caution is warranted in attributing an outsize impact for Libya’s volumes on the Mediterranean sweet crude markets at the current time. While Mediterranean sweet crudes have seen lower differentials over the past few months, other factors remain at play, namely the continued outperformance of margins on sour crudes in Europe versus sweet crude margins and more sweet crude arbitraging or pricing into the region from West Africa, the North Sea and occasionally from the US Gulf.

LIBYA PRODUCTS EXPORTS/IMPORTS: NAPHTHA, JET, GASOIL, LSSR

Before the uprising in 2010 and early 2011, Libyan naphtha exports from its refineries – including Zawiyah, Ras Lanuf and Tobruk – amounted to 500,000 mt/month. Lukoil trading arm Litasco currently exports naphtha from Zawiyah, in clips of 25,000 mt, one or two cargoes a quarter up to one to two cargoes per month. “They mostly export crude rather than processing it – exports of products like naphtha have been so erratic recently, if the need of cash is so great, crude is sold [instead],” one naphtha trader said.

On other products, flows of Libyan low sulfur fuel oil cargoes are steady according to European traders. Libyan exports for LSSR barrels were stable with 100,000 mt coming from Zawiyah refinery and 30,000 mt from Tobruk refinery. Libya’s flows were steady between one and three MRs per month split between Europe and US shorts. Libyan refineries import clean products including cracked fuel oil because of the simple refining system in the country.

The modest volume of jet fuel that does get exported on a sporadic basis is plagued by something of a bad reputation in terms of specifications. Traders are wary of Libyan jet fuel owing to cargoes in the recent past having been off-specification. As such, the tenders that do appear – ie, the ones seen in 2016 for cargoes of around 22,000 mt – do not attract much interest and generally are done at lower levels compared to other North African jet tenders.

In contrast to gasoil for example, where some off-spec material can be blended, jet specifications are very stringent. With much of the world’s standard as Jet A-1 any deviation from this can

be very costly. Also, some North African countries export oil products on an “as is” basis leaving little wiggle room for traders should the material prove to be off-spec further down the chain.

As recently as 2013 export volumes from the 220,000 b/d Ras Lanuf had been around three cargoes a month for volumes of around 25,000 mt. The 120,000 b/d Zawiya refinery meanwhile exported around one or two cargoes a month of the same volume.

With Libya’s refining capability severely impaired the country has become increasingly reliant on 0.1% gasoil for power generation and automotive fuel, providing support to the Mediterranean market. Much of the supply comes from Italian refiners and on occasion, economics and availability permitting, volume from the US Gulf Coast.

However, this comes at a price, as few ship-owners are willing to discharge into Libya owing to the threat of violence, a situation that has been ongoing since the fighting worsened in 2013. The main import location is currently Zawiyah, however Al-Khums (Homs) is also used as an import location for gasoil cargoes, although the port’s location, more or less equidistant between Tripoli and Misrata, means that ship-owners are even more reluctant to head there due to its proximity to rebel-controlled areas.

There is an inherent risk in supplying into Libya, not least in terms of credit. As such, while the product may come from refineries owned by oil majors and refiners, it is the oil trading companies who generally have more appetite for such things, who are shouldering the risk.

ROADBLOCKS REMAIN: A LOOK AHEAD

Libya’s NOC has exceeded the expectations of many in achieving crude oil production of over 700,000 b/d and more than 500,000 b/d in exports over the past couple of months. But progress is likely to slow unless state-owned NOC secures enough funding to continue its repairs on its key Es Sider oil export terminal, and increase the number of cargoes able to load there, and continue to re-open years-dormant fields.

LIBYAN CRUDE OFFICIAL SELLING PRICES (\$/b)

Grade	Benchmark	November	December	January
Es Sider	Dated Brent	-1.50	-1.45	-1.50
Sharara	Dated Brent	0.15	0.15	0.20
Mellitah	Dated Brent	0.05	0.05	0.10
Brega	Dated Brent	0.00	-0.05	-0.15
Sarir	Dated Brent	-3.80	-3.70	-3.55
Abu Attifel	Dated Brent	1.10	1.10	1.10
Sirtica	Dated Brent	-2.00	-2.00	-2.00
Zueitina	Dated Brent	-0.25	-0.30	-0.30
Amna	Dated Brent	-1.30	-1.15	-1.20
Mesla	Dated Brent	-2.55	-2.45	-2.30
El Bourri	Urals (Med)	-3.20	-3.20	-3.35
El Jurf	Urals (Med)	-1.30	-1.15	-1.25

Source: Platts

“People have a bit more confidence in it ... as there is now a reasonably stable supply. Certain fields are performing OK but there is still a lot of infrastructure work to be done,” said a crude trader active in the Libyan market, a sentiment echoed by a number of others, in that infrastructure constraint will be one of the major issues to look at in 2017.

After NOC lifted force majeure on the major three Oil Crescent terminals – Es Sider, Ras Lanuf and Zueitina – NOC chairman, Mustafa Sanalla told S&P Global Platts in early November that Es Sider terminal, the country’s largest, would be ready within days. However, progress has been slow on getting the port ready again due to the heavy fire damage sustained to the storage tanks. Only one cargo of Es Sider has been able to be lifted from the port thus far.

Elsewhere, in late December, NOC restarted production at the Sharara oil field after more than two years of blockades by militia groups and has been gradually ramping up output. Further increases in production will depend on security in the area, and NOC’s ability to manage maintenance at the field. Other recent increases came from the restart of production at the Waha fields, and repairs to the Abu Attifel field. Further output growth is expected to be slower and more challenging, however, with additional volumes requiring deeper repairs, higher payments, more investment and export capacity debottlenecking, and security improving in the region, according to upstream analysts looking at Libya. Sources estimate that as much as 125,000 b/d of output could be added from the Sirte Basin in the east of Libya by early 2017. This will hinge on removing the bottlenecks at the exports terminals which remain a constraint on further production growth.

All the while, tension continues to simmer between Libya’s rival political factions, which could cut back the gains NOC has already made. As noted earlier, the three centers of political power in the Libya – have had an uneasy truce, with limiting evidence of working together to rebuild the country following the civil war.

Militia activity under the control of the various political factions has further added unpredictability. In early December, there was fighting by the PFG to retake the eastern oil ports which they lost in September, according to reports by the *Libya Observer*. At the time, NOC said in a statement that all non-essential staff were evacuated from Es Sider, except for security and firefighting personnel and it was holding emergency meetings with its partners, but had not declared force majeure on exports from the ports. Trading sources with cargoes scheduled to load in nearby Ras Lanuf said at the time that the fighting had been concentrated in towns 30 to 50 km outside of the port, with no additional danger to the ports.

Maintaining the fragile security situation, reopening the fields and increasing flows to the terminals will be necessary if NOC is to reach its target of nearly 900,000 b/d.

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