FINANSIA
FSS INTERNATIONAL INVESTMENT ADVISORY

Thailand Refinery

GRM: Gasoline in retreat as diesel set to rebound

- We think the bullish GRM cycle could return due to China's lower diesel and gasoline export quotas, the Russian oil supply risk, and new demand upsides for diesel.
- We expect the oil price to spike again to USD120-130/bbl in 4Q22, given the apparent lack of oil supplies available to replace the potential supply shortfall from Russia.
- Among Thailand's six refiners, we prefer ESSO and SPRC as our two top picks.

Supply-side drivers could overshadow demand downside from the US recession

After spiking in June and July to record highs, the margins of refined oils have plunged markedly, resulting in sharp drops in market GRMs. However, we think three key factors could turn the GRM cycle bullish again. First, China has slashed export quotas for diesel and gasoline by more than 30% y-y and by 50% compared to 2020, which could further tighten the global demand-supply balance in 2022. Second, the risk of a drop in Russian oil supply in 4Q22-1Q23 remains high due to potential logistics problems. Third, the demand upsides for diesel as a heating fuel on seasonal demand and additional demand as a substitute for Russia's gas supply shortfall to the EU could boost the diesel-Dubai margin.

Risks for Russian oil and gas supplies could intensify in the coming winter

By 4Q22, we believe Russia could face a drop in oil sales by 0.5-1.0mbpd due to transportation problems as Russia now needs to transport its oil via smaller ships. In addition, the availability of oil supplies that may replace the production lost from Russia remains questionable, including Iran (US sanctions) & OPEC (unwilling to raise production with low spare capacity). Hence, we expect the oil price to spike again to USD120-130/bbl in 4Q22. The lower Russian oil supply combined with the Energy Information Administration (EIA)'s projected demand growth of 2mbpd in 2022-23 could offset the impact of 2.3mbpd in additional capacity from nine new refinery projects coming online by end-2023.

Diesel demand growth is a critical wildcard amid a bullish oil market in 4Q22

The EIA states that while demand for gasoline in the US has declined y-y since Apr-22 due to the rising retail gasoline price after jumping 7% y-y during 1Q22, the demand for diesel and jet (middle distillates) is projected to rise to account for 29.5% and 8.4% of total demand, respectively, up from 26.3% for diesel and 4.3% for jet in 2020. In addition, "substitute demand" for diesel as a heating fuel amid the gas supply shortfall in Europe this coming winter should further strengthen the already strong seasonal demand.

ESSO and SPRC are our top picks with solid GRMs and no hedging losses

Of the six major refiners, we prefer ESSO and SPRC as our two top picks and remove BCP due to its hedging loss position. TOP, PTTGC, and IRPC remain less attractive due to their large hedging losses and weak earnings from petrochemical products which should remain oversupplied in 2022-23, based on TOP's forecast. We project the market GRMs of all Thai refiners to rise markedly to over USD17/bbl, ranging from USD17/bbl for IRPC, USD20/bbl for TOP and PTTGC, USD21/bbl for BCP, USD22/bbl for ESSO, and USD23/bbl for SPRC. Hedging losses will play a greater role in deciding the real winners, in our view.

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GRM: Gasoline-led retreat ahead of diesel-led rebound

In the past two months, the Singapore gross refining margin (SGRM) has plunged from its peak at USD32/bbl in May down to the current USD13/bbl on 3 Aug-22, dragged down by sharp drops in the margins of gasoline and high sulphur fuel oil (HSFO) over the Dubai crude price as a result of weaker driving season demand in the US and a looming recession.

The Singapore GRM (SGRM) may not be a good proxy for Thai refiners' GRM. The recent sharp drop in the SGRM has triggered grave concern among investors over the GRMs of Thai refiners in 3Q22. But we think the actual market GRM of Thai refiners will be much higher than the SGRM given that:

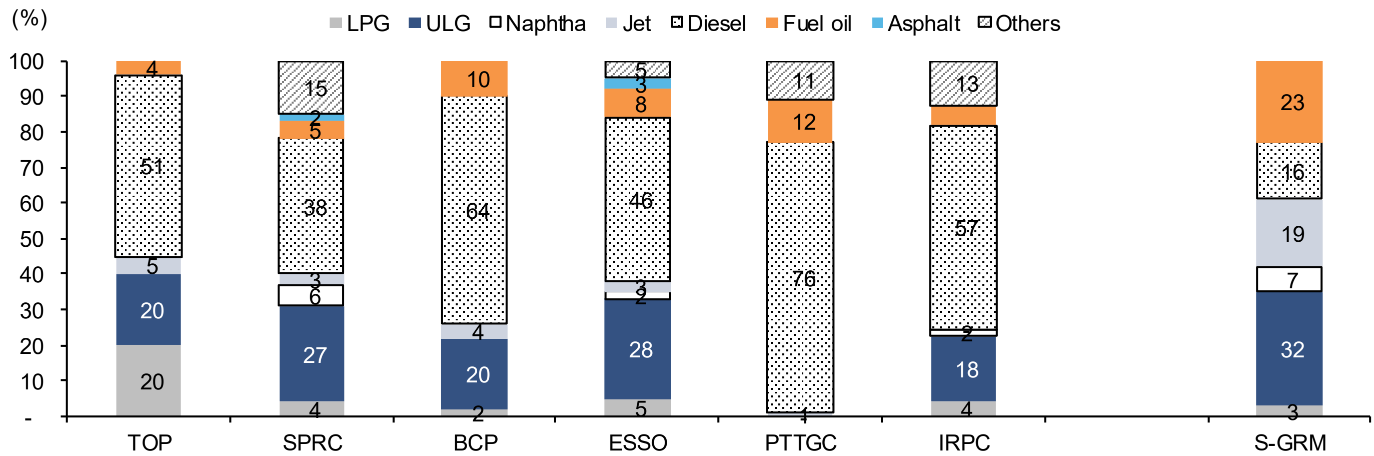
1) Thai refiners produce a much lower gasoline yield at 20-28% vs Singapore's 32%. In our view, this is behind the SGRM's sharp drop that followed the plunging margin of gasoline-Dubai from over USD40/bbl in May to less than USD20/bbl in Aug-22.

2) Thai refiners produce only a 2-12% yield of HSFO vs 23% for their counterparts in Singapore, which left the SGRM exposed to the sharp plunge in the HSFO-Dubai margin which currently stands at negative USD21/bbl as of 3 Aug-22.

3) Thai refiners produce much higher yields of middle distillates (41-77%), comprising diesel (38-76%) and jet (1-5%) compared to Singapore refineries' middle distillate yield of 35%, comprising diesel (16%) and jet (19%). This discrepancy leads to a variance between the SGRM and that of Thai refiners given the margins of diesel and jet over Dubai remain high at over USD30/bbl.

4) SGRM does not include the impact of the crude premium, which is the key cost factor for all Thai refiners as their crude purchases are subject to increases in crude premiums.

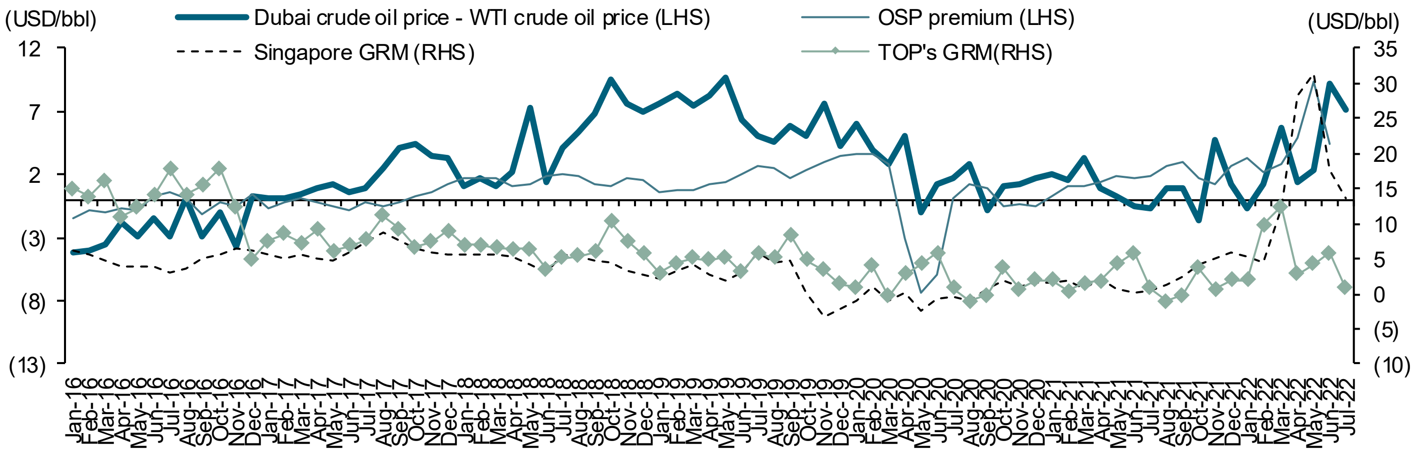
Exhibit 1: Refinery production yield of Thai refineries vs Singapore GRM structure



Sources: Companies; Bloomberg; FSSIA estimates

Up to USD3-5/bbl higher GRM for Thai refiners than the Singapore GRM on average. As a result of the production yield difference, we think the actual market GRMs of Thai refiners in 3Q22 would be USD3-5/bbl higher than the SGRM, which currently stands at USD13/bbl as of 3 Aug-22, including the impact of the high crude premium.

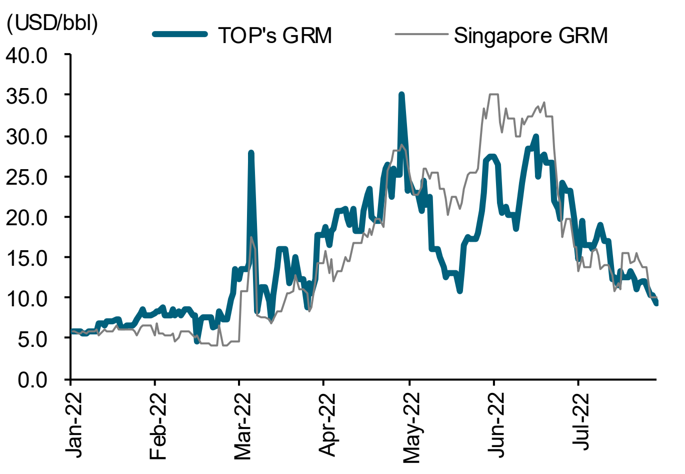
Exhibit 2: Dubai-WTI crude premium, Singapore GRM and TOP's GRM



Source: Bloomberg

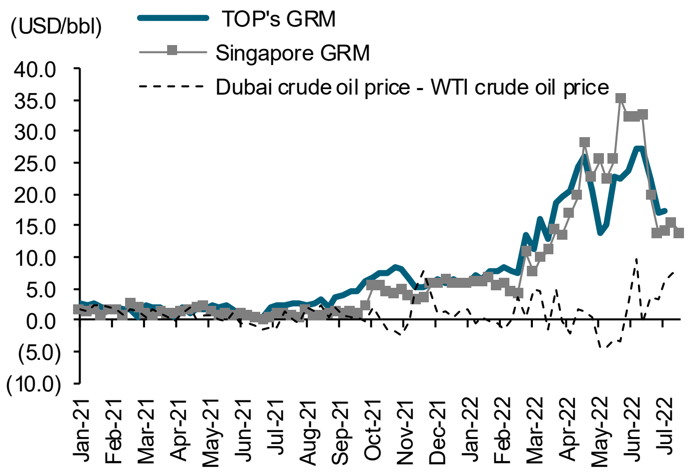
However, for certain refiners like TOP, which consumes crude types whose prices are highly exposed to the changes in crude premiums – mainly crudes imported from Middle East – we think the actual GRM, net of the crude premium and different product yields, may be comparable to SGRM or even lower despite the significantly higher crude premium.

Exhibit 3: TOP's GRM vs Singapore GRM (daily)



Source: Bloomberg

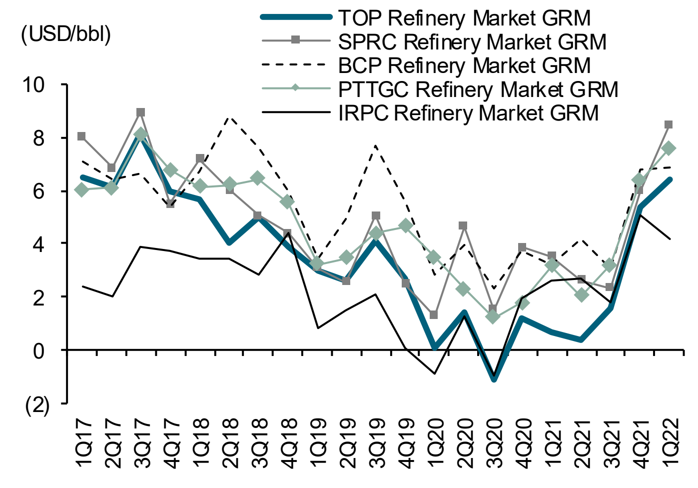
Exhibit 4: TOP's GRM vs Singapore GRM vs Dubai-WTI (weekly)



Source: Bloomberg

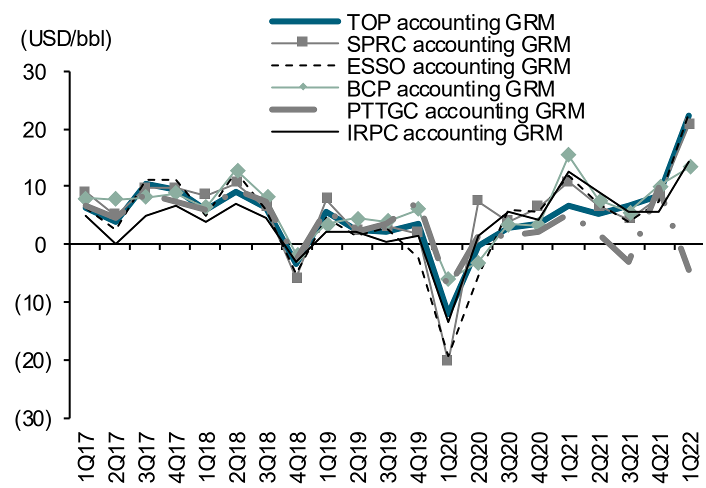
For other Thai refiners, we think the impact of crude premiums will be less than for TOP thanks to their lower consumption of Middle East crudes. Hence, we expect SPRC, ESSO, BCP, IRPC, and PTTGC to post a higher market GRM (excluding inventory gain/loss) than TOP's in 3Q22.

Exhibit 5: Thailand refineries' market GRMs



Source: Company data

Exhibit 6: Thailand refinery companies' accounting GRMs

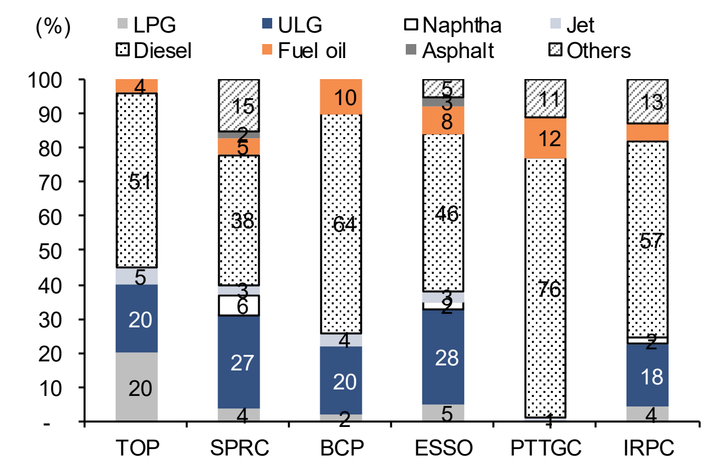


Source: Company data

Market GRM comparisons based on production yield and crude premium in 2Q22. Based on 1Q22 production yields, we estimate that ESSO and SPRC will see higher market GRMs than their local peers, given their higher yields of gasoline and lower crude premiums despite their high consumption of crudes imported from the Middle East thanks to their parent companies' (Chevron for SPRC and Exxon Mobil for ESSO) extensive networks for procuring most cost-effective crudes worldwide.

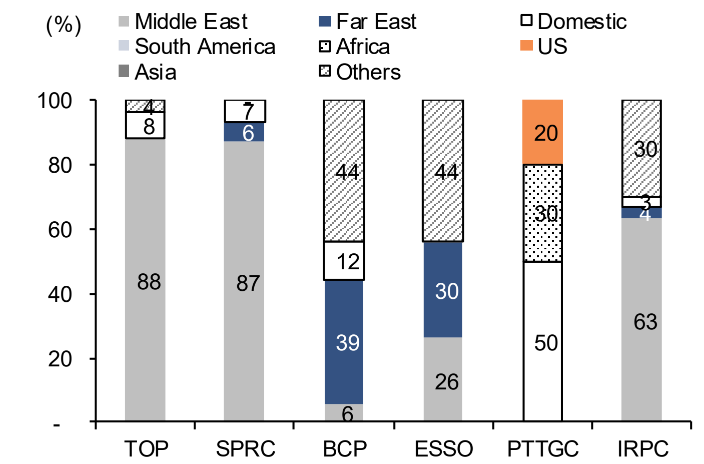
BCP stands out as a winner for its high market GRM, thanks to BCP's lower crude premium as a result of its high consumption of local crude (12%) and low use of Middle Eastern crude (6%). We estimate that BCP's crude premium could be up to USD3-4/bbl lower than its local peers.

Exhibit 7: Product yield breakdown as of 1Q22



Source: Companies

Exhibit 8: Crude mix breakdown as of 1Q22

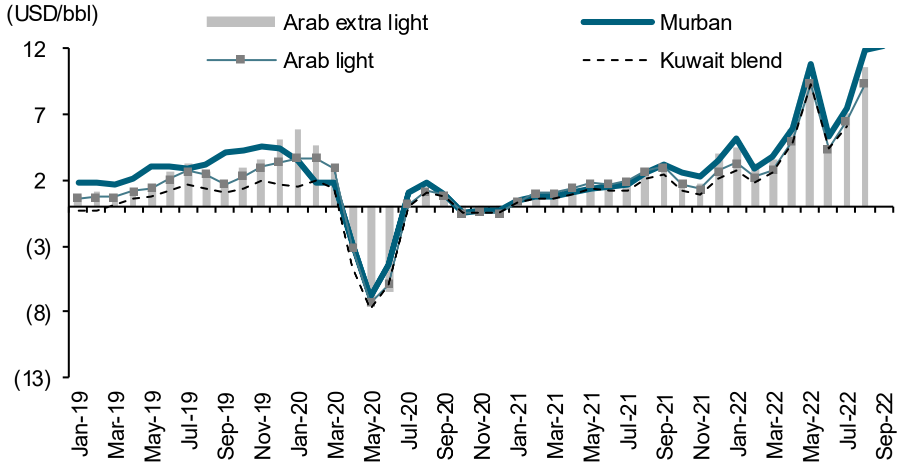


Source: Companies

PTTGC consumes no crude imported from the Middle East. Instead, PTTGC uses condensate sourced locally for around 50% of its total petroleum production of 240kbpd and the remaining 50% of its crude is procured from Africa (30%) and the US (20%), whose prices move in tandem with the crude premiums of Middle Eastern crudes. Hence, we expect PTTGC's refinery units to see a limited impact from crude premiums. However, with the majority of its yield (76%) being diesel, we think PTTGC's lack of jet and gasoline production means that it will post a lower market GRM than its peers in 2Q22.

TOP and IRPC are two refiners that we think will suffer the highest impact from the rising crude premiums, given their high consumption of Middle East crude types whose prices are highly subject to the hikes in the crude premiums announced one month in advance by Saudi Arabia. The major crude types that are consumed by TOP and IRPC include Arab Light, Arab Extra Light, and Murban, which together account for over two-thirds of the crude consumed by TOP and IRPC, based on our estimates.

Exhibit 9: Crude premiums of Middle Eastern producers



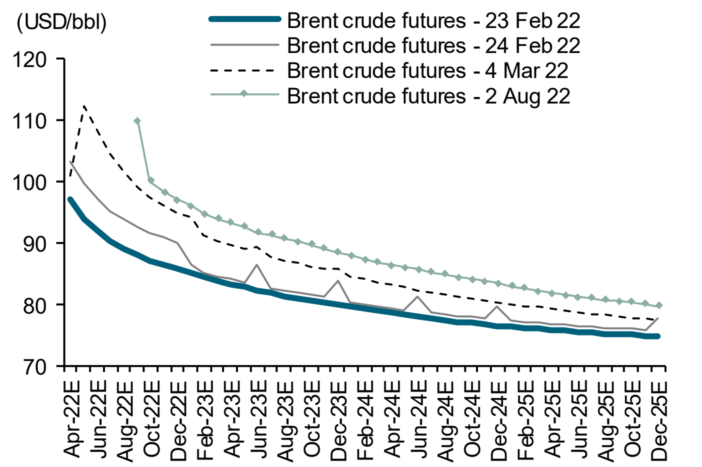
Source: TOP

Global oil market demand and supply remains volatile

Using the futures of West Texas Intermediate (WTI) for the US market and Brent for Europe, we found that the oil market has turned from very tight in Mar-22 – shortly after Russia invaded Ukraine on 24 Feb-22, when the market was concerned about the loss of supply from Russia of over 3-5mbpd – to a more relaxed outlook.

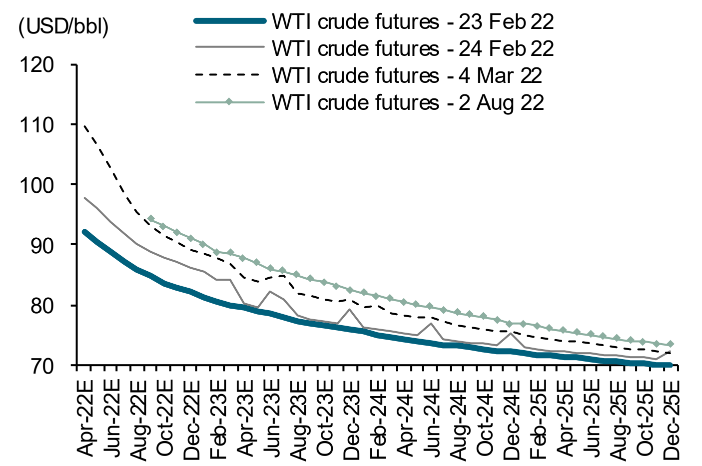
We think this is because Russia has shown that it is still able to sell most of the crude that it previously sold to EU clients to other countries, mainly China, India, and Turkey, resulting in a drop in crude prices by over USD5-10/bbl along the futures line.

Exhibit 10: Futures – Brent crude price



Source: Bloomberg

Exhibit 11: Futures – WTI crude price

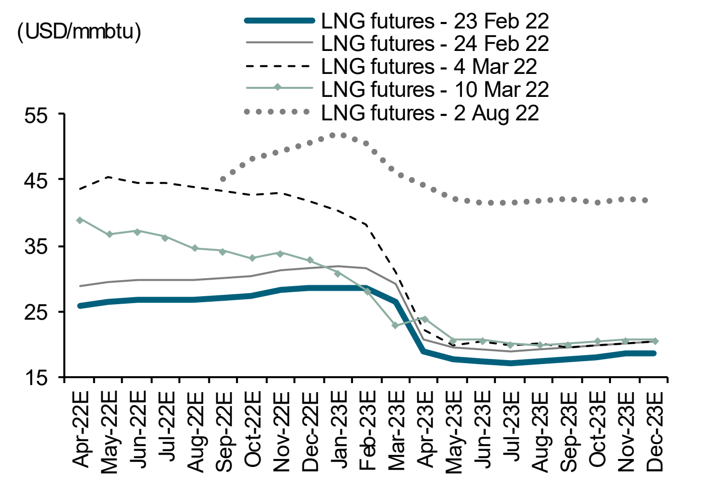


Source: Bloomberg

The intensifying sanctions imposed on the Russian energy market by the EU and the US have pushed up spot LNG gas prices to a record high of USD45/mmbtu and over USD8.5/mmbtu in Apr-Jul 2022 for the US Henry Hub (HH) price.

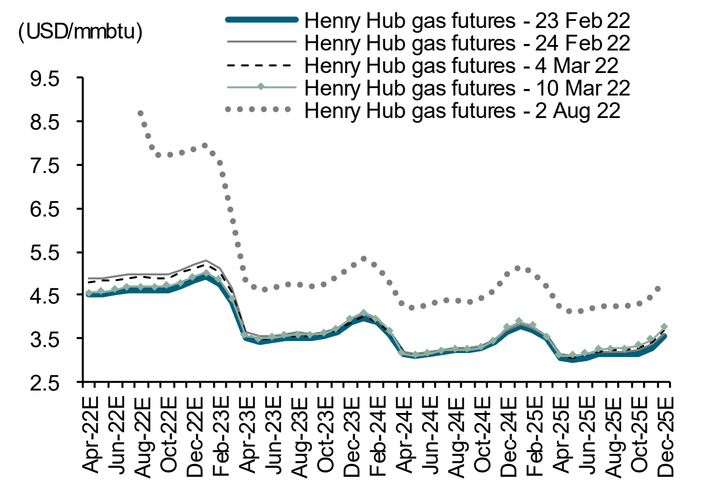
As crude is the source of two key substitute fuels for gas used to generate electricity, we believe the crude price could spike again to even surpass its recent peak of USD112/bbl given the mandate by EU countries to shutter their gas-fired electrical generation capacity and switch over to oil (diesel and HSFO) and coal-fired power plants.

Exhibit 12: Futures – LNG contract price



Source: Bloomberg

Exhibit 13: Futures – Henry Hub gas price

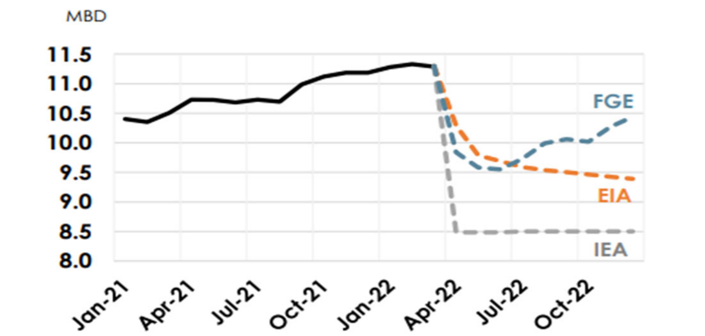


Source: Bloomberg

Oil supply outlook: Higher oil prices in 2H22-1Q23. In 2H22, according to forecasts in Apr-22 by the EIA and the International Energy Agency (IEA), oil production from Russia is projected to drop from 11.3mbpd in Apr-22 down to 8.5mbpd (IEA) and 9.5mbpd (EIA).

However, Russia's actual production losses in Apr-Jul 2022 have been much lower than the projections made earlier by the EIA and IEA, declining by only 1-2mbpd, thanks to Russia diverting its oil sales to other buyers including China, India, and Saudi Arabia.

Exhibit 14: Russia's crude output projections



Source: TOP

Exhibit 15: Production lost after Apr-22

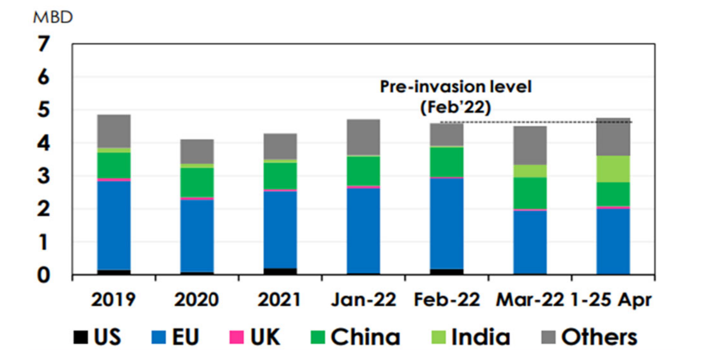
	Supply loss	Rationale
FGE	Reduce by 1.0-1.2 MBD in May-22 and recover after Jun-22 onwards	Some volume relocated to new buyers
EIA	Gradually fall to 1.9 MBD	
IEA	2.8 MBD	Full voluntary embargo

Source: TOP

However, we believe in 4Q22, Russia could face a drop in its oil sales by 0.5-1.0mbpd due to transportation problems as Russia now needs to use smaller ships that transfer their cargoes onto very large crude carrier (VLCC) ships which then transport the oil to their clients mostly in Asia.

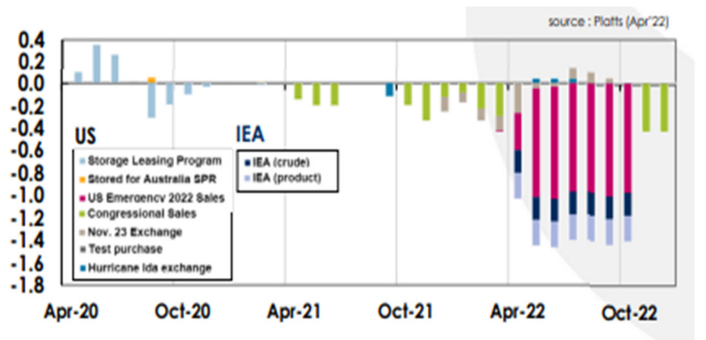
In addition, the availability of oil supplies to replace the production lost from Russia remains questionable at best. These sources include Iran (subject to sanctions by the US), OPEC (unwilling to raise production due to low spare capacity), and strategic petroleum reserves (SPRs). We think these sources are unlikely to fill the supply gap left by Russia and hence we expect oil prices to spike again to USD120-130/bbl in 4Q22.

Exhibit 16: Russian crude oil exports



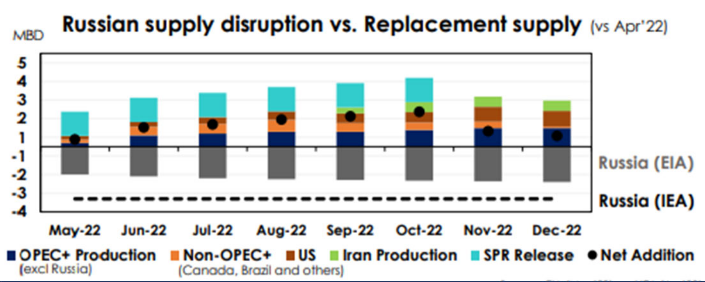
Source: TOP

Exhibit 17: Potential supply replacement from SPR (mbpd)



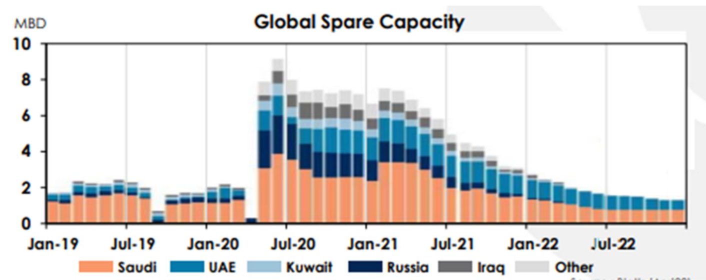
Source: TOP

Exhibit 18: Alternative sources to fill the gap in case of Russian supply disruptions



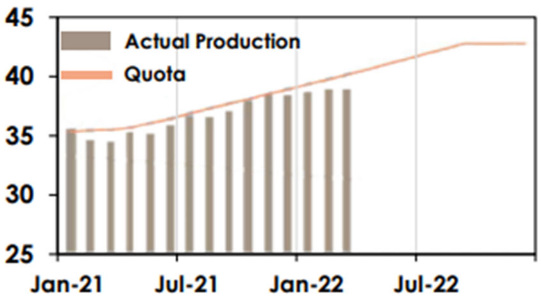
Source: TOP

Exhibit 19: Limited spare capacity should support prices at a high level



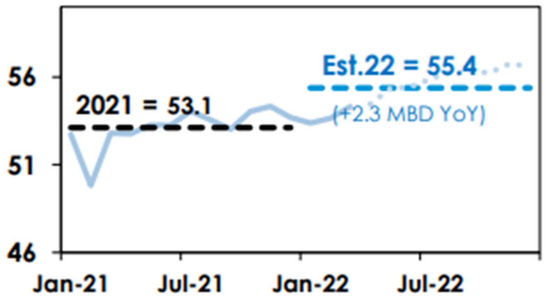
Source: TOP

Exhibit 20: OPEC crude production (mbbl/day)



Source :TOP

Exhibit 21: Non-OPEC crude production (mbbl/day)



Source :TOP

Up to 2.3mbpd of new refinery capacity will be added in 2022-23

According to the EIA, at least nine new refinery projects are either currently starting up or scheduled to come online before the end of 2023, adding around 2.3mbpd in refinery capacity. The IEA's June 2022 Oil Market Report projects net global refining capacity to expand by 1.0mbpd in 2022 and by an additional 1.6mbpd in 2023, reflecting the capacity additions minus capacity that has closed. The rising new capacity follows a period of reduced global refining capacity in 2021 and represents the first expansion in 30 years, according to the IEA.

Exhibit 22: Key projects – new additions

Country	Company	CDU (kbd)	COD	Previous plan startup
China	Rongsheng II	400	1Q22	3Q21
China	Local Shenghong Petrochemical	320	3Q22	4Q21
Malaysia	Petronas	300	3Q22	
China	CNPC/PDVSA	400	3Q22	3Q21
India	Hindustan Petroleum	125	3Q22	4Q20
Thailand	Thai Oil	125	1Q23	
Oman	Al-Duqm	230	1Q23	
Kuwait	AL Zour	615	2Q23	4Q20
China	Sinopec Hainan	100	3Q23	

Source: TOP

Exhibit 23: Key projects – closures

Country	Company	CDU (kbd)	Closure
Malaysia	Petronas	(300)	3Q22
China	Local refineries	(100)	3Q22
Japan	ENEOS	(112)	4Q22
Iran	Abadan	(210)	3Q23
Japan	Various Refineries	(195)	4Q24

Source: TOP

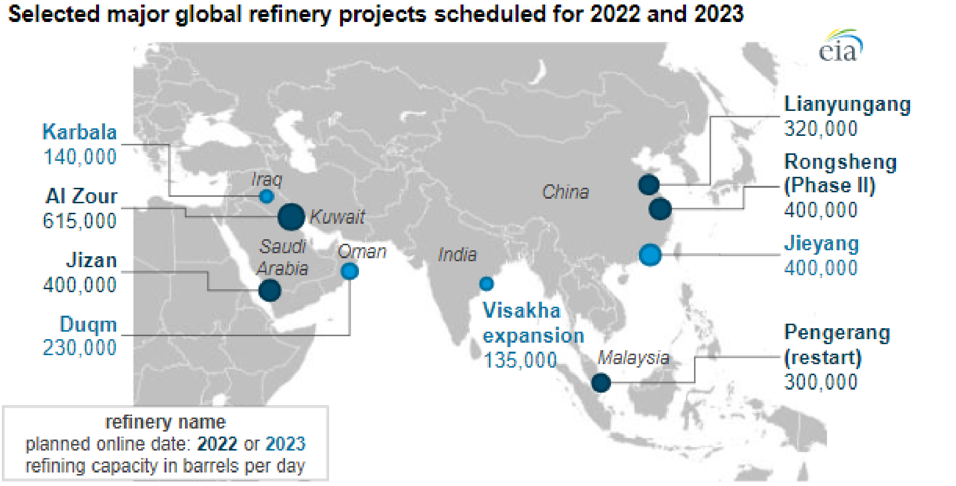
China will add the most significant capacity in 2022 with three new large-scale refinery plants. The 320kbpd Shenghong Petrochemical facility in Lianyungang has been conducting test runs since May-22, and PetroChina's 400kbpd Jieyang refinery is expected to come online in 3Q22. Also, a 400kbpd Phase II capacity expansion began operations earlier this year at Zhejiang Petrochemical Corporation's (ZPC) Rongsheng facility.

Outside of China, the 300kbpd Malaysian Pengerang refinery (also known as the RAPID refinery) restarted in May 2022 after a fire forced it to shut down in March 2020. In India, the Visakha Refinery is undergoing a major expansion, scheduled to add 135kbpd by 2023.

New projects in the Middle East are also likely to be an important source of new refining capacity. The 400kbpd Jizan refinery in Saudi Arabia reportedly came online in late 2021 and began exporting petroleum products earlier this year, and the 615kbpd Al Zour refinery in Kuwait has begun initial operations. A new 140kbpd refinery is scheduled to come online in Karbala, Iraq, in Sep-22, targeting fully operational status by 2023. A new 230kbpd refinery is set to come online in Duqm, Oman, likely in early 2023.

Despite the ever-present potential for project complications and cancellations due to logistics, construction, labor, finances, political complications, or other factors, these projects could account for an increase of nearly 3.0mbpd of new refining capacity by the end of 2023.

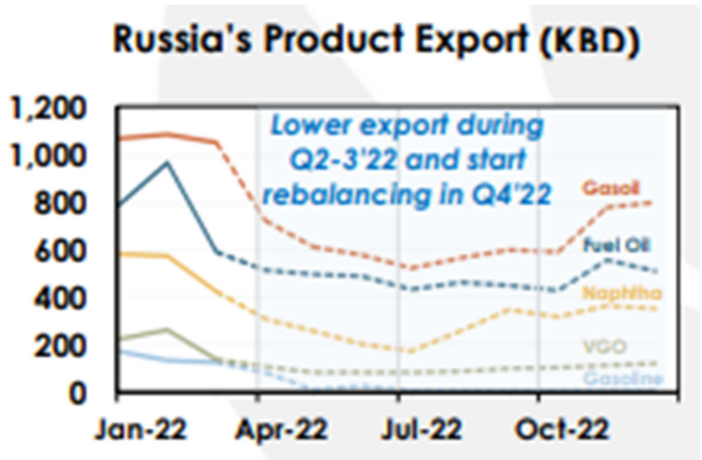
Exhibit 24: Many refinery projects are scheduled to start up in Asia and the Middle East



Source: EIA

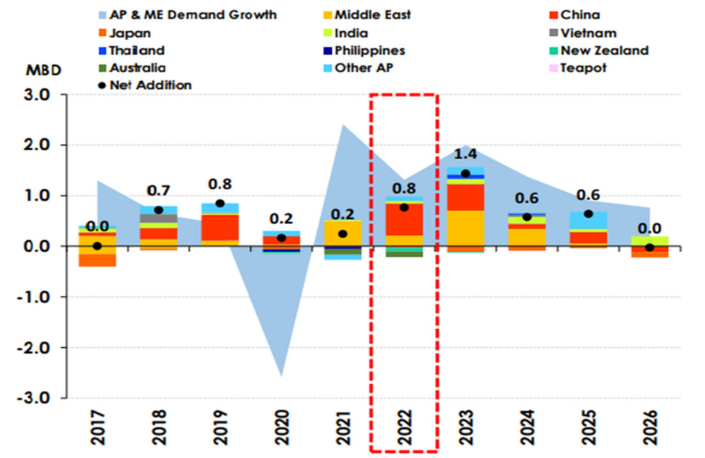
Supply risks from Russia remain in 2H22. Russia remains a major risk for the global oil market due to the ongoing sanctions by the EU and the US and other potential problems, including logistics, which could result in lower-than-expected supplies of crude and refined oils. In particular, the supply of diesel could drop by 0.4mbpd in 2H22 according to TOP's forecast.

Exhibit 25: Russia's Product Exports (kbd)



Source: TOP

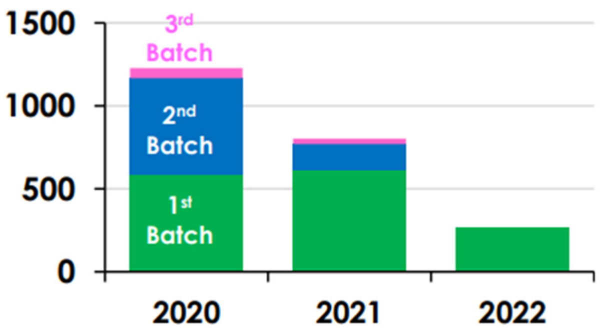
Exhibit 26: Asia-Pacific and Middle East effective CDU additions vs additional demand



Source: TOP

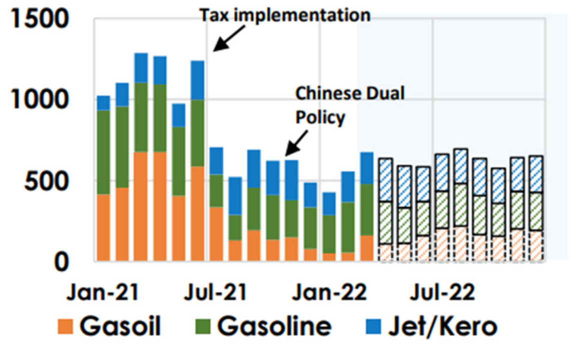
Lower exports from China. China's dwindling export quotas for diesel and gasoline – down more than 30% y-y and by 50% compared to 2020 – could further tighten the global demand-supply balance in 2022. Diesel (gasoil) exports from China have dropped the most among all refined oil products, as China retains its diesel supply to serve the domestic market.

Exhibit 27: China's export quota for gasoline/jet/gasoil (kbbl/day)



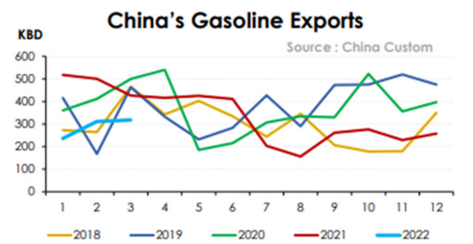
Source: TOP

Exhibit 28: China's product exports (kbbl/day)



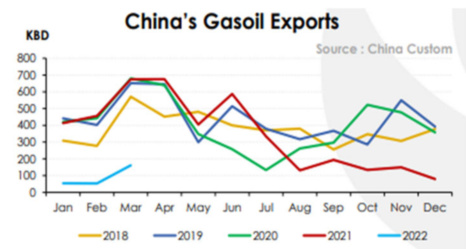
Source: TOP

Exhibit 29: China's gasoline exports



Source: TOP

Exhibit 30: China's gasoil exports



Source: TOP

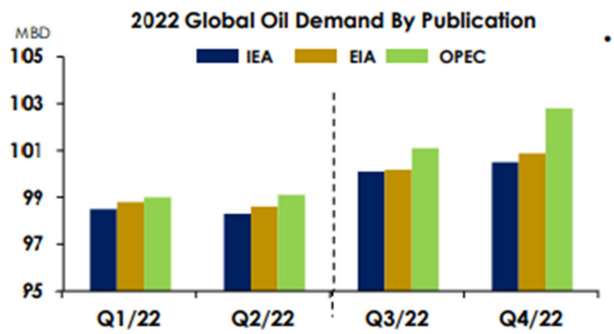
Exhibit 31: China's jet exports

Source: TOP

Demand growth of 3-7mbpd expected in 2022. Based on forecasts by the EIA, the IEA, and OPEC, oil demand is projected to rise by 3-7mbpd in 2022 from 2021, with the demand growth for jet fuel, diesel, and gasoline to increase significantly y-y as a result of pent-up demand after a two-year lockdown.

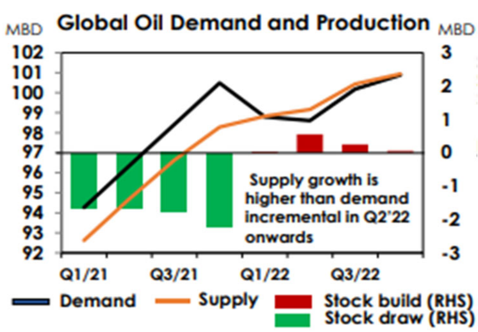
Demand growth is expected to be balanced by supply growth in 2022, based on the assumption that oil supplies from Russia will not fall by more than 2mbpd and the incremental supplies from Iran, Venezuela, and OPEC will timely replace the supply lost from Russia.

Exhibit 32: Expected higher global demand in 2H22



Source: TOP; EIA

Exhibit 33: Global oil demand and production

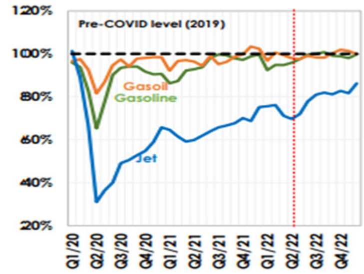


Source: TOP; EIA

Only jet demand is projected to be lower than the pre-Covid-19 level by the end of 2022. The EIA forecasts that the demand for diesel and gasoline will return to pre-Covid-19 levels by 4Q22. As for jet demand, the EIA believes that demand will return to only 80% of the pre-Covid-19 level of 7mbpd in 4Q22.

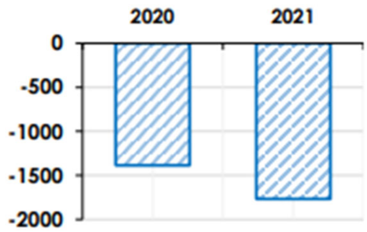
Refinery run rates are projected to stay high above 80% in 2H22, thanks to strong demand growth and the still insufficient new capacity growth of 1.0mbpd in 2022, based on the IEA's forecast.

Exhibit 34: Global oil demand growth



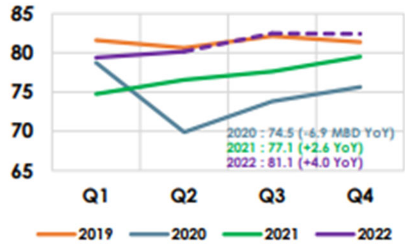
Source: EIA: TOP

Exhibit 35: Global refinery closures (k bbl/day)



Source: TOP

Exhibit 36: Global refinery run (m bbl/day)



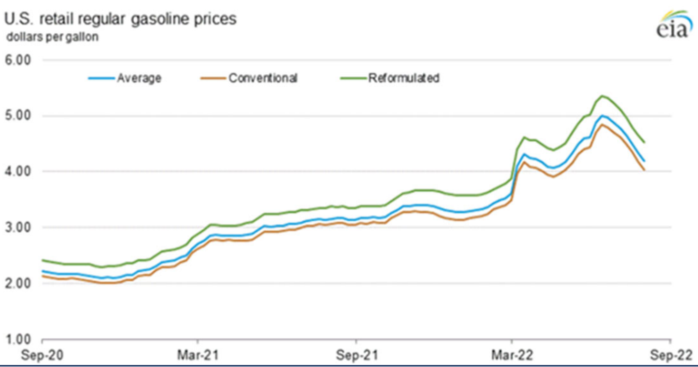
Source: TOP

US gasoline demand weakened in Apr-Aug 2022

According to the EIA, demand for gasoline in the US has declined y-y since Apr-22 after jumping 7% y-y during 1Q22 as a result of the rising retail gasoline price which hit a record high of over USD5.0/gallon in July before softening to USD4.2/gallon in Aug-22.

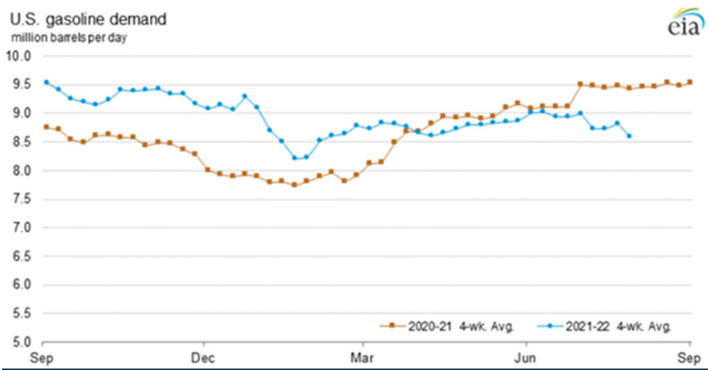
As the world's largest consumer of gasoline, at around 9.5mbpd as of 1H22, or roughly 21% of global gasoline demand, the US gasoline demand slowdown due to the higher gasoline price has led to a sharp collapse in the margin of gasoline-Dubai from over USD40/bbl in July down to only USD15/bbl on 3 Aug-22.

Exhibit 37: US retail gasoline prices



Source: EIA

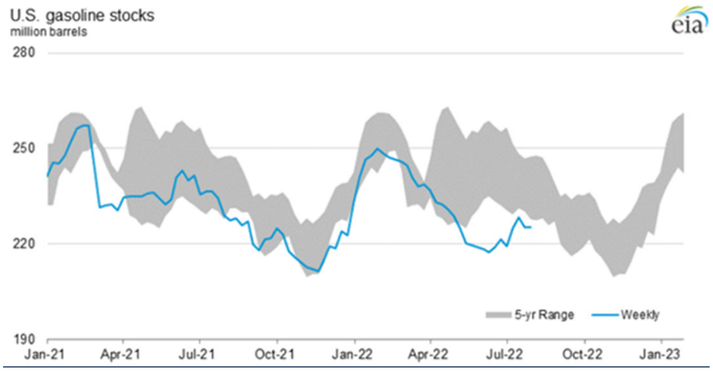
Exhibit 38: US gasoline demand



Source: EIA

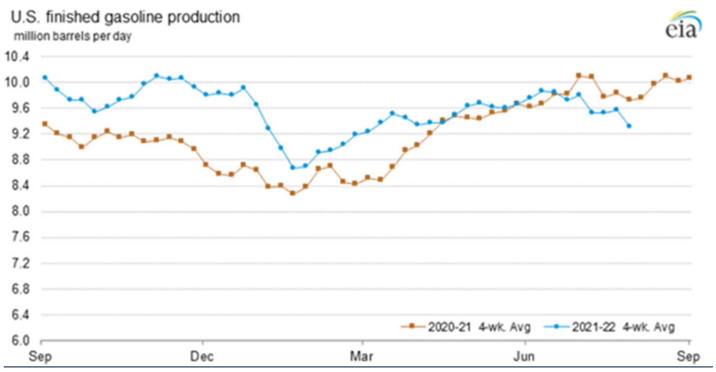
However, despite the recent lower y-y gasoline demand, the current US gasoline inventory remains much lower than its average, given the strong demand in 1H22 that depleted inventory down to below the five-year average level.

Exhibit 39: US gasoline inventory



Source: EIA

Exhibit 40: US gasoline supply



Source: EIA

Gasoline prices: Thailand vs US. As of 1 Aug-22, the price of gasoline in the US, despite being one of largest oil producers and with the highest gasoline yield average at over 30%, is at THB40.9/litre, higher than Thailand's gasoline price at THB38.3/litre.

Based on data from the EIA and Thailand's Energy Planning and Policy Office (EPPO), while the tax levied on the retail gasoline price in Thailand is high at 23.6% (THB9/litre) vs only 10% for the US, the GRM component of the US gasoline price amounts to 27% of the retail price (THB11.1/litre), far higher than the GRM for Thailand's gasoline price at 11.1% (THB4.3/litre).

For diesel, the average price in the US of THB54.7/litre is higher than Thailand's THB34.9/litre, mainly due to the Thai government's subsidies and tax cuts that result in negative taxes of THB0.6/litre. In addition, the GRM component of diesel sold in the US is also more than 2x higher than GRM for diesel in Thailand, due mainly to the much higher operating costs in the US than in Thailand, based on our estimates.

Exhibit 41: Gasoline price comparison (Thailand vs US) as of 1 Jun-22

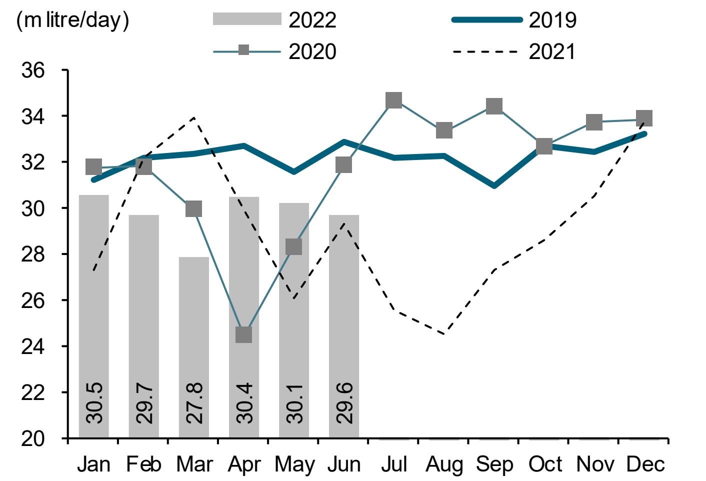
	---- Gasoline (gasohol E10) ----		---------------- Diesel ----------------	
	US	Thailand	US	Thailand
	(%)	(%)	(%)	(%)
Taxes	10.0	23.6	10.0	(1.8)
Marketing margin	8.0	8.8	14.0	5.0
GRM	27.0	11.1	28.0	9.1
Crude oil	55.0	56.5	47.0	87.6
	(THB/litre)	(THB/litre)	(THB/litre)	(THB/litre)
Taxes	4.1	9.0	5.5	(0.6)
Marketing margin	3.3	3.4	7.7	1.8
GRM	11.1	4.3	15.3	3.2
Crude oil	22.5	21.6	25.7	30.6
Retail price (THB/litre)	**40.9**	**38.3**	**54.7**	**34.9**
Retail price per gallon (USD/gallon)	**4.3**	**4.0**	**5.8**	**3.7**

Sources: EIA; EPPO; FSSIA estimates

As a result, demand for gasoline in Thailand continued to grow y-y in 2Q22 after the government fully reopened the country's economy and ended travel restrictions. The divergent demand trends for gasoline in Thailand and the US indicate that Thailand is positioned to see stronger demand for gasoline (travel and tourism), diesel (transportation), and jet (tourism) in 2H22-23 as the number of tourist arrivals is projected to rise markedly.

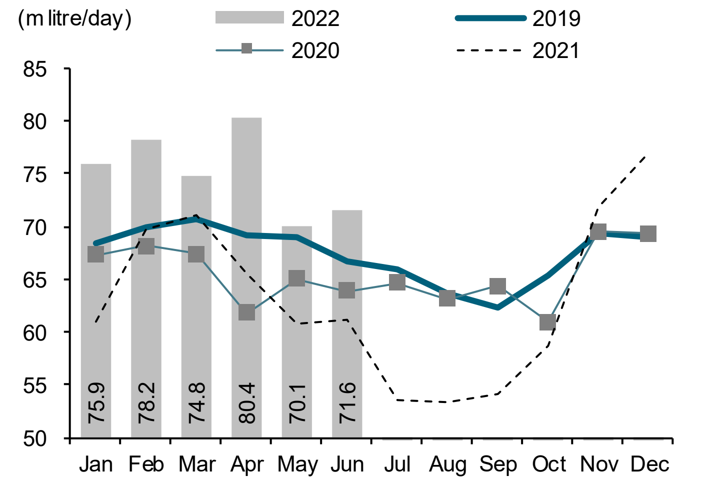
In contrast to the US, Asian gasoline demand is expected to recover meaningfully in 2H22 as China eases its lockdowns, which in our view could potentially offset the demand weakness in the US market.

Exhibit 42: Thailand's gasoline consumption



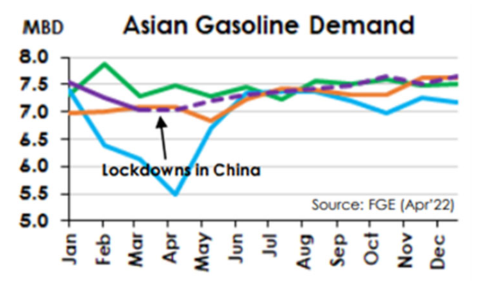
Source: Department of Energy Business (DOEB)

Exhibit 43: Thailand's diesel consumption



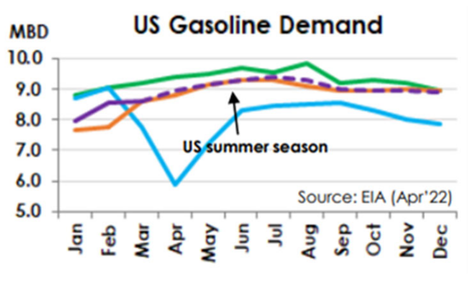
Source: DOEB

Exhibit 44: Asian gasoline demand



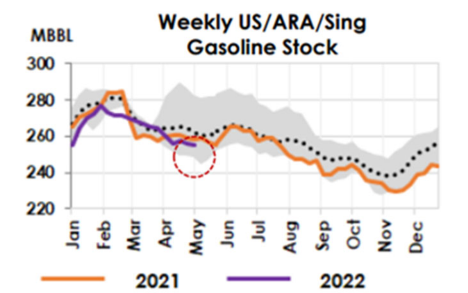
Source: TOP

Exhibit 45: US gasoline demand



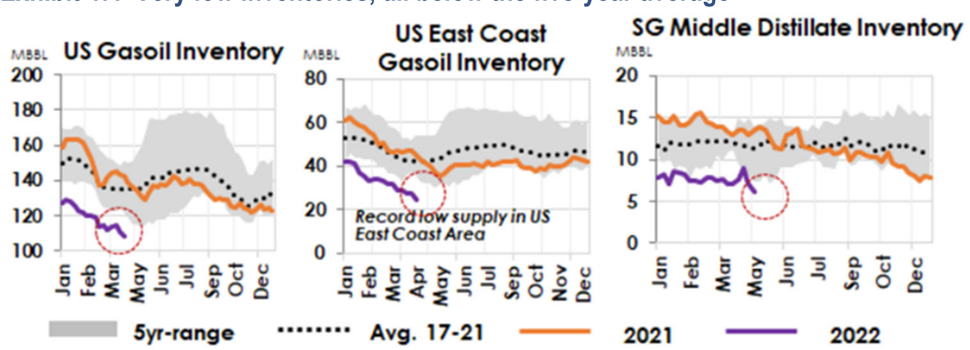
Source: TOP

Exhibit 46: US/ARA/Sing gasoline stocks (weekly)



Source: TOP

Exhibit 47: Very low inventories, all below the five-year average



Source: TOP

Diesel demand is expected to surge in 4Q22

In the months ahead, we think the most critical driver for global oil demand and GRM is the potentially surging demand for diesel as a substitute fuel for the gas supply shortage in Europe due to the sanctions on Russian energy. With Thai refiners averaging high diesel yields of over 50%, we think the potentially surging margin of diesel over Dubai in the coming months will be a key catalyst driving market GRMs higher by over USD10/bbl, based on our estimates.

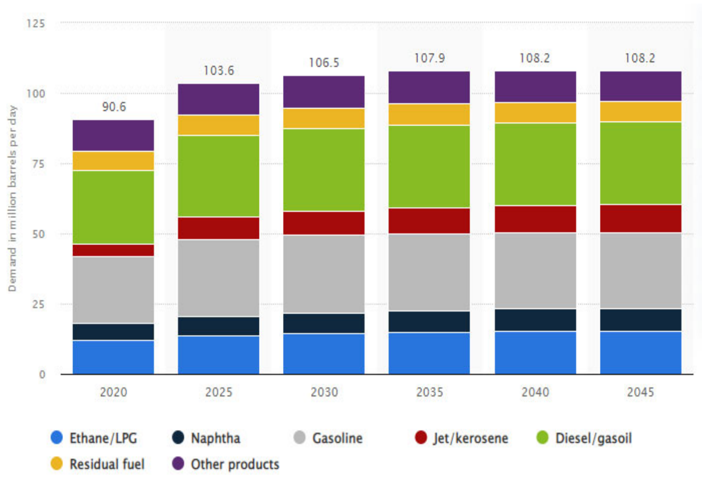
In 2025, according to the EIA, the demand for diesel and jet (middle distillates) is projected to account for 29.5% and 8.4% of total demand, respectively, up from 26.3% for diesel and 4.3% for jet in 2020 due to the global lockdowns and bans on international flights.

Based on Energy Post reports, power plants using fossil fuels, including coal, lignite, gas, and oil, together account for around one-third of the EU's total generating capacity. The remainder mostly comes from nuclear energy and renewable sources including biomass, hydropower plants (run-of-river and reservoir), wind, and solar.

Hence, we think in the upcoming winter, demand for diesel should rise both in terms of seasonal demand as a heating fuel and as a substitute for the gas supply shortfall from Russia.

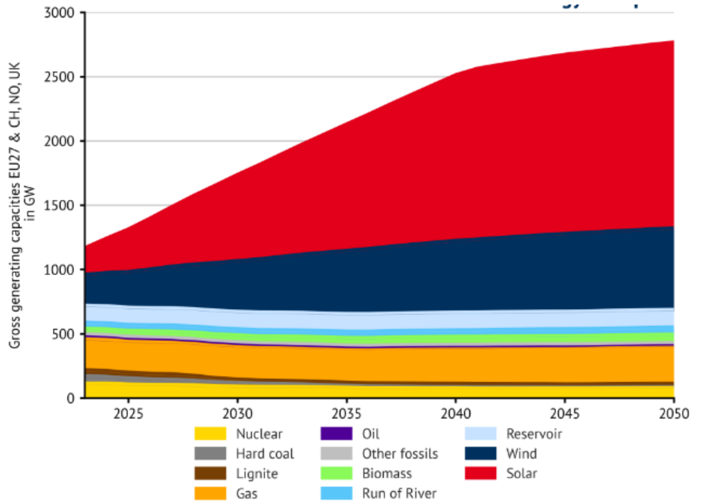
According to the EIA, demand for diesel in Asia is expected to rise from 71m litres per day (mlpd) in 1H22 to 75mlpd in 2H22. But we think significant additional demand for diesel as a substitute heating fuel could come from the EU in 4Q22-1Q23, based on our estimates.

Exhibit 48: Global demand projections for major refined oil products in 2020-2045



Source: Statista

Exhibit 49: Fossil fuel-based generation capacities still dominate the power plant fleet in Europe



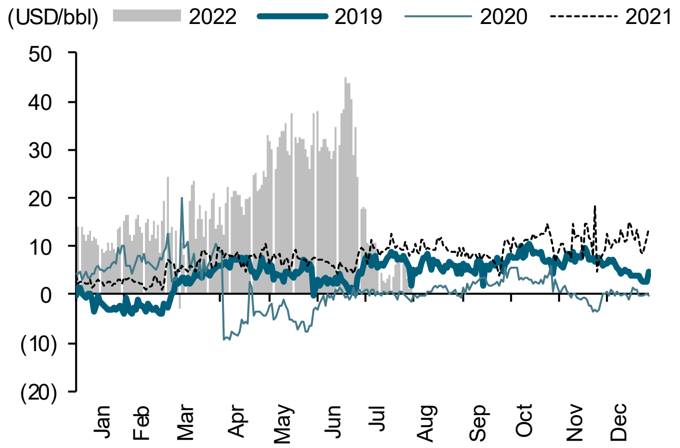
Source: EnergyPost.EU

Product margins: correction in Aug before resurrection in Sep-Dec 2022

In 7M22, the margins of refined oil products have been significantly volatile, swinging from bottom to top and then down to bottom again within a USD40/bbl range for gasoline, USD32/bbl for HSFO, USD41/bbl for jet, and USD50/bbl for diesel.

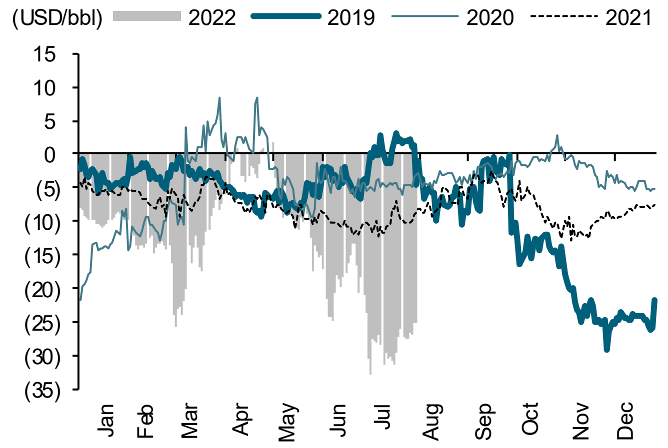
In our view, the margin spikes in Jun-22 were caused by the market's concerns about supply risks, mainly from the refined oil supply reductions from Russia due to sanctions imposed by the EU and the US. However, we expect the margins of diesel and jet to rise substantially in 4Q22, driven by the sharp rise in demand for heating fuel in the Northern Hemisphere.

Exhibit 50: 92 octane gasoline price – Dubai crude oil price



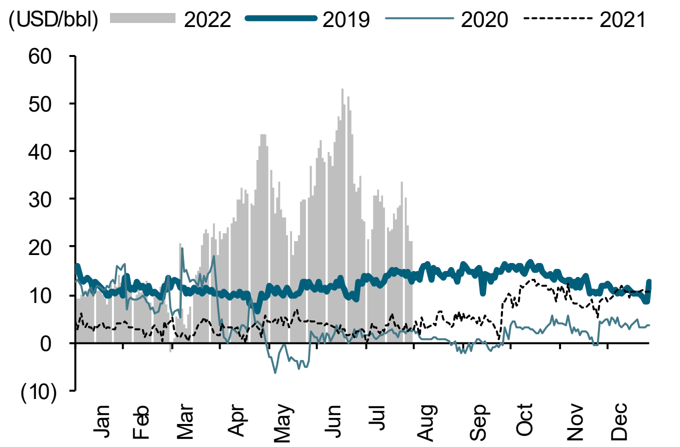
Source: Bloomberg

Exhibit 51: High sulphur fuel oil SG – Dubai crude price



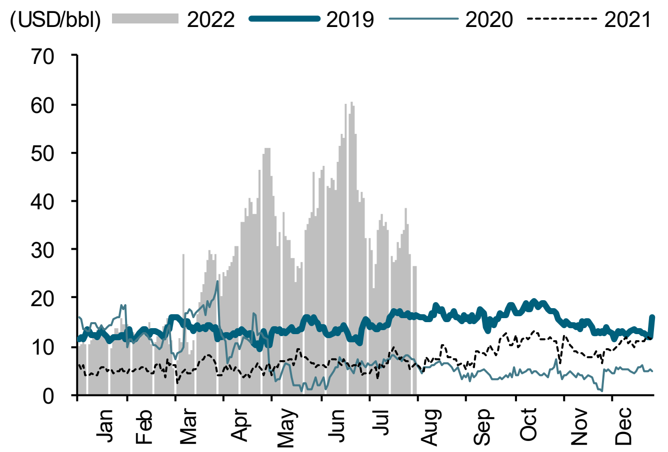
Source: Bloomberg

Exhibit 52: Jet kerosene price – Dubai crude oil price



Source: Bloomberg

Exhibit 53: Gasoil 0.5% sulphur SG price – Dubai crude price



Source: Bloomberg

Strong GRMs vs hedging losses and inventory gains

GRM and hedging loss forecasts for Thai refiners in 2Q22. We project the market GRMs for all Thai refiners to rise markedly to over USD17/bbl, ranging from USD17/bbl for IRPC, to USD20/bbl for TOP and PTTGC, USD21/bbl for BCP, USD22/bbl for ESSO, and USD23/bbl for SPRC.

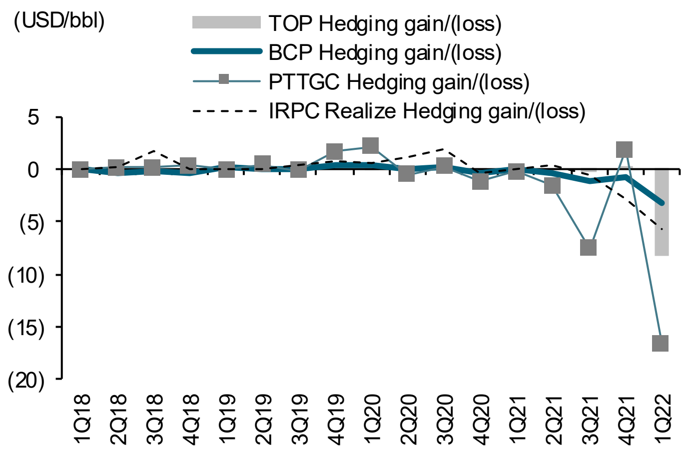
However, two key factors would significantly change the bottom lines of each refiner – hedging losses and inventory gains. We expect refiners in the PTT (PTT TB, BUY) group – TOP, PTTGC, and IRPC – to suffer large hedging losses due to their hedging policies of 40-50% of sales volumes.

IRPC's hedging loss is expected to surge to THB9b or USD13/bbl, which could be offset by an inventory gain of THB4b (USD4/bbl).

PTTGC's hedging loss is likely to be the largest among all Thai refiners, which we estimate at THB12.5b in 2Q22 despite the projected high market GRM of USD20/bbl.

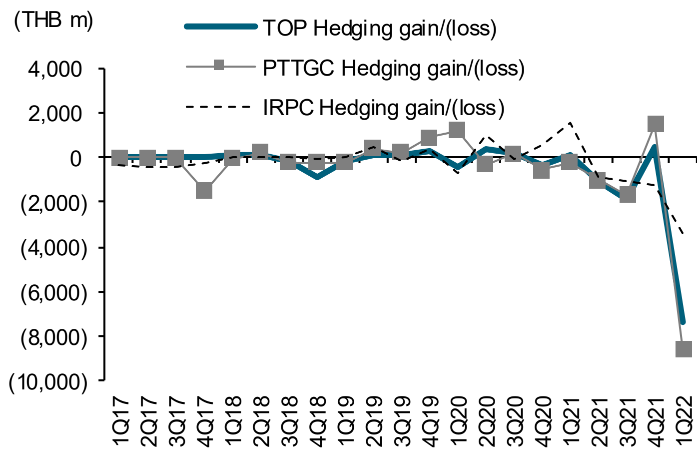
TOP's hedging loss should be similarly high at THB13b but should be offset by a THB6b inventory gain.

Exhibit 54: Hedging gain (loss) per bbl for TOP, BCP, PTTGC, and BCP



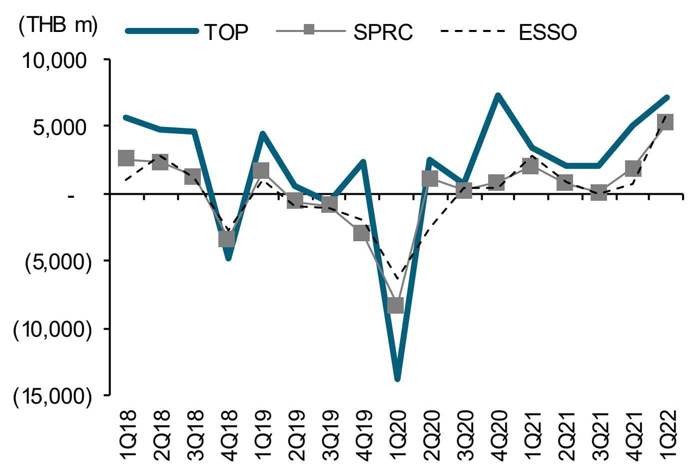
Sources: TOP; BCP; PTTGC; IRPC

Exhibit 55: Hedging gains (losses) for TOP, PTTGC, and IRPC



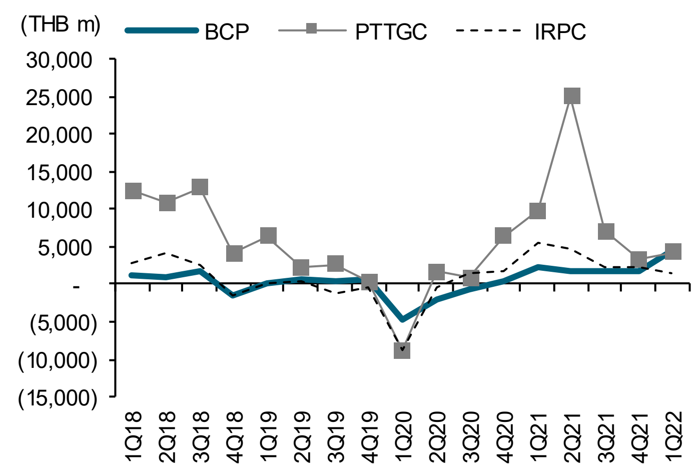
Sources: TOP; PTTGC; IRPC

Exhibit 56: Quarterly net profits of TOP, SPRC, and ESSO



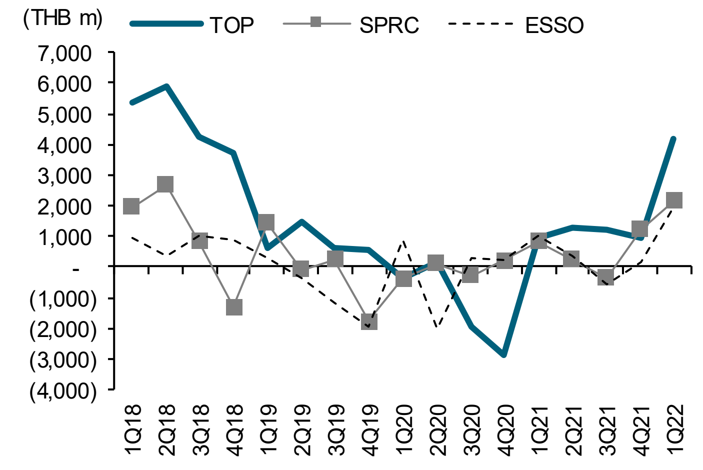
Sources: TOP; SPRC; ESSO

Exhibit 57: Quarterly net profits of BCP, PTTGC, and IRPC



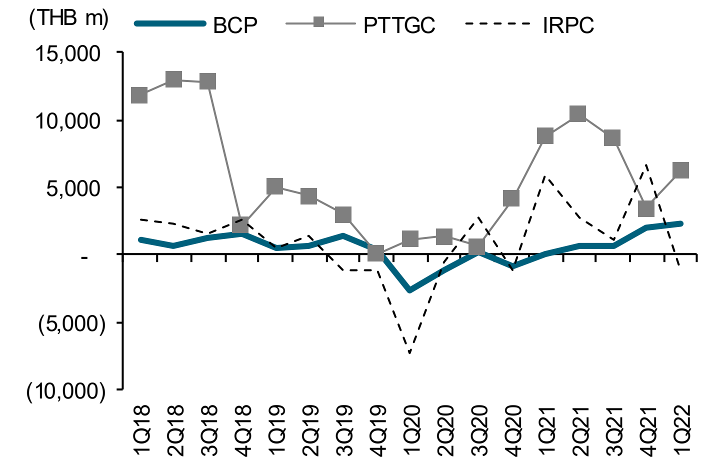
Sources: BCP; PTTGC; IRPC

Exhibit 58: Quarterly core net profits of TOP, SPRC, and ESSO



Sources: Companies; FSSIA estimates

Exhibit 59: Quarterly core net profits of BCP, PTTGC, and IRPC



Sources: Companies; FSSIA estimates

Including the net profits from their petrochemical businesses, which we expect to be weak in 2Q22 for olefins, aromatics, and lube due to the high naphtha cost, weak demand, and continued oversupply, we summarise our 2Q22 reported and core net profits for six Thai refinery companies as follows:

Strong core net profit growth q-q. SPRC, ESSO, and IRPC should see the highest improvement in their core net profits, rising by 206% q-q for SPRC, 272% q-q for ESSO, and 782% q-q for IRPC, mainly due to the sharp rises in their market GRMs, which are driven by the rising margins of refined oil products over the Dubai crude price.

Strong net profit growth q-q. TOP, IRPC, and SPRC should post stronger-than-peers' reported net profit growth in 2Q22, surging by 183% q-q for TOP due to the THB13b after-tax divestment gain of its 10.5% stake in Global Power Synergy (GPSC TB, HOLD), followed by a 142% q-q rise for IRPC due to its large inventory gain, and a 79% q-q increase for SPRC due to its higher market GRM, as SPRC is a pure refinery play without any other businesses.

Exhibit 60: 2Q22E results preview

	Market GRM	Market GIM	Hedging loss	Reported net profit	Core net profit	-------- Reported net profit --------		----------- Core net profit -----------	
	(USD/bbl)	(USD/bbl)	(THB m)	(THB m)	(THB m)	*% change q-q*	*% change y-y*	*% change q-q*	*% change y-y*
SRPC	23	23	-	9,468	6,572	*79*	*1,124*	*206*	*2,780*
ESSO	22	22	-	8,647	7,115	*47*	*1,052*	*272*	*4,729*
BCP	21	21	(2)	5,159	4,653	*18*	*192*	*98*	*632*
TOP	20	23	(13)	20,356	9,563	*183*	*859*	*129*	*629*
PTTGC	20	25	(13)	1,456	7,263	*(65)*	*(94)*	*17*	*(31)*
IRPC	17	20	(9)	3,636	7,563	*142*	*(21)*	*782*	*173*
Average	21	22	(6)						
Total				**48,722**	**42,729**				

Sources: Companies; FSSIA estimates

Exhibit 61: TOP's 2Q22 results preview

	2Q21	1Q22	---------------- 2Q22E----------------		
	(THB m)	(THB m)	(THB m)	(q-q%)	(y-y%)
Revenue	**79,821**	**120,882**	**145,632**	***20.5***	***82.4***
Operating costs	(70,404)	(100,814)	(140,119)	*39.0*	*99.0*
EBITDA	7,003	13,034	14,258	*9.4*	*103.6*
EBITDA margin (%)	*8.8*	*10.8*	*9.8*	*nm*	*nm*
Depn & amort.	(1,813)	(1,833)	(1,925)	*5.0*	*6.2*
EBIT	3,472	9,965	12,333	*23.8*	*255.2*
Interest expense	(907)	(961)	(995)	*3.6*	*9.7*
Interest & invt inc	163	100	153	*53.5*	*(6.0)*
Other income	0	0	0	*0*	*0*
Associates' contrib	537	44	263	*492.2*	*(51.0)*
Exceptionals	(2,415)	(7,034)	8,745	*nm*	*nm*
Pretax profit	851	2,114	20,499	*869.7*	*2,309.4*
Tax	(358)	(1,672)	(2,142)	*28.1*	*497.5*
Tax rate (%)	*42.1*	*79.1*	*10.4*	*nm*	*nm*
Minority interests	(84)	(149)	(143)	*(4.2)*	*69.5*
Net profit	**2,123**	**7,183**	**20,356**	***183.4***	***859.0***
Non-recurring	811	3,006	10,793	*nm*	*1,231.4*
Core profit	**1,312**	**4,177**	**9,563**	***128.9***	***628.9***
EPS (THB)	1.04	3.52	9.98	*183.4*	*859.0*
Core EPS (THB)	0.64	2.05	4.69	*128.9*	*628.9*

Sources: TOP; FSSIA estimates

Exhibit 62: SPRC's 2Q22 results preview

	2Q21	1Q22	---------------- 2Q22E-----------------		
	(THB m)	(THB m)	(THB m)	(q-q%)	(y-y%)
Revenue	**41,545**	**65,404**	**75,236**	***15.0***	***81.1***
Operating costs	(39,787)	(58,410)	(65,356)	*11.9*	*64.3*
EBITDA	1,758	6,994	9,880	*41.3*	*462.0*
EBITDA margin (%)	*4.2*	*11*	*13.1*	*nm*	*nm*
Depn & amort.	(710)	(606)	(625)	*3.2*	*(12.0)*
EBIT	1,048	6,388	9,255	*44.9*	*783.3*
Interest expense	(53)	(41)	(42)	*3.5*	*(20.9)*
Interest & invt inc	0	0	0	*nm*	*nm*
Other income	13	16	20	*27.3*	*52.3*
Associates' contrib	0	0	0	*nm*	*nm*
Exceptionals	(12)	242	235	*(2.8)*	*(2,052.0)*
Pretax profit	996	6,605	9,468	*43.3*	*850.8*
Tax	(222)	(1,321)	0	*(100.0)*	*(100.0)*
Tax rate (%)	*22*	*20*	*0*	*nm*	*nm*
Minority interests	0	0	0	*nm*	*nm*
Net profit	**773**	**5,284**	**9,468**	***79.2***	***1,124.2***
Non-recurring	545	3,138	2,896	*(7.7)*	*431.1*
Core net profit	**228**	**2,146**	**6,572**	***206.2***	***2,780.5***
EPS (THB)	0.18	1.22	2.18	*79.2*	*1,124.2*
Core EPS (THB)	0.05	0.50	1.52	*206.2*	*2,780.5*

Sources: SPRC; FSSIA estimates

Exhibit 63: ESSO's 2Q22 results preview

	2Q21	1Q22	--------------- 2Q22E---------------		
	(THB m)	(THB m)	(THB m)	(q-q%)	(y-y%)
Revenue	**52,376**	**57,764**	**65,986**	***14.2***	***26.0***
Operating costs	(50,310)	(49,701)	(56,123)	*12.9*	*11.6*
EBITDA	2,066	8,063	9,863	*22.3*	*377.4*
EBITDA margin (%)	*3.9*	*14.0*	*14.9*	*nm*	*nm*
Depn & amort.	490	(713)	(756)	*6.0*	*(254.4)*
EBIT	2,556	7,350	9,107	*23.9*	*256.3*
Interest expense	(76)	(74)	(75)	*1.2*	*(1.3)*
Interest & invt inc	6	2	5	*130.7*	*(17.5)*
Associates' contrib	59	82	75	*(8.2)*	*28.0*
Exceptionals	(1,615)	(7)	1,124	*nm*	*nm*
Pretax profit	930	7,353	10,236	*39.2*	*1,001.1*
Tax	(179)	(1,453)	(1,589)	*9.4*	*786.2*
Tax rate (%)	*19.3*	*19.8*	*15.5*	*(21.4)*	*(19.5)*
Minority interests	0	0	0	*nm*	*nm*
Net profit	**750**	**5,900**	**8,647**	***46.6***	***1,052.4***
Non-recurring	603	3,989	1,532	*(61.6)*	*154.1*
Core profit	**147**	**1,911**	**7,115**	***272.3***	***4,728.9***
EPS (THB)	0.22	1.70	2.50	*46.6*	*1,052.4*
Core EPS (THB)	0.04	0.55	2.06	*272.3*	*4,728.9*

Sources: ESSO; FSSIA estimates

Exhibit 64: BCP's 2Q22 results preview

	2Q21	1Q22	--------------- 2Q22E ------------------		
	(THB m)	(THB m)	(THB m)	(q-q%)	(y-y%)
Revenue	**43,775**	**69,055**	**78,963**	***14.3***	***80.4***
Operating costs	(39,506)	(55,341)	(67,916)	*22.7*	*71.9*
EBITDA	4,269	13,714	11,047	*(19.4)*	*158.8*
EBITDA margin (%)	*9.8*	*19.9*	*14.0*	*nm*	*nm*
Depn & amort.	(1,719)	(2,267)	(2,358)	*4.0*	*37.1*
EBIT	2,550	11,447	8,689	*(24.1)*	*240.8*
Interest expense	(518)	(836)	(893)	*6.8*	*72.3*
Interest & invt inc	176	350	369	*5.5*	*110.2*
Associates' contrib	512	148	346	*134.5*	*(32.5)*
Exceptionals	(450)	951	1,856	*95.2*	*(512.6)*
Pretax profit	2,269	12,059	10,367	*(14.0)*	*356.9*
Tax	(195)	(5,347)	(3,685)	*(31.1)*	*1,788.8*
Tax rate (%)	*8.6*	*44.3*	*35.5*	*nm*	*nm*
Minority interests	(309)	(1,147)	(1,523)	*32.8*	*392.2*
Net profit	**1,765**	**4,356**	**5,159**	***18.4***	***192.4***
Non-recurring	(1,129)	(2,002)	(506)	*(74.7)*	*(55.2)*
Core profit	**636**	**2,354**	**4,653**	***97.7***	***631.6***
EPS (THB)	1.21	3.12	0.45	*(85.6)*	*(62.8)*
Core EPS (THB)	0.46	1.71	3.38	*97.7*	*631.6*

Sources: BCP; FSSIA estimates

Exhibit 65: PTTGC's 2Q22 results preview

	2Q21	1Q22	----------------- 2Q22E---------------		
	(THB m)	(THB m)	(THB m)	*(q-q%)*	*(y-y%)*
Revenue	**112,627**	**176,767**	**189,635**	***7.3***	***68.4***
Operating costs	(95,817)	(166,179)	(168,103)	*1.2*	*75.4*
EBITDA	16,810	10,588	21,532	*103.4*	*28.1*
EBITDA margin (%)	*14.9*	*6.0*	*11.4*	*nm*	*nm*
Depn & amort.	(5,589)	(6,837)	(6,953)	*1.7*	*24.4*
EBIT	11,801	11,920	14,579	*nm*	*23.5*
Interest expense	(1,530)	(2,101)	(2,186)	*4.1*	*42.9*
Interest & invt inc	22,762	811	852	*5.0*	*(96.3)*
Associates' contrib	2,324	1,142	854	*(25.3)*	*(63.2)*
Exceptionals	(4,590)	(6,908)	(12,072)	*74.8*	*nm*
Pretax profit	30,767	4,865	2,027	*(58.3)*	*(93.4)*
Tax	(5,591)	(184)	(275)	*49.9*	*(95.1)*
Tax rate (%)	*18.2*	*3.8*	*13.6*	*259.7*	*(25.3)*
Minority interests	(141)	(470)	(296)	*(37.0)*	*109.8*
Net profit	**25,035**	**4,212**	**1,456**	***(65.4)***	***(94.2)***
Non-recurring item	14,576	(2,024)	(5,807)	*186.9*	*(139.8)*
Core net profit	**10,459**	**6,236**	**7,263**	***16.5***	***(30.6)***
EPS (THB)	5.55	0.93	0.32	*(65.4)*	*(94.2)*
Core EPS (THB)	2.32	1.38	1.61	*16.5*	*(30.6)*

Sources: PTTGC; FSSIA estimates

Exhibit 66: IRPC's 2Q22 results preview

	2Q21	1Q22	----------------- 2Q22E---------------		
	(THB m)	(THB m)	(THB m)	*(q-q%)*	*(y-y%)*
Revenue	**62,003**	**79,432**	**85,632**	***7.8***	***38.1***
Operating costs	(53,108)	(72,832)	(76,100)	*4.5*	*43.3*
EBITDA	8,895	6,600	9,532	*44.4*	*7.2*
EBITDA margin (%)	*14.3*	*8.3*	*11.1*	*nm*	*nm*
Depn & amort.	(2,209)	(2,008)	(2,153)	*7.2*	*(2.5)*
EBIT	6,686	4,592	7,379	*60.7*	*10.4*
Interest expense	(441)	(398)	(456)	*14.4*	*3.3*
Interest & invt inc	535	258	295	*14.3*	*(44.9)*
Associates' contrib	186	129	153	*18.5*	*(17.6)*
Exceptionals	(1,781)	(2,739)	(3,246)	*18.5*	*82.2*
Pretax profit	5,184	1,842	4,125	*123.9*	*(20.4)*
Tax	(600)	(338)	(485)	*43.6*	*(19.2)*
Tax rate (%)	*11.6*	*18.3*	*11.8*	*nm*	*nm*
Minority interests	(10)	(3)	(4)	*17.8*	*(61.5)*
Net profit	**4,574**	**1,501**	**3,636**	***142.2***	***(20.5)***
Non-recurring	1,800	2,609	(3,927)	*(250.5)*	*(318.1)*
Core net profit	**2,774**	**(1,108)**	**7,563**	***(782.6)***	***172.6***
EPS (THB)	0.22	0.07	0.18	*142.2*	*(20.5)*
Core EPS (THB)	0.14	(0.05)	0.37	*(782.6)*	*172.6*

Sources: IRPC; FSSIA estimates

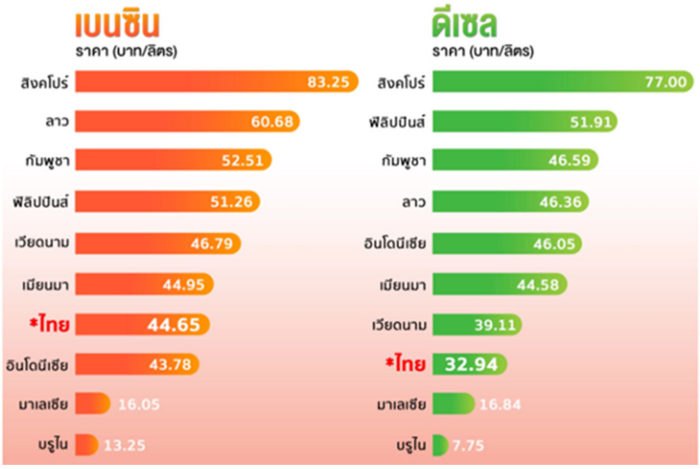
Government abandons request for subsidies – for now

On 10 Jun-22, the Thai government asked Thai refiners to reduce their market GRMs and lower the retail prices of diesel and gasoline at oil stations as the global oil price spiked to over USD120/bbl. Initially, the government asked for a monthly THB6b subsidy for diesel, a THB1/litre subsidy for gasoline (THB1b), and profit sharing in excess of 50% from PTT's gas separation plants, to help alleviate the cost of living for the public and lower the THB100b oil fund deficit. However, now that the oil price has fallen by over 20% since its peak in June, the Thai government is now halting its intervention given that retail oil prices have already dropped by over THB5-10/litre from Jun-22 to the beginning of Aug-22.

Although the subsidy request may return once the oil price rises again to above USD120/bbl based on our projections, we think Thai refiners may eventually have to contribute a small subsidy amount to appease the government, which we estimate to be in the range of THB5b-10b in aggregate considering that some refiners, particularly the foreign-owned SPRC and ESSO, are unlikely to comply with the government's requests.

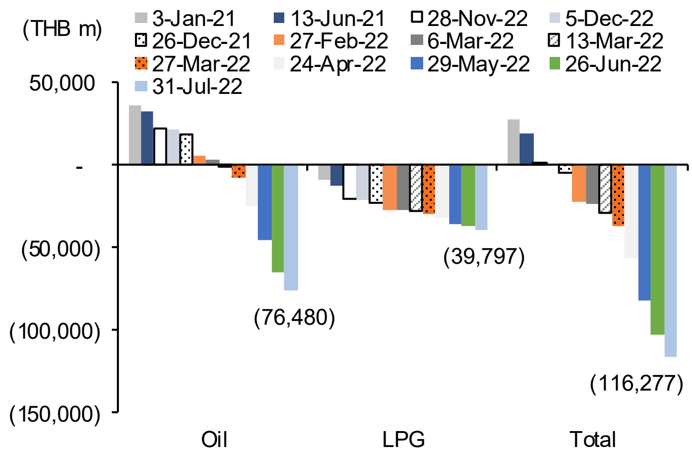
We think the likelihood for the return of the subsidy request is high under the circumstances, considering that 1) the current oil fund deficit remains high at THB116.3b as of 31 Jul-22; and 2) the higher electricity tariff caused by the higher gas cost could further pressure the government to reduce the cost of living via refinery subsidies.

Exhibit 67: Retail prices of gasoline (left) and diesel (right) in ASEAN countries as of 6 Jun-22



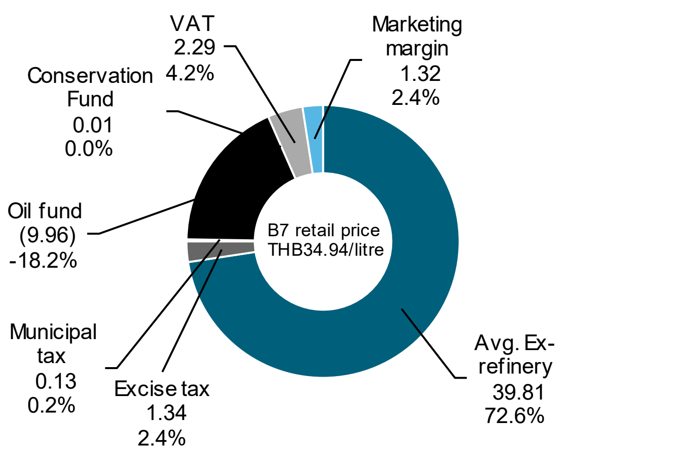
Source: Energy Policy and Planning Office (EPPO)

Exhibit 68: Oil fund status



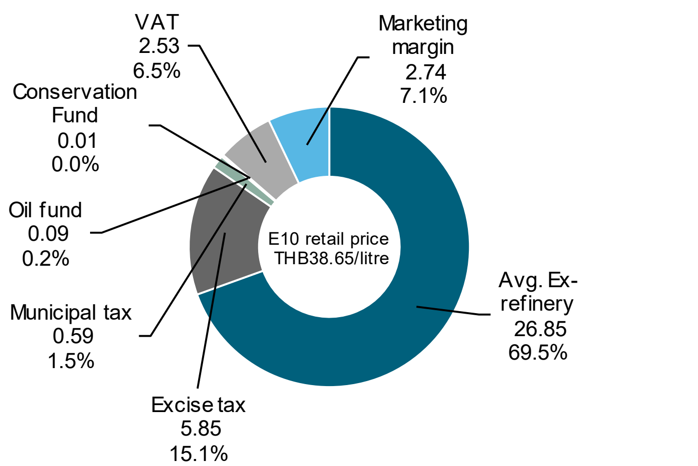
Sources: Oil Fund Fuel Office

Exhibit 69: Biodiesel B7 retail price structure as of 2 Aug-22 (THB34.94/litre)



Source: EPPO

Exhibit 70: Gasoline E10 retail price structure as of 2 Aug-22 (THB45.15/litre)



Source: EPPO

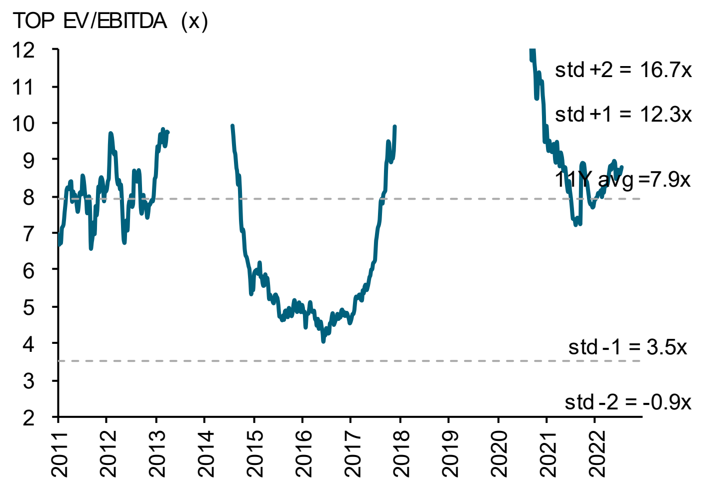
Accumulate in August ahead of expected September rally

While we expect the share prices of refiners to move sideways, or down but with limited downsides, in August due to the sharp drops in their market GRMs on the back of their lower product margins over the Dubai crude price across all product types, we recommend that investors accumulate refinery stocks ahead of the expected strong rebound in their market GRMs in Sep-22, which is a shoulder month preceding the coming winter in the Northern Hemisphere.

Of particular interest is events in Europe, where the gas supply for generating electricity for heating is unlikely to be sufficient to replace the gas supply shortfall from Russia. Hence, we think there could be significant further upside for the prices of other fuel substitutes including HSFO, diesel, and coal, which could be fully utilised to ensure that a full range of heating options are available to prevent casualties.

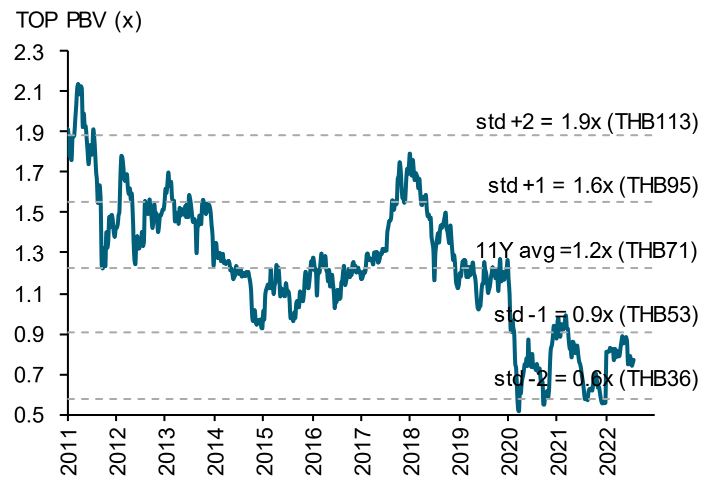
Among the six refiners, we prefer ESSO and SPRC as our two top picks and remove BCP as a result of its hedging loss position. TOP, PTTGC, and IRPC remain less attractive due to their large hedging losses and weak earnings from petrochemical products, mainly olefins and aromatics, which could remain oversupplied in 2022-23, based on TOP's forecast.

Exhibit 71: TOP's prospective EV/EBITDA band



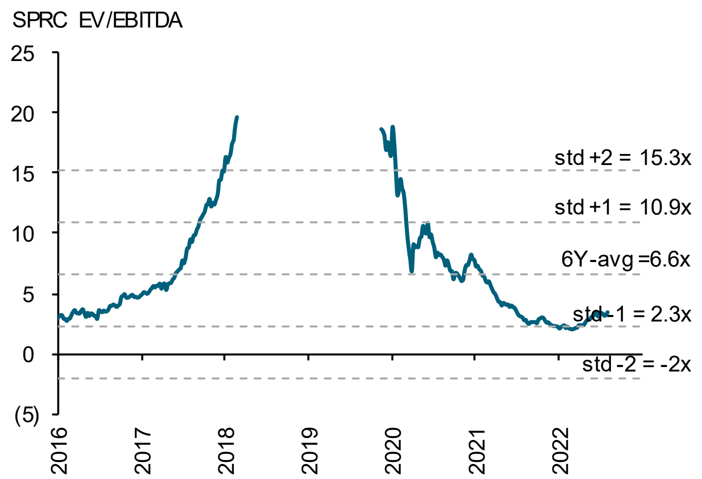
Sources: TOP; Bloomberg; FSSIA estimates

Exhibit 72: TOP's prospective P/BV band



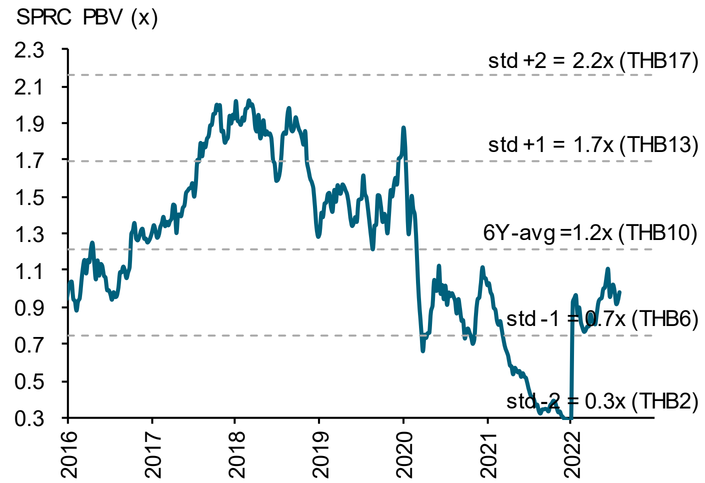
Sources: TOP; Bloomberg; FSSIA estimates

Exhibit 73: SPRC's prospective EV/EBITDA band



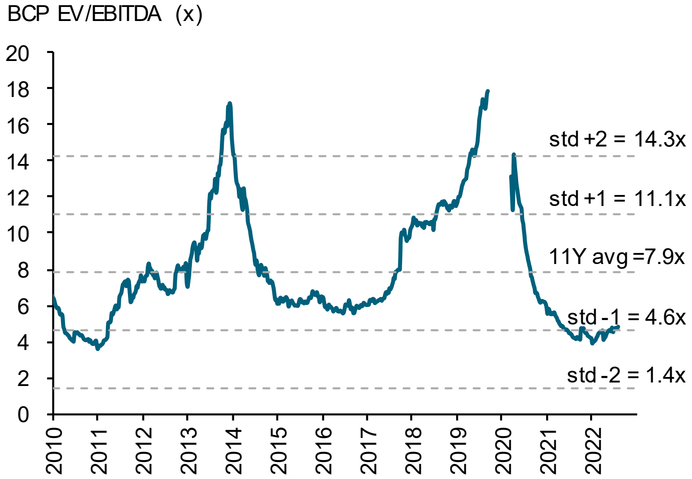
Sources: SPRC; Bloomberg; FSSIA estimates

Exhibit 74: SPRC's prospective P/BV band



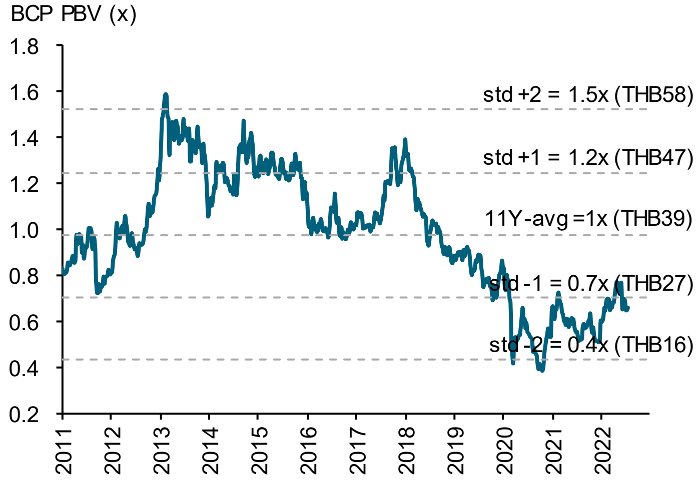
Sources: SPRC; Bloomberg; FSSIA estimates

Exhibit 75: BCP's prospective EV/EBITDA band



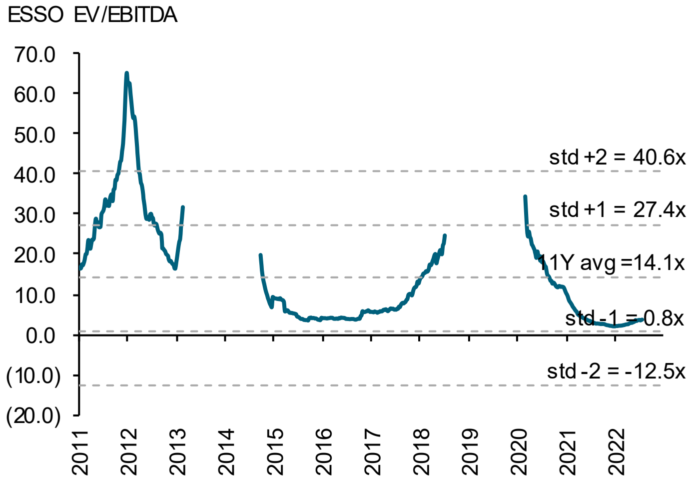
Sources: BCP; Bloomberg; FSSIA estimates

Exhibit 76: BCP's prospective P/BV band



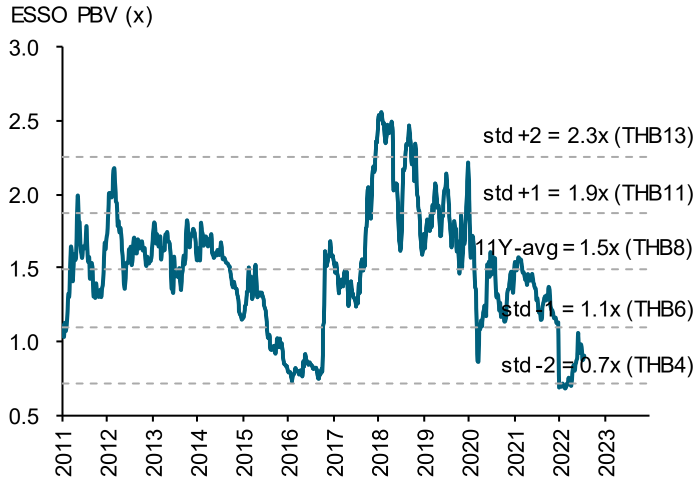
Sources: BCP; Bloomberg; FSSIA estimates

Exhibit 77: ESSO's prospective EV/EBITDA band



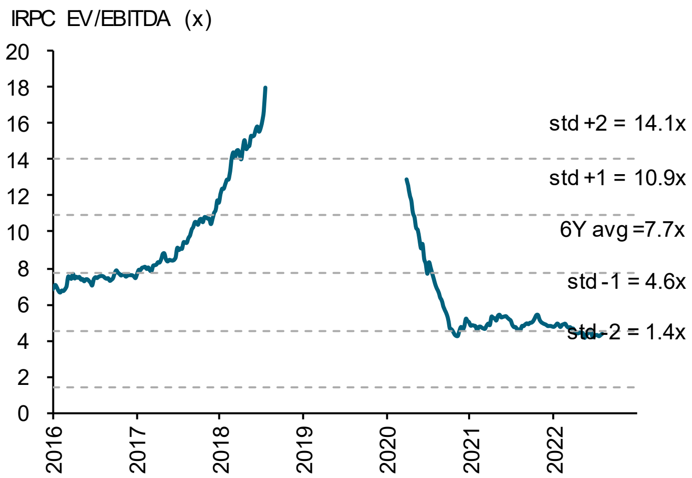
Sources: ESSO; Bloomberg; FSSIA estimates

Exhibit 78: ESSO's prospective P/BV band



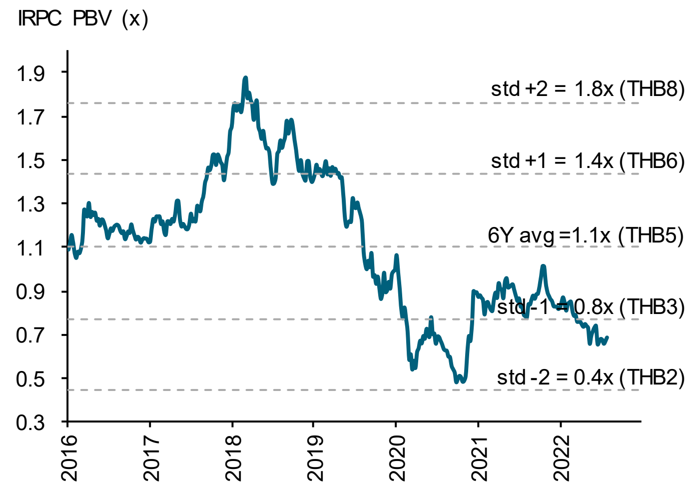
Sources: ESSO; Bloomberg; FSSIA estimates

Exhibit 79: IRPC's prospective EV/EBITDA band



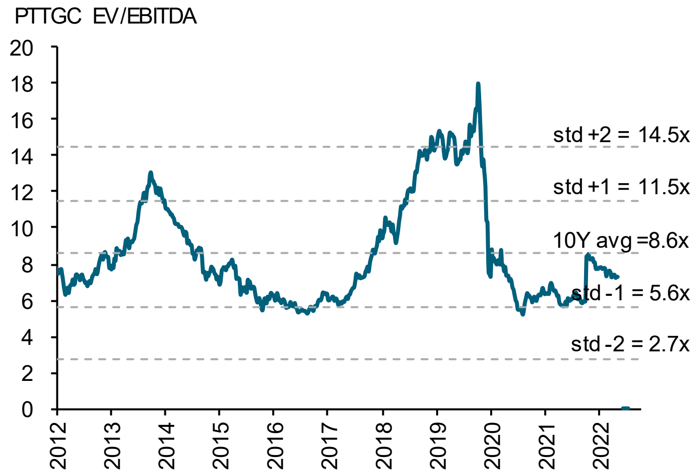
Sources: IRPC; Bloomberg; FSSIA estimates

Exhibit 80: IRPC's prospective P/BV band



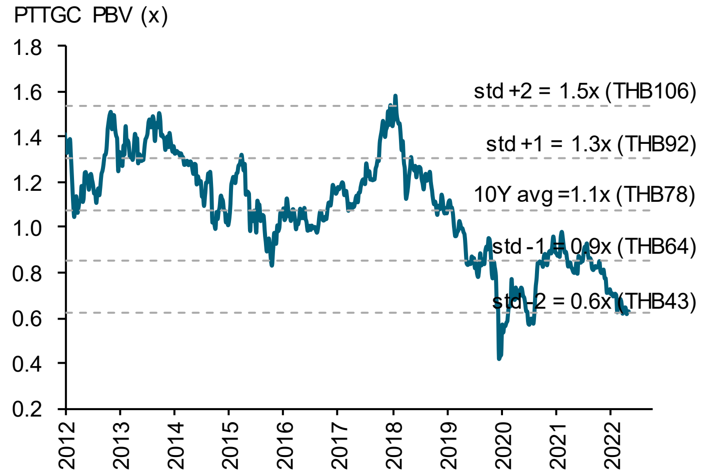
Sources: IRPC; Bloomberg; FSSIA estimates

Exhibit 81: PTTGC's prospective EV/EBITDA band



Sources: PTTGC; Bloomberg; FSSIA estimates

Exhibit 82: PTTGC's prospective P/BV band



Sources: PTTGC; Bloomberg; FSSIA estimates

Exhibit 83: Peer comparisons

Company	BBG code	Rec	Share Price (LCY)	Target price (LCY)	*Up side (%)*	Market Cap (USD m)	3Y EPS CAGR (%)	----- PE ----- 22E (x)	23E (x)	------ ROE ----- 22E (%)	23E (%)	---- PBV ---- 22E (x)	23E (x)	EV / EBITDA 22E (x)	23E (x)
THAILAND															
Thai Oil	TOP TB	BUY	51.50	70.00	*36*	2,920	6.7	7.9	7.6	10.6	10.5	0.8	0.8	10.4	11.0
Star Petroleum	SPRC TB	BUY	11.00	14.00	*27*	1,325	65.4	6.5	7.0	19.6	15.7	1.2	1.0	3.8	3.4
Bangchak Corp	BCP TB	BUY	29.50	40.00	*36*	1,166	27.3	5.9	5.9	12.3	11.7	0.7	0.7	5.1	5.3
Esso Thailand	ESSO TB	BUY	10.60	12.90	*22*	1,020	91.4	6.3	5.8	27.7	25.3	1.6	1.4	5.9	5.4
Ptt Global Chem	PTTGC TB	REDUCE	44.75	40.00	*(11)*	5,607	(3.2)	6.9	7.2	9.1	8.9	0.6	0.6	7.2	7.1
Irpc	IRPC TB	REDUCE	3.32	3.00	*(10)*	1,885	(10.1)	14.5	6.7	5.5	11.6	0.8	0.8	9.4	6.1
Tipco Asphalt	TASCO TB	BUY	16.80	22.50	*34*	737	(8.9)	9.0	11.9	20.7	17.4	2.0	2.1	8.3	11.0
Thailand avg						**14,661**	**3.2**	**8.1**	**7.2**	**12.0**	**12.0**	**0.9**	**0.8**	**7.6**	**7.3**
INDIA															
Bharat Petrom	BPCL IN	NA	333.95	NA	*NA*	9,155	(18.5)	7.2	7.7	18.8	15.5	1.3	1.2	7.8	8.0
Hindustan Petro	HPCL IN	NA	244.80	NA	*NA*	4,389	(9.4)	5.3	5.1	17.2	16.2	0.8	0.8	7.1	6.6
Indian Oil	IOCL IN	NA	71.20	NA	*NA*	12,706	(6.9)	2.6	6.4	19.3	11.0	0.5	0.7	5.1	6.7
India avg						**26,250**	**(14.1)**	**4.7**	**6.6**	**18.8**	**13.4**	**0.9**	**0.9**	**6.4**	**7.2**
TAIWAN															
Formosa Petro	6505 TT	NA	82.50	NA	*NA*	26,421	(2.0)	14.3	16.8	14.6	12.6	2.1	2.1	10.1	10.7
Taiwan avg						**26,421**	**(2.0)**	**14.3**	**16.8**	**14.6**	**12.6**	**2.1**	**2.1**	**10.1**	**10.7**
SOUTH KOREA															
Sk Innovation	096770 KS	NA	184,500	NA	*NA*	13,187	201.3	5.1	7.7	17.0	10.1	0.8	0.7	4.0	5.3
Gs Holdings	078930 KS	NA	40,400	NA	*NA*	2,908	5.0	2.0	2.7	16.1	10.2	0.3	0.3	4.5	5.6
S-Oil Corp	010950 KS	NA	85,800	NA	*NA*	7,403	4.5	3.3	5.2	36.6	19.2	1.0	0.9	2.9	4.4
South Korea avg						**23,499**	**47.8**	**4.1**	**6.3**	**23.1**	**13.0**	**0.8**	**0.7**	**3.7**	**5.0**
Refinery under coverage						**14,661**	**3.2**	**8.1**	**7.2**	**12.0**	**12.0**	**0.9**	**0.8**	**7.6**	**7.3**
Average (all)						**90,831**	**31.20**	**7.87**	**9.60**	**17.57**	**12.83**	**1.22**	**1.20**	**6.95**	**7.67**

Share price as of 4 Aug 2022

Sources: Bloomberg, FSSIA estimates

Corporate Governance report of Thai listed companies 2021

EXCELLENT LEVEL – Score range 90-100

AAV	BCPG	CPALL	GCAP	K	MSC	PLANET	SAMART	SPI	THRE	TVD
ADVANC	BDMS	CPF	GFPT	KBANK	MST	PLAT	SAMTEL	SPRC	THREL	TVI
AF	BEM	CPI	GGC	KCE	MTC	PORT	SAT	SPVI	TIPCO	TVO
AH	BGC	CPN	GLAND	KKP	MVP	PPS	SC	SSSC	TISCO	TWPC
AIRA	BGRIM	CRC	GLOBAL	KSL	NCL	PR9	SCB	SST	TK	U
AKP	BIZ	CSS	GPI	KTB	NEP	PREB	SCC	STA	TKT	UAC
AKR	BKI	DDD	GPSC	KTC	NER	PRG	SCCC	STEC	TMT	UBIS
ALT	BOL	DELTA	GRAMMY	LALIN	NKI	PRM	SCG	STI	TNDT	UV
AMA	BPP	DEMCO	GULF	LANNA	NOBLE	PROUD	SCGP	SUN	TNITY	VGI
AMATA	BRR	DRT	GUNKUL	LH	NSI	PSH	SCM	SUSCO	TOA	VIH
AMATAV	BTS	DTAC	HANA	LHFG	NVD	PSL	SDC	SUTHA	TOP	WACOAL
ANAN	BTW	DUSIT	HARN	LIT	NWR	PTG	SEAFCO	SVI	TPBI	WAVE
AOT	BWG	EA	HMPRO	LPN	NYT	PTT	SEAOIL	SYMC	TQM	WHA
AP	CENTEL	EASTW	ICC	MACO	OISHI	PTTEP	SE-ED	SYNTEC	TRC	WHAUP
ARIP	CFRESH	ECF	ICHI	MAJOR	OR	PTTGC	SELIC	TACC	TRU	WICE
ARROW	CHEWA	ECL	III	MAKRO	ORI	PYLON	SENA	TASCO	TRUE	WINNER
ASP	CHO	EE	ILINK	MALEE	OSP	Q-CON	SHR	TCAP	TSC	ZEN
AUCT	CIMBT	EGCO	ILM	MBK	OTO	QH	SIRI	TEAMG	TSR	
AWC	CK	EPG	INTUCH	MC	PAP	QTC	SIS	TFMAMA	TSTE	
AYUD	CKP	ETC	IP	MCOT	PCSGH	RATCH	SITHAI	TGH	TSTH	
BAFS	CM	FPI	IRPC	METCO	PDG	RS	SMK	THANA	TTA	
BANPU	CNT	FPT	ITEL	MFEC	PDJ	S	SMPC	THANI	TTB	
BAY	COM7	FSMART	IVL	MINT	PG	S & J	SNC	THCOM	TTCL	
BBL	COMAN	GBX	JSP	MONO	PHOL	SAAM	SONIC	THG	TTW	
BCP	COTTO	GC	JWD	MOONG	PLANB	SABINA	SPALI	THIP	TU	

VERY GOOD LEVEL – Score range 80-89

2S	ASIMAR	CHOW	FLOYD	IT	LOXLEY	OCC	RPC	SKY	TCC	TVT
7UP	ASK	CI	FN	ITD	LRH	OGC	RT	SLP	TCMC	TWP
ABICO	ASN	CIG	FNS	J	LST	PATO	RWI	SMIT	TEAM	UEC
ABM	ATP30	CMC	FORTH	JAS	M	PB	S11	SMT	TFG	UMI
ACE	B	COLOR	FSS	JCK	MATCH	PICO	SA	SNP	TFI	UOBKH
ACG	BA	CPL	FTE	JCKH	MBAX	PIMO	SAK	SO	TIGER	UP
ADB	BAM	CPW	FVC	JMART	MEGA	PJW	SALEE	SORKON	TITLE	UPF
AEONTS	BC	CRD	GEL	JMT	META	PL	SAMCO	SPA	TKN	UPOIC
AGE	BCH	CSC	GENCO	KBS	MFC	PM	SANKO	SPC	TKS	UTP
AHC	BEC	CSP	GJS	KCAR	MGT	PMTA	SAPPE	SPCG	TM	VCOM
AIT	BEYOND	CWT	GYT	KEX	MICRO	PPP	SAWAD	SR	TMC	VL
ALL	BFIT	DCC	HEMP	KGI	MILL	PPPM	SCI	SRICHA	TMD	VPO
ALLA	BJC	DCON	HPT	KIAT	MITSIB	PRIME	SCN	SSC	TMI	VRANDA
ALUCON	BJCHI	DHOUSE	HTC	KISS	MK	PRIN	SCP	SSF	TMILL	WGE
AMANAH	BLA	DOD	HYDRO	KOOL	MODERN	PRINC	SE	STANLY	TNL	WIIK
AMARIN	BR	DOHOME	ICN	KTIS	MTI	PSG	SFLEX	STGT	TNP	WP
APCO	BROOK	DV8	IFS	KUMWEL	NBC	PSTC	SFP	STOWER	TOG	XO
APCS	CBG	EASON	IMH	KUN	NCAP	PT	SFT	STPI	TPA	XPG
APURE	CEN	EFORL	IND	KWC	NCH	QLT	SGF	SUC	TPAC	YUASA
AQUA	CGH	ERW	INET	KWM	NETBAY	RBF	SIAM	SWC	TPCS	
ASAP	CHARAN	ESSO	INSET	L&E	NEX	RCL	SINGER	SYNEX	TPS	
ASEFA	CHAYO	ESTAR	INSURE	LDC	NINE	RICHY	SKE	TAE	TRITN	
ASIA	CHG	ETE	IRC	LEO	NRF	RML	SKN	TAKUNI	TRT	
ASIAN	CHOTI	FE	IRCP	LHK	NTV	ROJNA	SKR	TBSP	TSE	

GOOD LEVEL – Score range 70-79

A	BGT	CITY	GIFT	JTS	MDX	PK	SGP	SUPER	TQR	YGG
AI	BH	CMAN	GLOCON	JUBILE	MJD	PLE	SICT	SVOA	TTI	ZIGA
AIE	BIG	CMO	GREEN	KASET	MORE	PPM	SIMAT	TC	TYCN	
AJ	BLAND	CMR	GSC	KCM	MUD	PRAKIT	SISB	TCCC	UKEM	
ALPHAX	BM	CPT	GTB	KK	NC	PRAPAT	SK	THMUI	UMS	
AMC	BROCK	CRANE	HTECH	KKC	NDR	PRECHA	SMART	TNH	UNIQ	
APP	BSBM	CSR	HUMAN	KWI	NFC	PTL	SOLAR	TNR	UPA	
AQ	BSM	D	IHL	KYE	NNCL	RJH	SPACK	TOPP	UREKA	
ARIN	BTNC	EKH	IIG	LEE	NOVA	RP	SPG	TPCH	VIBHA	
AS	BYD	EMC	INGRS	LPH	NPK	RPH	SQ	TPIPL	W	
AU	CAZ	EP	INOX	MATI	NUSA	RSP	SSP	TPIPP	WIN	
B52	CCP	F&D	JAK	M-CHAI	PAF	SABUY	STARK	TPLAS	WORK	
BEAUTY	CGD	FMT	JR	MCS	PF	SF	STC	TPOLY	WPH	

Disclaimer:
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The survey result is as of the date appearing in the Corporate Governance Report of Thai Listed Companies. As a result, the survey results may be changed after that date. FSS International Investment Advisory Company Limited does not confirm nor certify the accuracy of such survey results.
* CGR scoring should be considered with news regarding wrong doing of the company or director or executive of the company such unfair practice on securities trading, fraud, and corruption SEC imposed a civil sanction against insider trading of director and executive

Sources: Thai Institute of Directors Association (IOD); FSSIA's compilation; data as of 26 October 2021

Anti-corruption Progress Indicator

CERTIFIED

2S	BCH	CPALL	GC	K	MFC	PE	QLT	SNP	THCOM	TU
7UP	BCP	CPF	GCAP	KASET	MFEC	PG	QTC	SORKON	THIP	TVD
ADVANC	BCPG	CPI	GEL	KBANK	MILL	PHOL	RATCH	SPACK	THRE	TVI
AF	BE8	CPN	GFPT	KBS	MINT	PK	RML	SPALI	THREL	TVO
AI	BEYOND	CSC	GGC	KCAR	MONO	PL	RWI	SPC	TIDLOR	TWPC
AIE	BGC	DCC	GJS	KCE	MOONG	PLANB	S & J	SPI	TIPCO	U
AIRA	BGRIM	DELTA	GPI	KGI	MSC	PLANET	SAAM	SPRC	TISCO	UBE
AKP	BJCHI	DEMCO	GPSC	KKP	MST	PLAT	SABINA	SRICHA	TKS	UBIS
ALPHAX	BKI	DIMET	GSTEEL	KSL	MTC	PM	SAPPE	SSF	TKT	UEC
AMA	BLA	DRT	GUNKUL	KTB	MTI	PPP	SAT	SSP	TMD	UKEM
AMANAH	BPP	DTAC	HANA	KTC	NBC	PPPM	SC	SSSC	TMILL	UOBKH
AMATA	BROOK	DUSIT	HARN	KWC	NEP	PPS	SCB	SST	TMT	UPF
AMATAV	BRR	EA	HEMP	KWI	NINE	PR9	SCC	STA	TNITY	UV
AP	BSBM	EASTW	HENG	L&E	NKI	PREB	SCCC	STOWER	TNL	VGI
APCS	BTS	ECL	HMPRO	LANNA	NMG	PRG	SCG	SUSCO	TNP	VIH
AQUA	BWG	EGCO	HTC	LH	NNCL	PRINC	SCN	SVI	TNR	WACOAL
ARROW	CEN	EP	ICC	LHFG	NOBLE	PRM	SEAOIL	SYMC	TOG	WHA
AS	CENTEL	EPG	ICHI	LHK	NOK	PROS	SE-ED	SYNTEC	TOP	WHAUP
ASIAN	CFRESH	ERW	IFEC	LPN	NSI	PSH	SELIC	TAE	TOPP	WICE
ASK	CGH	ESTAR	IFS	LRH	NWR	PSL	SENA	TAKUNI	TPA	WIIK
ASP	CHEWA	ETE	ILINK	M	OCC	PSTC	SGP	TASCO	TPP	XO
AWC	CHOTI	FE	INET	MAKRO	OGC	PT	SINGER	TBSP	TRU	ZEN
AYUD	CHOW	FNS	INSURE	MALEE	ORI	PTG	SIRI	TCAP	TRUE	
B	CIG	FPI	INTUCH	MATCH	PAP	PTT	SITHAI	TCMC	TSC	
BAFS	CIMBT	FPT	IRC	MBAX	PATO	PTTEP	SKR	TFG	TSTE	
BAM	CM	FSMART	IRPC	MBK	PB	PTTGC	SMIT	TFI	TSTH	
BANPU	CMC	FSS	ITEL	MC	PCSGH	PYLON	SMK	TFMAMA	TTA	
BAY	COM7	FTE	IVL	MCOT	PDG	Q-CON	SMPC	TGH	TTB	
BBL	COTTO	GBX	JKN	META	PDJ	QH	SNC	THANI	TTCL	

DECLARED

AJ	CHG	DDD	ETC	JR	MAJOR	NUSA	RS	SSS	TQM	YUASA
ALT	CPL	DHOUSE	FLOYD	JTS	NCAP	NYT	SAK	STECH	TSI	ZIGA
APCO	CPR	DOHOME	GULF	KEX	NCL	OR	SCGP	STGT	VARO	
B52	CPW	ECF	III	KUMWEL	NOVA	PIMO	SCM	TKN	VCOM	
BEC	CRC	EKH	INOX	LDC	NRF	PLE	SIS	TMI	VIBHA	

Level	
Certified	This level indicates practical participation with thoroughly examination in relation to the recommended procedures from the audit committee or the SEC's certified auditor, being a certified member of Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC) or already passed examination to ensure independence from external parties.
Declared	This level indicates determination to participate in the Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC)

Disclaimer:
The disclosure of the Anti-Corruption Progress Indicators of a listed company on the Stock Exchange of Thailand, which is assessed by Thaipat Institute, is made in order to comply with the policy and sustainable development plan for the listed companies of th e Office of the Securities and Exchange Commission. Thaipat Institute made this assessment based on the information received from the listed company, as stipulated in the form for the assessment of Anti-corruption which refers to the Annual Registration Statement (Form 56-1), Annual Report (Form 56-2), or other relevant documents or reports of such listed company . The assessment result is therefore made from the perspective of Thaipat Institute that is a third party. It is not an assessment of operation and is not based on any inside information. Since this assessment is only the assessment result as of the date appearing in the assessment result, it may be changed after that date or when there is any change to the relevant information. Nevertheless, FSS International Investment Advisory Company Limited does not confirm, verify, or certify the accuracy and completeness of the assessment results.

Note: Companies participating in Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC) under Thai Institute of Directors (as of 26 October 2021) are categorised into: 1) companies that have declared their intention to join CAC, and; 2) companies certified by CAC.

Sources: The Securities and Exchange Commission, Thailand; * FSSIA's compilation

GENERAL DISCLAIMER

ANALYST(S) CERTIFICATION

Suwat Sinsadok, CFA, FRM, ERP FSS International Investment Advisory Securities Co., Ltd

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 Investment in securities has risks. Investors are advised to consider carefully before making investment decisions.

Company	Ticker	Price	Rating	Valuation & Risks
Thai Oil	TOP TB	THB 51.50	BUY	Downside risks to our EV/EBITDA-based TP are a sharp fall in oil price and weak demand for refined oil products.
Star Petroleum Refining	SPRC TB	THB 11.00	BUY	TP is based on EV/EBITDA. Downside risks are a sharp rise in oil price and weak demand for refined oil products.
Bangchak Corp	BCP TB	THB 29.50	BUY	The downside risks to our SoTP-based TP include: 1) lower-than-expected demand for petroleum products; 2) higher crude premiums; and 3) unplanned shutdowns of the company's refinery plants.
Esso Thailand	ESSO TB	THB 10.60	BUY	The downside risks to our SoTP-based TP on ESSO include 1) lower-than-expected demand for petroleum products; 2) a higher crude premium; and 3) unplanned shutdowns of its refinery and petrochemical plants.
PTT Global Chemical	PTTGC TB	THB 44.75	REDUCE	The key upside risks to our EV/EBITDA-based TP are a stronger-than-expected HDPE price and HDPE-naphtha margin.
IRPC PCL	IRPC TB	THB 3.32	HOLD	Key upside risks to our neutral view and EV/EBITDA-based target price are rising margins of PP-naphtha, SM and ABS-benzene, and a higher market GRM while downside risks are the weak demands for refinery and petrochemical products and the higher naphtha price.
Tipco Asphalt	TASCO TB	THB 16.80	REDUCE	Downside risks to our EV/EBITDA multiple based TP include 1) a lower asphalt margin due to a oversupply in Asia on the back of faster recovery of utilisation rate for global refiners; and 2) a lower-than-expected supply of alternative crudes and asphalt.
PTT PCL	PTT TB	THB 35.00	BUY	Risks to our SoTP-based valuation are the oil price and potential earnings downsides from government intervention.
Global Power Synergy	GPSC TB	THB 70.50	HOLD	The downside risks to our SoTP-based TP on GPSC include 1) lower-than-expected demand for electricity in Thailand; 2) a lower crude price; and 3) lower-than-expected demand from industrial users. Upside risks are a lower gas price and higher sales volume.

Source: FSSIA estimates

Additional Disclosures

Target price history, stock price charts, valuation and risk details, and equity rating histories applicable to each company rated in this report is available in our most recently published reports. You can contact the analyst named on the front of this note or your representative at Finansia Syrus Securities Public Company Limited

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All share prices are as at market close on 04-Aug-2022 unless otherwise stated.

RECOMMENDATION STRUCTURE

Stock ratings

Stock ratings are based on absolute upside or downside, which we define as (target price* - current price) / current price.

BUY (B). The upside is 10% or more.
HOLD (H). The upside or downside is less than 10%.
REDUCE (R). The downside is 10% or more.
Unless otherwise specified, these recommendations are set with a 12-month horizon. Thus, it is possible that future price volatility may cause a temporary mismatch between upside/downside for a stock based on market price and the formal recommendation.

* In most cases, the target price will equal the analyst's assessment of the current fair value of the stock. However, if the analyst doesn't think the market will reassess the stock over the specified time horizon due to a lack of events or catalysts, then the target price may differ from fair value. In most cases, therefore, our recommendation is an assessment of the mismatch between current market price and our assessment of current fair value.

Industry Recommendations

Overweight. The analyst expects the fundamental conditions of the sector to be positive over the next 12 months.
Neutral. The analyst expects the fundamental conditions of the sector to be maintained over the next 12 months.
Underweight. The analyst expects the fundamental conditions of the sector to be negative over the next 12 months.

Country (Strategy) Recommendations

Overweight (O). Over the next 12 months, the analyst expects the market to score positively on two or more of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.

Neutral (N). Over the next 12 months, the analyst expects the market to score positively on one of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.

Underweight (U). Over the next 12 months, the analyst does not expect the market to score positively on any of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.