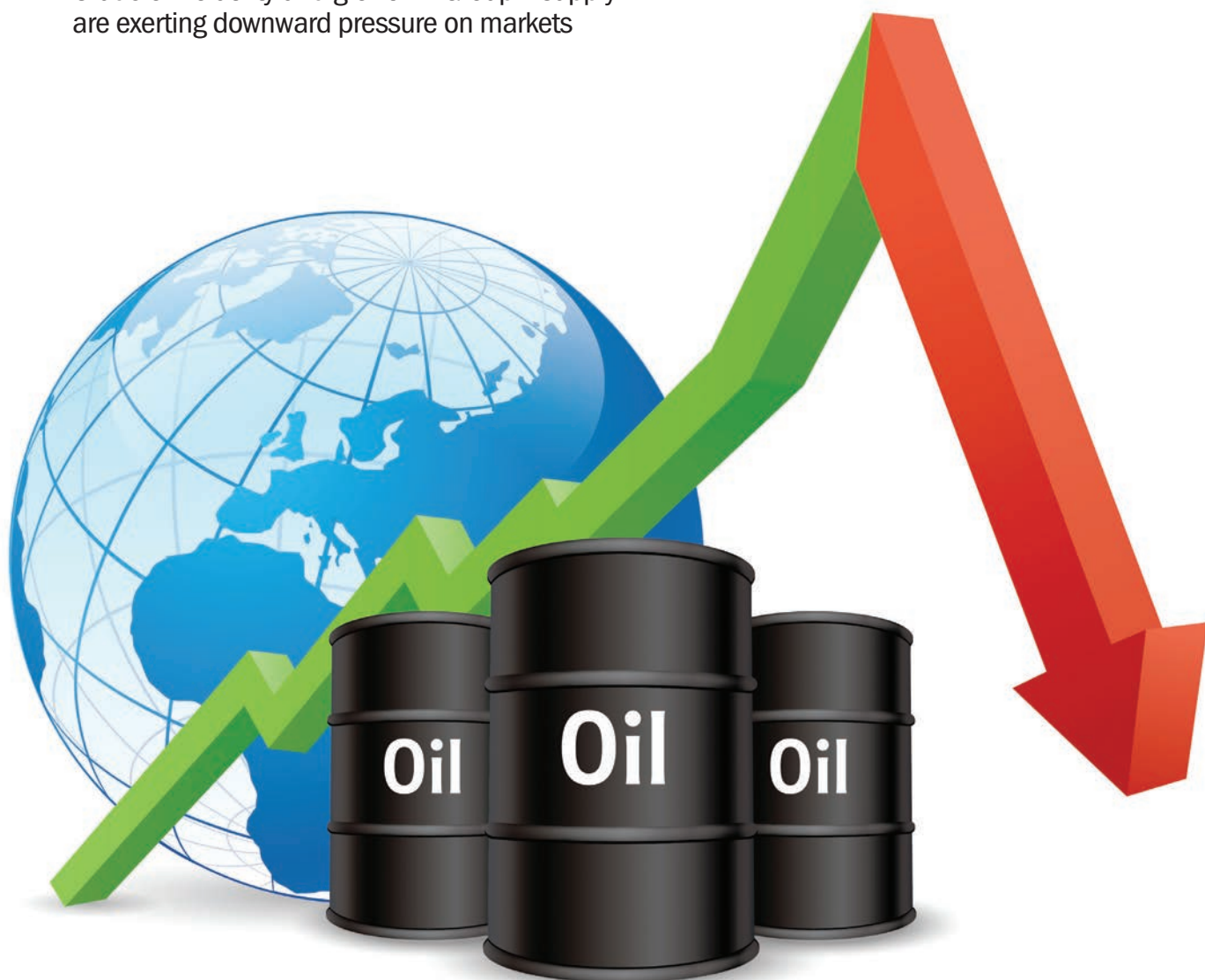


Asian Base Oils & Lubricants 2019

MARKET TRENDS

ASIAN BUYERS IN SHORT SUPPLY

Crude oil volatility and growth in Group II supply are exerting downward pressure on markets





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COMMENTARY

JOHN BAKER LONDON
john.baker@icis.com

“Asian base oil markets can expect to experience suppressed demand in coming months”

Welcome to the second Asian Base Oils & Lubricants special publication from ICIS. In the following pages, we look at the theme of this year's ICIS Base Oils & Lubricants Conference: “Countdown to 2020: Mitigating volatility and increasing efficiencies across the region”.

The issue of volatility has proved to be well chosen, in light of the recent shifts in crude oil prices, driven largely by rising US production and stock levels and the anticipated impacts of the growing trade tensions between the US and China, and now Mexico.

The last 12 months have seen Brent crude swing from \$76/bbl up to \$86/bbl, and then right down to \$50/bbl at the turn of this year, to recover again to \$74/bbl at the end of April and then fall to current levels of \$62/bbl in the first week of June.

Falling oil prices and lack of consistent price direction mean that Asian base oil markets can expect to experience suppressed demand in coming months. As a result, as we report in the market analysis on page 4, base oil prices are likely to come under downward pressure, as buyers are expected to be sidelined during this period of crude oil price volatility.

This downward trend will be exacerbated by a stream of recent and imminent Group II capacity expansions, notably in China and Singapore, but also complemented on the global stage by the start-up of the huge ExxonMobil facility in the Netherlands.

On page 11, ExxonMobil gives its view on market developments and outlines its future investment plans for Singapore.

The view across Asia is not all gloom. India stands out as a beacon of higher demand growth and, since the start of the year, higher pricing – which is attracting material from other Asian, Middle East and European producers and helping keep operating rates higher than might be expected in Northeast Asia.

The conference will bring greater insight on these and other topics in Singapore. I hope you find it both stimulating and fruitful.



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ASIAN, CHINESE MARKETS HIT BY OIL VOLATILITY AND GROWING SUPPLY

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UPCOMING 2019 ICIS CONFERENCES

- **12th ICIS World Chemical Purchasing Conference**
3-6 September 2019, Boston, US
- **4th North American Industrial Lubricants Congress**
10-11 September 2019, Chicago, US
- **8th ICIS European Butadiene & Derivatives Conference**
11-12 September 2019, Vienna, Austria
- **8th ICIS European Surfactants Conference**
18-19 September 2019, Amsterdam, Netherlands
- **16th ICIS Middle Eastern Base Oils & Lubricants Conference**
15-16 October 2019, Dubai, UAE

India bucks Asia's downward trend

Asia's base oil markets have been weighed down by crude oil price falls, just as new Group II supply is dampening pricing sentiment. But India remains a brighter prospect

MATTHEW CHONG SINGAPORE

The spot base oils market in Asia can expect to experience suppressed demand in coming months, as bearish sentiment deepens due to lack of price direction amid falling crude oil futures. Base oil prices are likely to come under downward pressure, as buyers are expected to be sidelined during a period of crude oil price volatility.

Brent crude oil futures dropped by more than 4% on 22-23 May to settle at \$67.76/bbl, following a large increase in US crude oil stocks and concerns over the escalating US-China trade war. Brent values subsequently recovered slightly to around \$70/bbl before resuming a downward trend. On 31 May, Brent July settled down \$2.38/bbl at \$64.49/bbl after the US announced new import tariffs on Mexican goods.

Some refiners in South Korea have been contemplating whether to switch to produce gas oil rather than base oils, due to the more favourable margins of producing the former following gas oil's price recovery since January earlier in the year. As of 31 May, gas oil prices stood at \$565.5/tonne FOB (free on board) Singapore, down from the 2019 peak of \$630.5/tonne recorded a couple of weeks prior.

However, refiners have mostly maintained high base oils operating rates this year for two main reasons. First, because they have been able to sell more Group II spot volumes to India at higher prices in the first half of the year relative to other Asian countries, especially China.

The spread between Group II India and Northeast Asia import prices have widened to around \$45/tonne for 150N and \$20/tonne for 500/600N (India prices higher) when they were almost on a par with each other at the end of 2018.

Second, turnarounds at major Japanese refin-



India is one of the few countries with relatively high projected downstream lubricants demand growth of 3-4%/year

er JXTG Nippon Oil & Energy's Mizushima B and Kainan Group I units mean that it has had little option but to run its other base oils units at full capacity to fulfil its contractual obligations.

In October and November last year, several Northeast Asian refiners, including JXTG Nippon (a key Group I exporter), a Taiwanese Group II refiner, as well as several South Korean Group II/III refiners, cut their base oils production by 10-20% to produce more gas oil.

FEEDSTOCK SPREAD

The chart opposite shows the spread between gas oil prices (FOB Singapore) and Group II 150N spot prices (FOB NE Asia). The incentive for refiners to produce more gas oil has returned to equilibrium after the plunge in crude oil prices late in the week of 20 May.

In the week ended 31 May, Group II 150N and 500/600N average weekly spot prices were stable at \$625/tonne FOB NE Asia and at \$645/tonne FOB NE Asia respectively.

Demand for heavy grade 500N was relative-

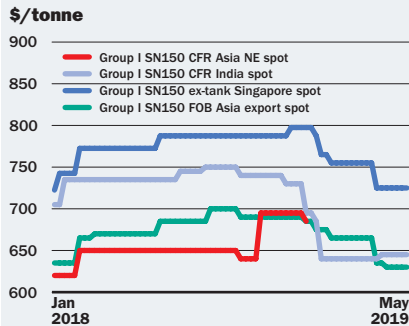
ly healthier than that for light grade 150N for most of the months of April and May, with South Korean refiners having received more enquiries in mid-May in the days leading up to the crude rout. Buying interest for import cargoes in China was especially muted due to the depreciation of the yuan against the dollar stemming from the US-China trade saga.

In the India import market, overall Group II spot prices remained at largely range-bound levels but discussions have started to skew towards the lower end of the assessed ranges due to lower buying indications amid poor market sentiment.

As of 31 May, Group II 70N, 150N and 500/600N average weekly spot prices were maintained at \$705/tonne CFR (cost and freight) India, \$682.5/tonne CFR India and \$700/tonne CFR India respectively.

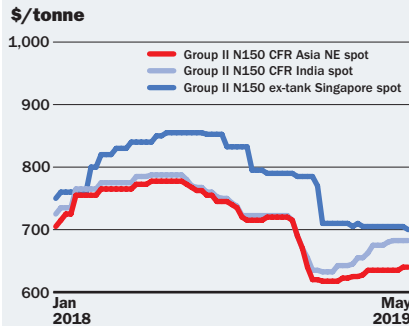
Group II light grade 70N spot imports in India will likely continue to command higher prices than 150N and 500/600N due to better demand for the former, although overall demand is

ASIAN GROUP I PRICE TRENDS 2018 TO DATE



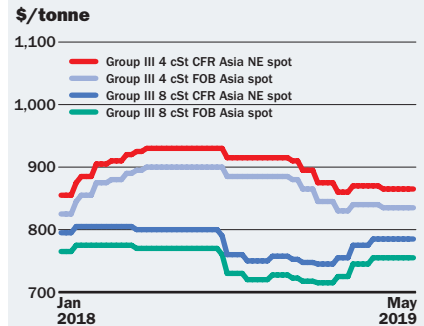
SOURCE: ICIS

ASIAN GROUP II PRICE TRENDS 2018 TO DATE



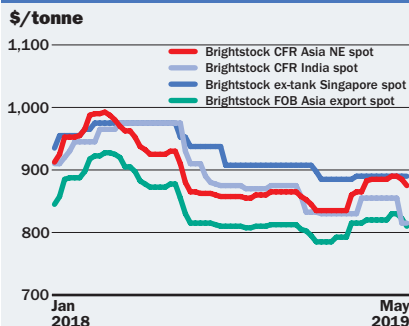
SOURCE: ICIS

ASIAN GROUP III PRICE TRENDS 2018 TO DATE



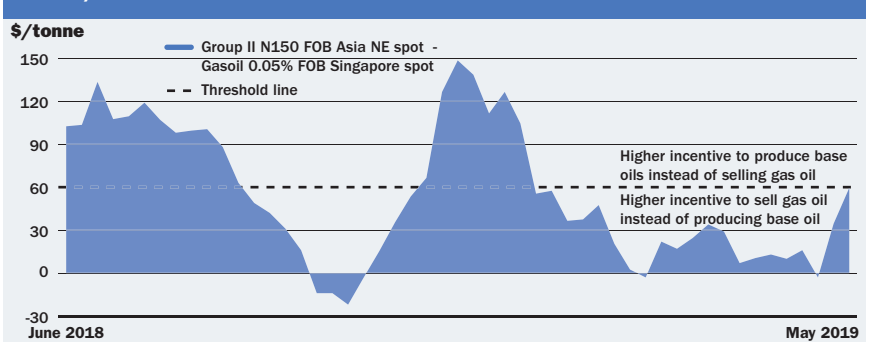
SOURCE: ICIS

ASIAN BRIGHTSTOCK PRICE TRENDS, 2018 TO DATE



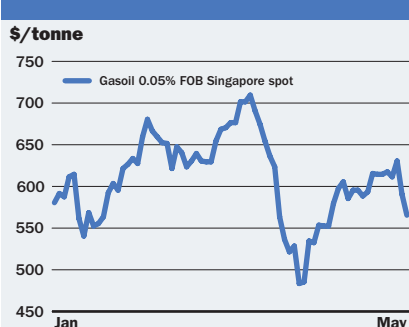
SOURCE: ICIS

GASOIL/GROUP II 150N SPREAD HAS RETURNED TO THE THRESHOLD LINE RECENTLY



SOURCE: ICIS

GAS OIL PRICE



SOURCE: ICIS

expected to taper in June with the approach of the monsoon season in the country.

For Group I in Asia during the week ended 31 May, average prices for SN150 and SN500 remained unchanged at \$620/tonne FOB Asia and at \$600/tonne FOB Asia respectively, while brightstock lost \$5/tonne to \$805/tonne FOB Asia. In India in the same period, average prices of Group I SN150 held steady at \$645/tonne CFR India, while SN500 inched down by \$2.5/tonne to \$650/tonne CFR India and brightstock slipped by \$10/tonne to \$805/tonne CFR India, according to ICIS data.

Demand for Group I material is likely to remain lackluster although the extent of any downside should be capped, given refinery

turnarounds in Japan, where JXTG Nippon Oil & Energy's Mizushima B and Kainan units and Idemitsu Kosan's Chiba unit are offline.

JXTG Nippon's maintenance plans at its Mizushima A Group I unit from September to October later this year, coupled with Exxon-Mobil's scheduled turnaround at its Singapore-based Group I unit from June to August, will likely bring some momentary relief to the

The India market is also expected to become a key battleground for refiners from different regions such as the Middle East, Europe and the US... partly because of its strategic geographical location

oversupply situation.

With the gradual shift in base oils consumption from Group I to Group II and to a lesser extent Group III, new Group II capacities have sprouted up in recent years and Group II production is set to overtake Group I very soon, making it the dominant base oils group in terms of volume.

Besides the Group II/III capacities in China that have just or are about to come onstream, ExxonMobil, in early April, made a final investment decision (FID) on a "multi-billion dollar" investment to expand its integrated manufactur-

ing complex in Singapore. This will allow it to convert fuel oil and other bottom-of-the-barrel crude products into higher-value lube base stocks and distillates. The project envisages the start-up of an additional 1m tonnes/year of Group II capacity in Singapore in 2023.

ExxonMobil's existing Group II capacity in Singapore has just been increased by 100,000 tonnes/year to 1.7m tonnes/year after an expansion was completed in May this year.

For Group III base oils, 4, 6 and 8cSt average weekly spot prices of mainly South Korea-origin material were at \$835/tonne FOB Asia, \$840/tonne FOB Asia and \$755/tonne FOB Asia respectively in the week ended 31 May.

Lower-priced Middle East-origin Group III cargoes have been infiltrating the Asia market including India in recent years and they are expected to provide intense competition to Asian suppliers.

The India market is also expected to become a key battleground for refiners from different regions such as the Middle East, Europe and the US besides Northeast and Southeast Asia, partly because of its strategic geographical location.

India is one of the few countries with relatively high projected downstream lubricants demand growth of 3-4% annually, according to industry sources, while lubricants growth in developed countries is projected to slow as a result of improved car engine and machinery efficiency and electrification of vehicles. ■

China suffers from sluggish demand

The US-China trade dispute, slowing economic growth and increasing oversupply are all impacting margins for Chinese base oil and lubricant makers

WHITNEY SHI SHANGHAI

China's base oils demand from downstream lubricant producers is expected to remain sluggish in the second half of 2019, as the trade war between the US and China intensifies.

Base oils demand in the first half of 2019 was bearish and even demand during the traditional peak season from March to May was quite weak. Downstream lubricant producers reined in purchases compared with the previous year and mainly bought hand to mouth, as they did not have many orders from their end users.

Industry participants also noted that Chinese base oils demand weakened due to China's continuing economic slowdown in 2019. According to the National Bureau of Statistics of China (NBS), growth in China's gross domestic product (GDP) was 6.4% in the first quarter of 2019, lower by 0.4 percentage points than in 2018.

The vehicle lubricants market was dampened by declining vehicle production and sales during January to April in 2019, sources from major automotive lubricant producers said. According to the China Association of Automobile Manufacturers (CAAM), vehicle production and sales in the first four months of 2019 declined by 10.98% year on year to 8.38m units, and by 12.12% to 8.35m units, respectively. For passenger cars, production for the

period declined by 13.56% to 6.88m units, while sales fell 14.65% to 6.83m units.

Consequently, automotive lubricants production was throttled back, denting base oils consumption. Moreover, the service cycle of vehicle lubricants has been getting longer due to quality upgrading, which also indirectly reduces apparent consumption.

The industrial lubricants market was also dragged down by the persistent economic slowdown. China's manufacturing purchasing managers' index (PMI) in January and February were 49.5 and 49.2 respectively, according to the National Bureau of Statistics (NBS).

A PMI reading below 50 indicates contraction. Although the PMI index in March and April rebounded to 50.5 and 50.1 respectively, according to NBS, most market players said base oil consumption remained sluggish.

China's largest lubricants producer has not yet suffered a drop in lubricants sales but is having difficulty growing volume, a source at the company told ICIS. Some small and medium-sized lubricant producers have adopted a cautious stance and have been hesitant to commit to large-volume buying given the weakness in the real economy.

Market participants expect that Chinese base oils demand from lubricant companies will be much weaker in the second half of 2019 as a fiercer trade war between the US and

China kicked off on 10 May 2019. It is believed that most producers' exports will decrease significantly, acting as a significant drag on demand for the industrial lubricants sector.

On the supply side, several new Group II base oil units have come onstream in the first quarter of 2019 in Shandong province. According to ICIS, Shandong Weifang Shida Changsheng Energy Technology Co put new products from its 300,000 tonne/year Group II base oils unit on sale in early March. Shandong Qingyuan Group's 800,000 tonne/year unit was brought online in mid-March. Shandong Kaitai Petrochemical's 150,000 tonne/year unit started up on 11 March. The result has been increased price competition in Shandong province.

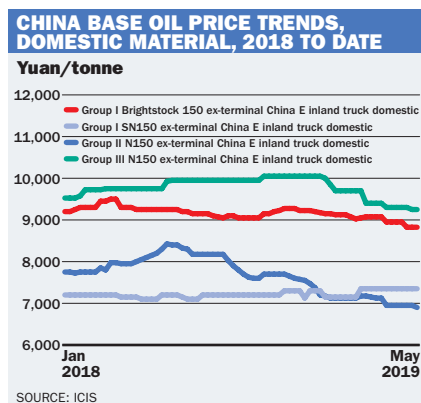
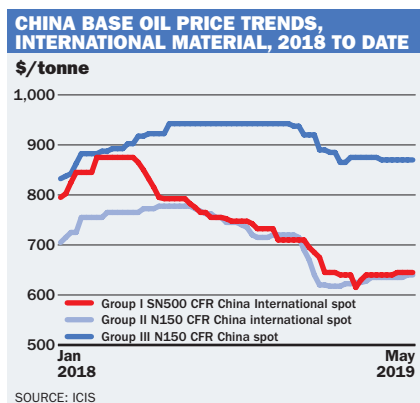
NEW CAPACITIES COMING ONLINE

Fresh products from several other new Group II and III base oils plants will be available for the commercial market in the second half of 2019, further boosting domestic supply. According to ICIS, Dalian Hengli Petrochemical's 540,000 tonne/year Group II/III unit will be put into operation in early June. Henan Junheng Biotech's new 300,000 tonne/year Group II plant will start up in July. Hainan Handi Sunshine Petrochemical's 700,000 tonne/year unit and Hebei Feitian Petrochemical Group's 350,000 tonne/year unit will also be put into operation in the fourth quarter of 2019.

With the new Group II and III units operating and with only sporadic scheduled maintenance in China, the base oils market has been oversupplied in the first half of 2019. CNOOC Huizhou refiner shut down its 400,000 tonne/year Group II plant from mid-February to mid-May. PetroChina Dalian Petrochemical shut down its low-viscosity Group I unit from the end of February to mid-May.

However, the downstream lubricant companies can still use other base oils to replace these. Meanwhile, PetroChina Daqing Refining & Chemical will have maintenance of its 200,000 tonne/year Group II unit from early August to mid-September.

Against a backdrop of increasing supply and decreasing demand, China's imports of



base oils fell in the first quarter of 2019. Data from China Customs showed that China imported 0.775m tonnes of base oils in the period, down by around 3.14% year on year.

The decrease in imports was mainly because of bearish buying interests from importers due to the negative import margin for Group II base oils. Chinese buyers' dependence on imports may continue to fall in the second half of the year due to the US trade war with China, the price war brought about by the commissioning of many new units in China, and China's economy still showing no signs of recovery. Lubricant companies are thus expected to reduce imports.

Turning to pricing trends, import prices for Group II N150 and N500 have shown an upward trend while prices ex-tank East China were in a downward trend.

In the week ended 17 May, import prices for Group II base oils were assessed at \$630-650/tonne CFR (cost & freight) China for N150, up by \$20/tonne from early January; and at \$665-670/tonne CFR China for N500, up by \$32.5/tonne in the same period.

However, in the local-origin Group II market, prices were on a downward trend. In the week ended 17 May, Group II N150 was assessed at yuan (CNY) 6,850-6,950/tonne,

down by CNY275/tonne from early January; while N500 was at CNY7,200-7,250/tonne, down by CNY525/tonne.

Importers have thus faced losses during trading activities since mid-March, with rising import costs and decreasing selling prices in the Chinese domestic market. Despite China's reduction in value added tax (VAT), importers still had no interests in making more spot purchase due to rising Asian spot values, declining domestic prices and weak lubricants demand.

The second half of the year will be more difficult for the Chinese base oils market, with poor production margins... and sluggish demand from end users

As of 1 April, China reduced the VAT rate to 13% from 16% for manufacturing industries, and to 9% from 10% for the transportation and construction sectors. The move slightly lowered base oils import costs, but did not alleviate losses amid rising prices in the Asian markets, some mainstream Chinese importers said.

Meanwhile, importers are expected to

reduce import volumes of spot base oils in the second half of 2019 to avoid further losses, due to weak demand from lubricant companies as well as the depreciation of the Chinese yuan against the US dollar because of the trade war with the US.

Therefore, Asian refiners may export more spot cargoes to Southeast Asian markets, especially to the Indian market as demand in India will increase, prompting increased requirements from overseas markets.

In addition, some Asian Group II refiners said they are unwilling to cut their spot offers to boost exports when faced the weak demand from the Chinese market, as their production margins were poor. They are expected to reduce the operating rates of their Group II units if crude oil prices continue to rise.

SK Lubricants has cut the operating rate at its 300,000 tonne/year Group II unit in May and is considering shutting down the plant from June on poor production margins, according to the company.

In summary, most participants expect that the second half of the year will be more difficult for the Chinese base oils market, with poor production margins for suppliers, negative margins for traders and sluggish demand from end users. ■

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China plant startups top the news

The past three months have been a busy one for companies in the base oils and lubricants sector, especially those in China who are starting up new capacities

JOHN BAKER LONDON

MARCH

China's Hebei Feitian Petrochemical says it plans to start up its new 250,000 tonnes/year Group II base oils plant in September 2019, as part of its Phase II project. The producer already has a 100,000 tonne/year high-pressure hydrogenation unit, producing mainly Group I and II base oils, naphthenic base oils, white oils and D-series solvent oils. Volumes from the new unit will meet demand from lubricant producers in Hebei and surrounding regions.

Shandong Weifang Shida Changcheng Energy Technology Co makes its new Group II base oils products available for sale. The company started up a new 300,000 tonne/year Group II base oils plant in early February, producing mainly Group II base oils 60N, 100N, 150N and 350N. Group II 60N, 150N and 350N are available for the commercial market.

Nynas launches its first biobased tyre oil to support tyre producers' sustainability goals. NYTEX BIO 6200 is the company's first tyre and rubber process oil to be produced using renewable feedstock. It has been specially developed to provide tyre companies with a product that meets the high-performance standards of all Nynas tyre and rubber oils, while supporting them in reaching their sustainability goals.

China's Hainan Handi Sunshine Petrochemical says it has further postponed start-up of a 700,000 tonne/year Group II/III base oils unit in Hainan province to the end of 2019. The decision was driven by a heavily oversupplied market in China. Product grades have yet to be finalised. The unit uses Honeywell UOP's hydroprocessing solutions and Exxon-Mobil's catalytic dewaxing technology. The company already operates a 300,000 tonne/year Group II base oils unit.

China's Hengli Petrochemical (Dalian) says it will start up a new 540,000 tonne/year Group II and III base oils plant in Dalian,



Fuchs Petrolub's new facility in the Wujiang district of Suzhou, China, is now operational

northeast China, in early April 2019. The new plant will produce mainly Group III base oils. It will use Chevron's isodewaxing and isofinishing technologies, aimed at producing Group II base oils 2 cSt (50N), as well as Group III base oils 4 and 6 cSt.

Shandong Huanghe New Materials Co starts up its 150,000 tonne/year base oils plant in Shandong province on 11 March. The Group II base oils plant produces Group II 150N and 500N base oils. Detailed sales plans have not been decided, but new products may be sold directly into the free market. Founded in April 2017, the company is a wholly owned subsidiary of Shandong Kaitai Petrochemical and specialises in lubricants, white oil and fuel oil.

Fuchs Petrolub agrees to acquire Australia's Nulon Products for an undisclosed sum. Nulon produces and sells oils, fluids and additives for the automotive retail sector in Australia. The company, with annual sales of about €25m and 65 employees, has a plant near Sydney where Fuchs intends to continue production.

Quaker Chemical opens a new plant in Dahej, India, to produce rolling oils and metalworking fluids for the steel and metalworking market in India, the Middle East and eastern Afri-

ca. The Dahej facility will add between 7,000 to 12,000 tonnes/year of capacity to the company's operations by the end of 2019, with plans to increase that capacity to 20,000 tonnes/year over the next few years.

Fuchs Petrolub expands its site in Kaiserslautern, adding a new warehouse, two production halls and new office space, for a total investment of €16m. The facilities have been built on the premises of Fuchs Lubritech, which mainly produces lubricants for special applications. The site now covers a total of 96,000m².

HollyFrontier advises its shareholders to reject an unsolicited mini-tender offer by TRC Capital Corp. TRC wanted to acquire 1.17% of HollyFrontier's outstanding shares, offering \$49.75/share, but HollyFrontier said the offer price was 4.38% lower than the company share price on 1 March, the last trading day before the commencement of the offer.

Kenco Logistics opens a regional distribution centre in Pittsburgh, Pennsylvania, for Shell Lubricants. "This new regional distribution centre will help reduce driver risk for the local community due to a projected 11% increase in existing customers within a one-day delivery range of the centre," said Carlos

Maurer, president at Shell Lubricants Americas. “With the opening of the Kenco centre, we expect to remove more than 1m road miles due to this customer-centricity and estimate a nearly 1,500 tonne reduction of [carbon dioxide] CO2 emissions from on-road transport.”

APRIL

The UAE’s Abu Dhabi National Oil Company (ADNOC) agrees to the long-term supply of its *ADbase* base oil to Indian Oil Corporation (IndianOil). *ADbase* is a high viscosity index (VI) base oil offering efficiency and fuel economy in high-performance engines while meeting environmental regulations. IndianOil will use *ADbase* oils to produce high-end engine oils for India’s growing automotive sector. The company sells approximately 450,000 tonnes/year of finished lubricants in the country.

China’s Henan Junheng Industrial Group Biotechnology says it plans to start up its new 300,000 tonne/year Group II base oils plant in July 2019, but has not decided the grades the new unit will produce. A new 70,000-80,000 tonne/year D-series solvent oil unit will be commissioned in tandem with the base oils plant. The company was established in May 2012 and is a wholly owned subsidiary of Henan Junheng Industrial Group.

Saudi Aramco buys a 17% stake in South Korea’s Hyundai Oilbank for \$1.25bn. The acquisition “will support Saudi Aramco’s crude oil placement strategy by providing a dedicated outlet for Arabian crude oil to South Korea,” Aramco said in a statement. The investment will also support Saudi Aramco’s broader downstream growth strategy as well as providing long-term crude oil options and offtakes as part of its trading business.

Japan’s Idemitsu Kosan and Showa Shell Sekiyu merge, becoming the second-largest lubricants supplier in Japan. The new company is called Idemitsu Kosan, but business will be conducted under the trade name Idemitsu Showa Shell. Total sales including other oil and petroleum business is about \$52bn, and



ADNOC and IndianOil executives at the signing of the *ADbase* deal

the company has 130,000 employees. Idemitsu Kosan has a 305,000 tonne/year base oils plant in Chiba. Showa Shell has a 290,000 tonne/year base oil plant in Yokkaichi.

ExxonMobil makes a final investment decision on a “multi-billion dollar” investment to expand its integrated manufacturing complex in Singapore, allowing it to convert fuel oil and other bottom-of-the-barrel crude products into higher-value lube base stocks and distillates. The investment will add 20,000 bbl/day of ExxonMobil Group II base stocks capacity and 48,000 bbl/day of cleaner fuels with lower sulphur content. EPC activities have begun, with start-up expected in 2023.

China’s Shandong Qingyishan Petrochemical Technology starts selling Group II base oil products to the domestic market. The company started up its new 800,000 tonne/year Group II base oils plant in mid-March. It produces mainly Group II base oils 100N, 150N, 250N, 400N, 500N and 750N. Shandong Qingyuan Group has a total base oils production capacity of 1.4m tonnes/year at present.

Mitsui Chemicals breaks ground on a new plant to produce hydrocarbon-based synthetic oil at its Ichihara site in Japan’s Chiba prefecture. Commercial operations are due to begin in early 2021. The plant will produce synthetic fluids, which are used primarily as viscosity modifiers in applications such

as automotive driveline oils and industrial lubricants and greases. It is “the approved choice for leading original equipment manufacturers and global oil marketers,” Mitsui said. The company sells the product under the brand name *Lucant*.

Fuchs Petrolub opens its new facility in Wujiang district of Suzhou, China. The state-of-the-art facility, which began construction in 2017 with an investment of €46m, replaces the old plant in Shanghai. The new 80,000m² plant has an initial capacity of 100,000 tonnes/year, almost double the capacity of the Shanghai plant. The automated high-bay warehouse has a capacity of 12,000 pallets. Product portfolio includes automotive oils, industrial oils, metalworking fluids, corrosion preventatives, rolling oils, coating materials and products for the forging industry.

LANXESS announces that its lubricant additives will be distributed in North America by Palmer Holland, as part of LANXESS’ restructuring of its distribution set-up for its lubricant additives products. Ohio-based specialty chemical distributor Palmer Holland will add a variety of base stocks, additives and finished fluids to its current offering of *Additin* products.

MAY

ExxonMobil completes the expansion of its Group II base oils plant in Singapore earlier than its original schedule of June. The plant’s Group II capacity has been increased by 100,000 tonnes/year to 1.7m tonnes/year. It will produce mainly Group II base oils N150 and N500. ExxonMobil’s supply of spot Group II base oils will rise after the expansion. ExxonMobil is expanding further in Singapore, with plans for another 1m tonne/year Group II base oils plant, expected to come on line in 2023.

Malaysia’s Petronas Chemicals Group acquires Netherlands-based lube oil additive manufacturer BRB International’s holding company Da Vinci Group for €163m in cash. The move, says BRB, marks Petronas’ first step into specialty chemicals via inorganic growth. Petronas Chemicals’ managing director and CEO Datuk Sazali Hamzah said the acquisition accelerates the realisation of its vision to create value by diversifying its product portfolio.

China’s Hengli Petrochemical (Dalian) says it plans to achieve stable production at its new 540,000 tonne/year Group II and III base oils plant in Dalian, northeast China, in early June. The company started up its 20m tonne/year refining and chemical integrated project on 11 May. However, the new base oils plant has yet to come online as the upstream feed-stock plant still requires test runs, with no sales plans available. ■



Idemitsu Kosan and Showa Shell Sekiyu have merged, creating the second-largest lubricants supplier in Japan



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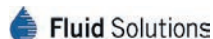


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Committed for the long term

ICIS talked to Shaara Blome of ExxonMobil, and a speaker at the Asian Base Oils Conference, about the company's views on the market and its investments in Group II capacity

JOHN BAKER LONDON

How do you see the supply and demand picture for Group II base oils globally, and in the Asia region particularly?

Due to the increasing need for quality finished lubricants, especially passenger car motor oil (PCMO) and heavy duty motor oil (HDMO), there has been a steady increase in the penetration and use of Group II globally, including in Asia-Pacific.

Group II is capable of supporting finished lubricant blenders by providing them with more options to meet evolving specifications. This growth in demand has led to an associated increase in supply, with additional production capacity now available in both Europe and Asia-Pacific.

What are the key factors driving increasing demand for the material in Asia? What growth rates in consumption are you expecting?

Across Asia-Pacific, finished lubes demand is dominated by three major markets – China, India and Indonesia. These represent 65-70% of Asia-Pacific demand and 25% of global demand, based on ExxonMobil's assessment of industry data.

As the region continues to support the world in consumer goods manufacturing, industrial demand remains steady. While growth rates are not as robust as they were 10 years ago, there is still ample growth due to factors such as increasing domestic demand for automobiles and personal consumables, as well as a growing middle class.

Automotive lubricants, in particular, have driven demand with car parcs and vehicle ownership increasing across these developing markets as they begin to mature.

What impact will the start-up of the new ExxonMobil Group II base oil facility in Rotterdam, Netherlands, have when it is fully up to capacity? Will you be sending production out of Europe into Asia?

The Rotterdam refinery expands ExxonMobil's base stock offer and improves the availability of Group II base stocks globally. Rotterdam's Group II production capacity can significantly reduce European reliance on imports.

As Group II base stocks demand continues to grow, ExxonMobil is working to expand and enhance its supply network to offer customers the flexibility and reliability they require. The Rotterdam supply offer is available from various terminals in Valencia (Spain), Vado Ligure (Italy), Liverpool (UK) and Hamburg (Germany), as well as from distributors in Dubai (UAE) and Durban (South Africa).

Outside Europe – and in Asia-Pacific specifically – ExxonMobil continues to invest in Group II production. ExxonMobil recently

completed expansion efforts at its Singapore refinery in Jurong to increase the production of the company's high quality EHC Group II base stocks in the region.

Additionally, ExxonMobil is proceeding with the multi-billion-dollar expansion of its integrated Singapore complex to produce cleaner fuels and further expand lubricant base stocks production – including the introduction of a new, unique high-viscosity Group II base stock.

How will the planned Singapore capacity increases change the scenario in the future? Can you outline what you are proposing to build in Singapore – both the current expansion and the new investment?

ExxonMobil recently completed expansion efforts at its Singapore refinery that will help lubricant blenders meet more stringent specifications and provide greater flexibility in their formulations by increasing the produc-



ExxonMobil's refinery in Singapore has just expanded base oils capacity and a further large investment is planned for 2023

» tion of higher-quality *EHC 50* and *EHC 110* base stocks.

For example, automotive lubricants like *PCEO 5W* and *10W* & *HDEO 10W* and *15W* formulations will benefit by using our *EHC* Group II base stocks to meet industry specifications while potentially reducing Group III base stocks content and additive treat rates, which can ultimately lead to cost savings.

Additionally, ExxonMobil's announcement recently to proceed with the multi-billion-dollar expansion of the Singapore integrated manufacturing complex to produce cleaner fuels and expand lubricant base stocks production.

By using a combination of proprietary catalyst and process configuration technologies, ExxonMobil will upgrade and convert bottom-of-the-barrel crude products into fuels products and higher-value base stocks.

The investment will add 20,000 bbl/day of ExxonMobil Group II base stocks capacity – which includes *EHC 50* and *EHC 120* grades – and a new extra heavy viscosity Group II base stock for applications that specifically require superb oxidation stability and low-temperature performance.

The new product aims to help blenders in Asia-Pacific achieve greater formulation flex-



SHAARA BLOME
Business venture executive, ExxonMobil

“[Our] new product aims to help blenders in Asia-Pacific achieve greater formulation flexibility”

ibility while blending a wide-range of cost-effective finished lubes.

Do you anticipate that for some while at least the market will be oversupplied, given that supply is long even before the new expansions? What other Group II capacity do you see adding to the market supply in the next five years?

Like any other market, there will be periods of time when supply and demand do not balance perfectly. Manufacturers then have strategic choices to make about how they

want to approach their business.

ExxonMobil believes demand growth in Asia-Pacific is still robust and is committed to reliably supply our customers with high-quality base stocks and the expertise to help them win in the marketplace.

What areas of the Group II market is ExxonMobil concentrating on with its new material, and how does that impact its current Group I offerings?

ExxonMobil's *EHC* Group II base stocks will help customers meet evolving specifications in the automotive industry that call for improved fuel economy, lower emissions and greater durability.

ExxonMobil is committed to producing both Group I and II base stocks for the long term. With refineries producing Group I base stocks in each region around the world, ExxonMobil has the flexibility to sustain a cost-competitive Group I manufacturing base well into the future.

As Group I is still the preferred base stock of choice in applications requiring high viscosity and solvency, such as marine and heavy-duty industrial applications, it remains an integral part of ExxonMobil's global supply network. ■

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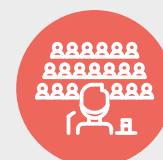
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World Base Oils review

Major base oil players had plenty of news to tell at the ICIS World Base Oils & Lubricants conference in London in February, as reported by ICIS editors at the event

JOHN BAKER LONDON

The 23rd ICIS World Base Oils & Lubricants conference, held in London on 20-22 February, offered three days of seminars, workshops and presentation, and proved as full of news, information and analysis as ever.

Top of the news agenda was confirmation from Sylvie Houry, global market development manager for base stocks and specialties at ExxonMobil, that the company's new Group II base oils plant in Rotterdam, the Netherlands, was "now commercially ready" and that "first shipments have left the refinery."

"Production [has been] running on spec for a bit more than two weeks now," Houry told delegates, adding, "Product is being distributed. Customers will receive first shipments in first quarter of this year."

Confirming the capacity of the plant, Houry said, "We can now say Rotterdam is the first world-scale Group II [production] in Europe, producing about 1m tonnes/year."

Other top news from the meeting included the announcement that South Korea's SK Lubricants is planning to expand its Spanish and Indonesian base oils plants. Nick Clague, global technical manager, said, "We're currently looking to expand capacity in [Spanish plant] Ilboc and also Dumai [Indonesia]."

INCREASED CAPACITY IN SPAIN

SK Lubricants has since confirmed that capacity in Spain will be increased by 200,000 tonnes/year. Expansion of the joint venture Group II/III plant in Cartagena (SK is the major partner in a 70:30 split with Spain's Repsol) will cater to increasing demand from *Yubase* customers.

Clague also noted that, "Talks are in the very early stage of us developing a new base oils plant." He did not disclose a precise timeline for the project, or whether a final investment decision (FID) had been made.

Also making a major announcement was Petronas Lubricants International (PLI), which revealed it is refocusing on Group III+ base oils. The company plans to expand pro-



RAVI CHAWLA
Managing director, Gulf Oil Lubricants India

"India is expected to continue to be one of the fastest growing lubricant markets in the world"

duction despite longer-term concerns about feedstock availability, its chief commercial officer, Guiseppe Pedretti, told ICIS.

Standard Group III grades have become "commoditised," according to Pedretti, which has driven the decision to focus on the more specialised grade. The company is also looking to earn more approvals from manufacturers.

Pedretti said the move to Group III+ is a "strategic change in the direction." Group III+ production started in 2018 at the Malaysian producer's base oil plant in Malacca, which currently has a capacity of 300,000 tonnes/year.

"We adapted the refinery to switch from normal Group III to Group III+. Now we can produce 100% Group III+," said Pedretti.

The entire business will pivot towards the pluses, he suggested, adding, "In the future... formulation for captive use will only use Group III+." Capacity is reduced when producing Group III+, but the company is investing to expand capacity, said Pedretti. PLI officially launched the new base oil brand, *ETRO+*, at the time of the ICIS conference.

Not to be left out of the news flow, Saudi Aramco told ICIS at the event that it is officially dividing its global business into

"zones" served by each of its arms that previously sold base oils under different brands.

Aramco-owned US business Motiva, South Korea's S-Oil and the Middle East-based Luberef will now sell their products under Aramco brands, meaning brands such as Motiva's *STAR* will not be marketed anymore.

Mahdi Al-Adel, Aramco's base oil director, said the heart of the strategy would be a "zonal market structure" where the companies each have a marketing zone.

Luberef will market in the Middle East and Africa, Motiva in the Americas and S-Oil in Europe and Asia. They are "transitioning to zonal structure in 2019", he added. The brands *aramcoDURA*, *aramcoPRIMA* and *aramcoULTRA* will be offered by affiliates.

Rebranding efforts have started, said Al-Adel; some are almost complete, and it is "important to note there are no changes to products". This paves the way for the businesses to offer a global slate of products that are the same across regions, he said.

INDIAN MARKET OUTLINED

On the base oils market front, delegates heard from Ravi Chawla, managing director of Gulf Oil Lubricants India, that India is the third largest lubricants market in the world. "Indian lubricants demand in 2017 accounted for 6%, or 2.7bn litres of total world lubricants consumption," he said. "India is expected to continue to be one of the fastest growing lubricant markets in the world," Chawla added.

Consumer automotive lubricants sales in India are expected to grow at a compound annual growth rate (CAGR) of 6% from 2016-2021, with commercial automotive lubricants at 2% CAGR and industrial lubricants at 1.6% CAGR, data presented by Chawla showed. "Synthetic and semi-synthetic lubricants are expected to grow significantly faster, thereby leading to an increase in demand for Group III base oils," he said.

On the technology front, Takumaru Sagawa, manager of the powertrain materials group at Japanese automobile major Nissan, noted that low viscosity base oils and lubricants will be key to improving fuel economy and reducing carbon dioxide (CO₂) emissions.

OEMs need further technical developments in lubricants to make these improvements, he said. "Electrification will be expanded, but the internal combustion engine (ICE) will still be the major powertrain," said Sagawa. Some lower viscosity grades have been under consideration to receive additional tax incentives, especially in Japan, he added.

Additives also have a role to play. "High performance base oils are expected, but compatibility with additives needs to be considered," said Sagawa. The areas of interest are additive solubility, friction modifiers and seal compatibility, he added. ■



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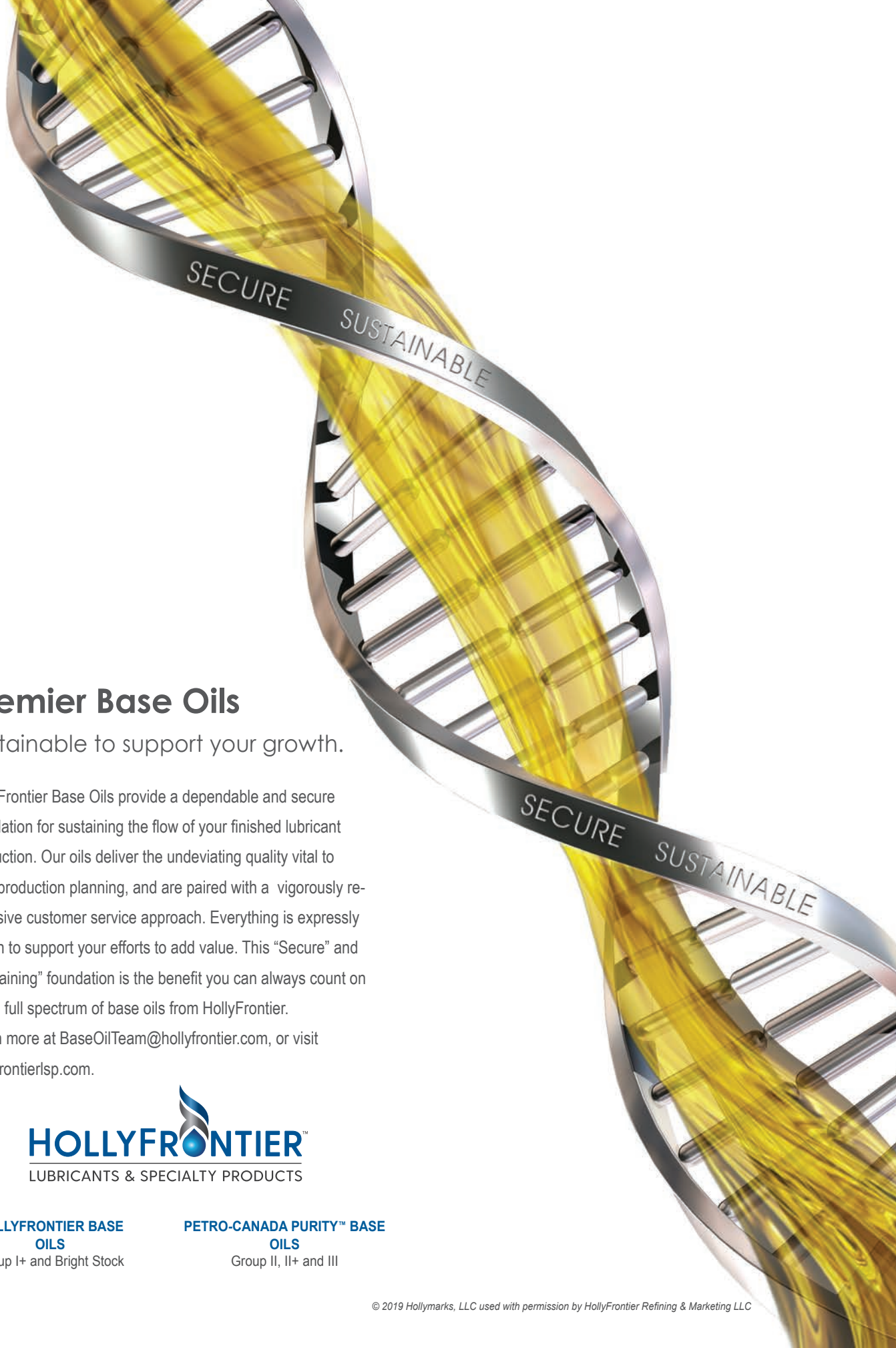
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