Thailand Energy Sector

Tight refinery market

Sector Valuation Company	BBG Code	Rec.	Current price (Bt)	Target price (Bt)	Market Cap (US$ m)	Norm EPS grw 2022F (%)	Norm EPS grw 2023F (%)	Norm PE 2022F (x)	Norm PE 2023F (x)	P/BV 2022F (x)	P/BV 2023F (x)	Div. yield 2022F (%)	Div. yield 2023F (%)
Bangchak Corp.	BCP TB	BUY	31.75	37.00	1,234	189.2	(49.2)	3.3	6.5	0.7	0.6	5.7	3.8
Esso (Thailand)	ESSO TB	BUY	12.30	16.00	1,202	na	(37.0)	4.3	6.8	1.5	1.4	12.2	6.2
Star Petroleum	SPRC TB	BUY	11.70	14.50	1,432	na	(34.4)	5.6	8.5	1.3	1.2	10.3	5.9
Thai Oil	TOP TB	BUY	55.50	70.00	3,500	416.8	(48.3)	4.0	7.7	0.8	0.7	5.4	5.5

Source: Thanachart estimates, Based on 29 November 2022 closing prices

We remain bullish on the refinery sector expecting the tight market to continue well into next year. TOP and ESSO remain our two top picks which are benefiting from a high middle-distillate margin.

Tight refinery market continues

We expect the tight global refinery market to continue into next year. *First,* there is still no sign of the Russia-Ukraine conflict ending and the tight global demand-supply outlook continues. *Second*, European sanctions on Russian refined products will be fully effective in February 2023 and this could lead to lower global supply levels from Russia. *Third*, we expect demand in China to recover after the zero-COVID policy is relaxed with fewer lockdowns. Although the refining margin has fallen from its peak at the onset of the war, causing us to lower our assumptions, we expect refinery margins to remain at elevated levels. Our revised benchmark Singapore GRM estimates are US$9.0/7.9/7.6 in 2022-24F vs. the historical average of US$5-6/bbl.

Demand continues to surpass supply

We expect additional global refinery demand to continue to surpass new supply for the next few years (Exhibit 2). In 2023F, although there is a larger amount of new supply set to come onto the market, we expect strong post-COVID demand to catch up with the new supply. On top of that, we see upside risks for an even tighter market from 1) a lower operating rate of Russian capacity given the sanctions imposed by Europe, and 2) additional demand to stock up inventories to higher levels in Europe to secure supply security because of the sanctions. Note that Russia accounts for 9% of global refining supply.

Thailand is middle distillate heavy

Diesel is a relatively high-margin product in the refined product mix. Within the current Singapore GRM of US$10.1/bbl, the diesel spread is US$39/bbl followed by the jet spread at US$36/bbl. The drag is high-sulfur fuel oil at -US$18/bbl. Thailand's combined output of diesel and jet accounts for 55% of total output which is far higher than the 35% mix in the Singapore benchmark calculation. At the same time, Thailand's output of high-sulfur fuel oil comes to only 5% of total output compared to 23% for the Singapore benchmark.

TOP and ESSO are our refinery picks

We like TOP and ESSO given their relatively high exposure to middle-distillate products vs. peers. We also like TOP as the biggest-cap stock in the refinery space with a low valuation of 0.7x P/BV and 7.7x PE in 2023F. We like ESSO as it has volume growth stories from both its refinery and petrol station businesses while it offers high dividend yields of 12.2/6.2% in 2022-23F. Of its Bt1.5 DPS, ESSO paid Bt0.5 as a 1H22 interim dividend and the remaining Bt1.0 or 8% yield will likely be paid in around May next year.

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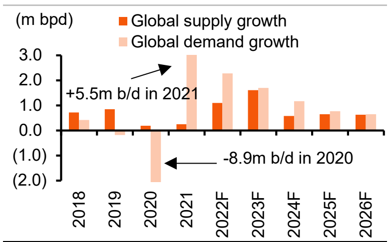
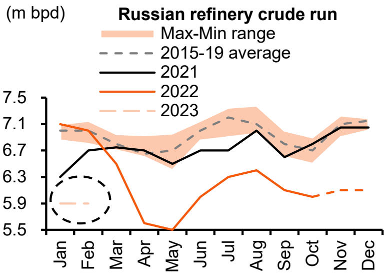
Tight Global Refinery Outlook



Source: Thai Oil, EIA, Thanachart estimates

Russian Refinery Run Rate



Source: SP Platts

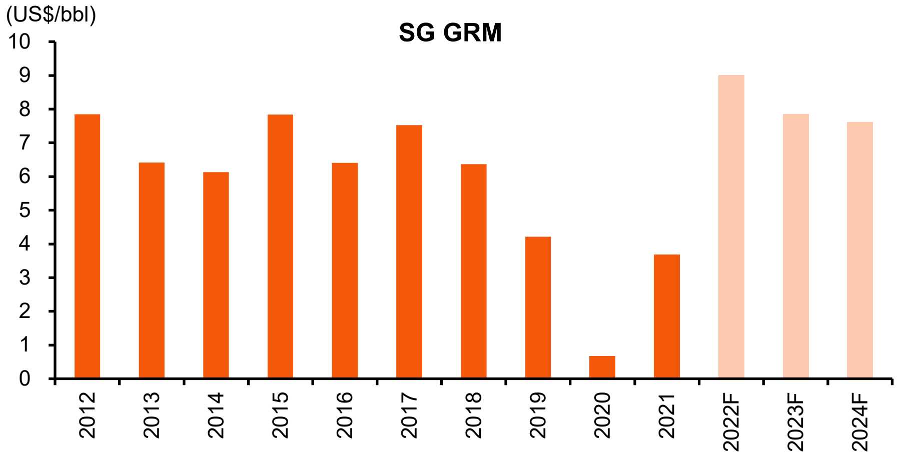
Tight refinery market

We expect GRM to remain elevated for the next three years

We expect the tight global refinery market to continue beyond next year. Despite the refining margin having fallen from its peak level at the onset of the Russia-Ukraine war, causing us to lower our assumptions, we expect the margin to remain at elevated levels. Our revised benchmark Singapore gross refinery margin (GRM) estimates are US$9.0/7.9/7.6/bbl (vs. US$13/9.5/8.8 previously) in 2022-24F vs. its historical average of US$5-6/bbl.

We see drivers for high GRM into next year of 1) a tight global demand-supply outlook, 2) sanctions on Russian refined products by Europe effective in February 2023 resulting in falling supply levels from Russia, 3) recovering demand in China from a relaxation of its zero-COVID policy and fewer lockdowns, and 4) still low global inventory levels.

Ex 1: Singapore GRM To Remain Elevated



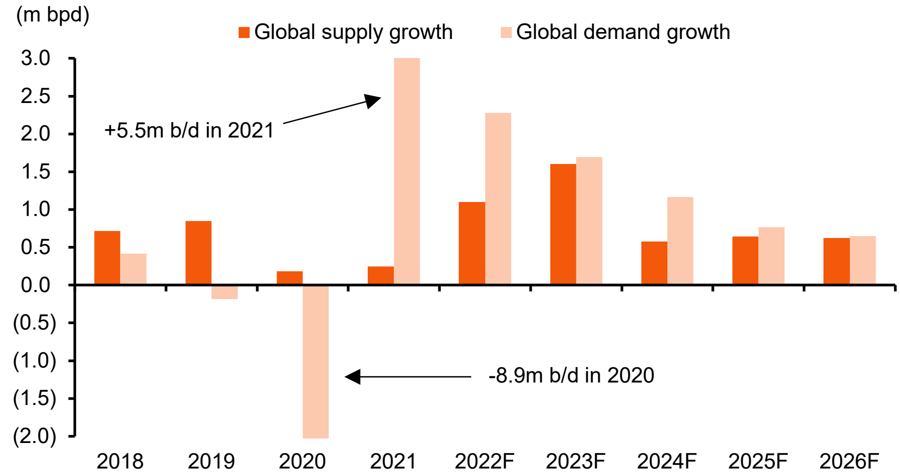
Sources: Thai Oil, Thanachart estimates

Tight demand-supply outlook

Continued excess demand outlook for a few more years

We expect additional global refinery demand to continue to surpass new supply for the next few years as shown in Exhibit 2. Next year, although there is likely to be more new refining capacity coming on stream, demand should also be strong, driven by the continued post-COVID recovery, including rising jet demand because of the tourism turnaround. We also see two upside risks for a tighter market. The first is a potential lowering of the operating rate of Russian capacity after the sanctions on Russian refined products by EU countries become effective from February 2023. Note that Russian middle-distillate capacity accounts for 3% of global demand. The second is the potential additional demand to stock up more inventories in Europe to secure supply because of the sanctions.

Ex 2: Tight Global Refinery Supply-Demand Outlook



Sources: Thai Oil, EIA, Thanachart estimates

Potential loss of Russia supply

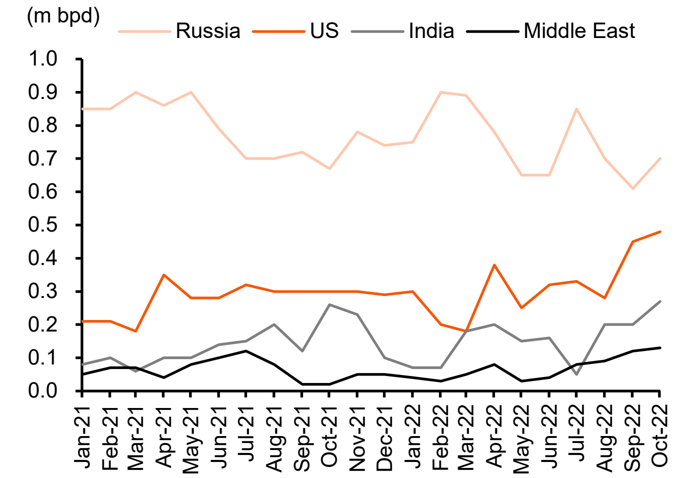
EU's ban on Russian refined products to result in lower global supply

According to the International Energy Agency (IEA), Russia is still the biggest supplier of diesel to Europe. EU countries imported around 560kbpd of diesel from Russia in October 2022 vs. 700mbpd before the war. We then expect the Russian diesel supplies to Europe to fall by 0.2-0.5mbpd once the refined products ban becomes effective in February 2023. That amount of diesel accounts for 1-2% of global diesel capacity.

Changes in trade flow as a result of sanctions on Russian oil products are different for crude oil. Crude oil trade flows are easier to adjust than refined products. The EU has reduced crude imports from Russia and is buying more from the Middle East and the US. Russia can sell more crude to China and India as these two countries have not imposed sanctions on Russia. Meanwhile, China and India buy less crude from the Middle East and the US.

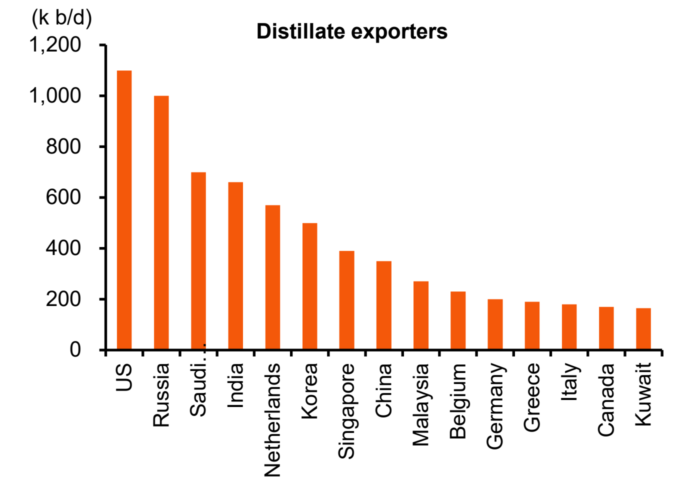
As for the refinery market, once the EU stops buying refined products from Russia, Russia cannot resell these products to China and India since they are both already net exporters of refined products. It is also difficult for Russia to sell elsewhere as most net importers of refined oil products have imposed sanctions on Russia. Potential new buyers are in West Africa and Latin America, but their demand is much smaller compared to that from European countries. We, therefore, expect the operating rate of Russia's refineries to fall after the sanctions become effective in February 2023, causing a tighter refinery market.

Ex 3: EU Still Highly Dependent On Russian Diesel



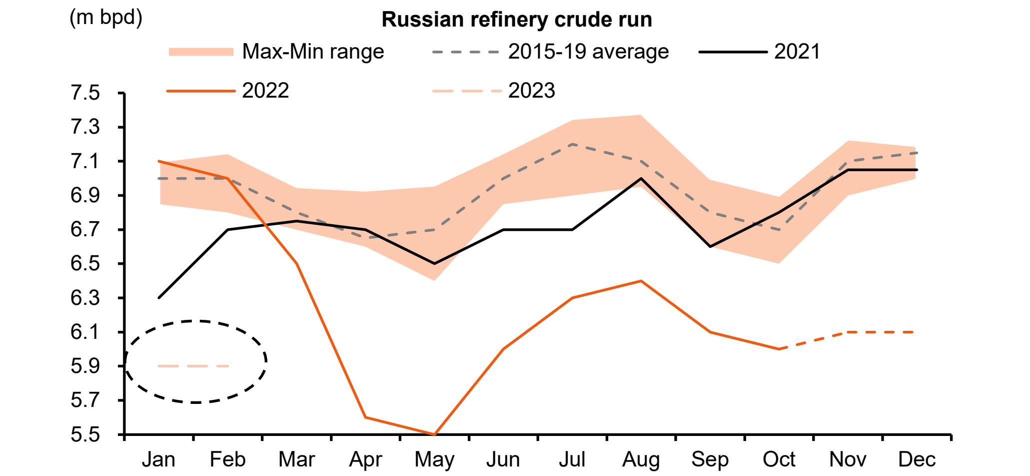
Sources: Vortexa, Bloomberg

Ex 4: Russia Is A Key Global Refined Product Exporter



Sources: Joint Organizations Data Initiatives

Ex 5: Forecasts For Russia's Refinery Run Rate



Source: SP Platts

Ex 6: Russia Oil And Oil Product Export (Pre-conflict)

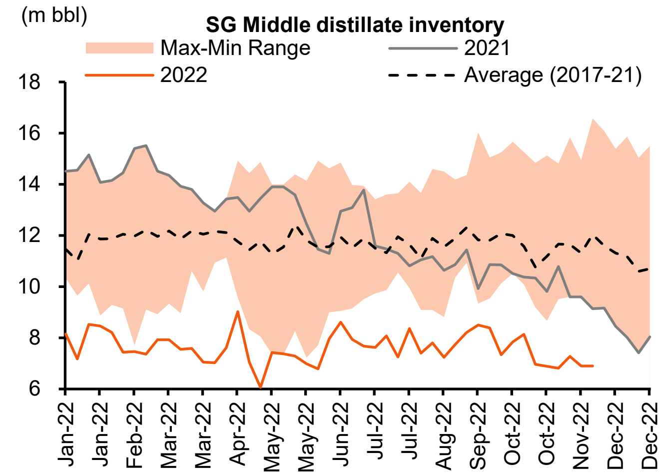
2021 Russia export	Crude		Mogas/Jet		Gasoil		Fuel oil	
	(k bpd)	% of region demand	(k bpd)	% of region demand	(k bpd)	% of region demand	(k bpd)	% of region demand
Europe	2720	27%	30	2%	700	11%	330	33%
US	210	1%	50	1%	15	0.30%	220	35%
Asia	1540	4%	20	0.30%	80	0.80%	200	7%
Other regions	100	0.10%	80	1%	120	2%	70	3%
Global	**4570**	**4.60%**	**180**	**1%**	**915**	**3%**	**820**	**12%**

Source: Thai Oil

Low global inventory levels

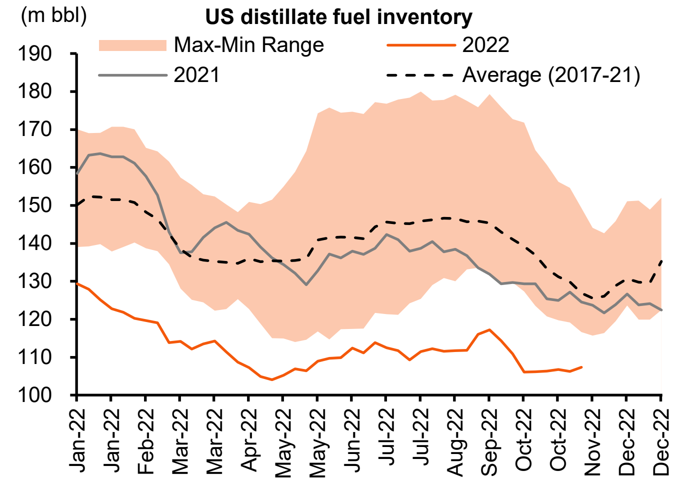
Due to the ongoing increase in demand from the reopening of countries post-COVID, global refinery inventories remain at low levels as shown in the exhibits below. The low inventories should support a strong refinery market next year given inventory rebuilding demand.

Ex 7: Low Inventories In Asia



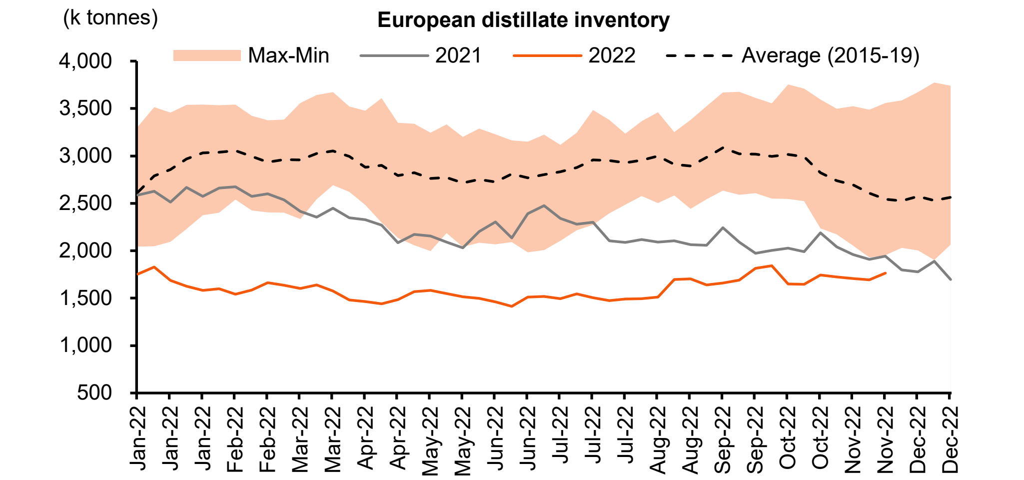
Source: Bloomberg

Ex 8: Low Inventories In The US



Source: Bloomberg

Ex 9: Low Inventories In Europe



Source: Bloomberg

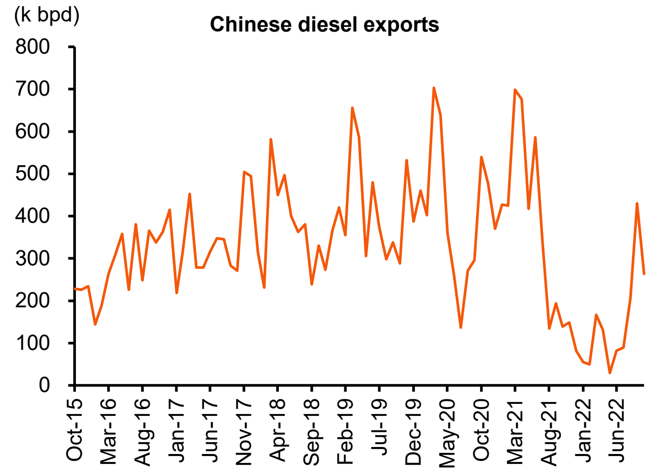
China demand recovery

China demand to recover and lead to lower refined oil exports

China's many on-and-off COVID lockdowns have caused a drop in refinery demand so far this year. We expect demand to recover next year with fewer COVID lockdowns and later on a more relaxed zero-COVID policy that should lead to improved economic activity and demand for refined products. This growing demand would support our expectation of a tight global refinery market continuing next year.

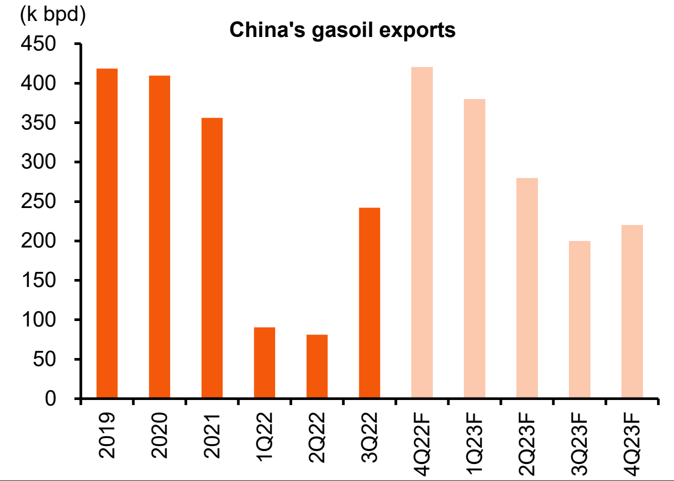
China could also have an extra influence on the global supply side. Prior to 3Q22, China had reduced and limited supply via quotas on refined product exports despite it having excess production capacity. That is, China has a long-term policy to reduce its pollution levels by gradually closing down small or teapot refiners. This should reduce the amount of active global capacity. However, in 3Q22 due to the substantial impact of its lockdowns that resulted in a weaker economy and higher refined oil inventories, China increased its export quotas, resulting in more refined product supply coming onto the market. We expect China's higher export quotas to be only temporary and when its economy improves and inventory levels fall, it will likely will cut its export quotas again.

Ex 10: China's Diesel Exports Jump Back Up



Source: Bloomberg

Ex 11: Exports To Peak In 4Q22F



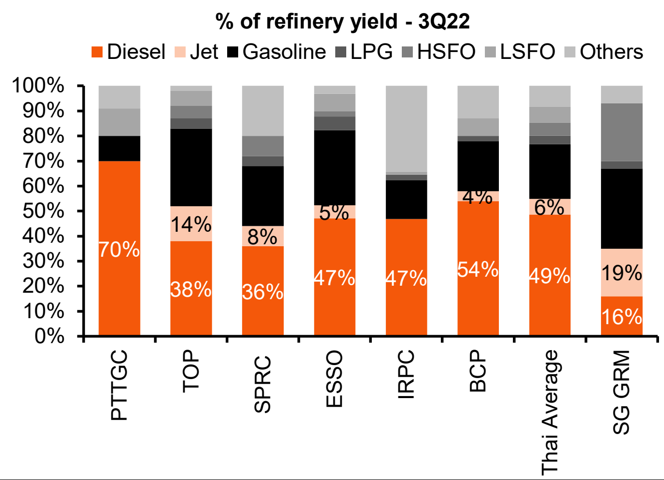
Source: Thai Oil, FGE

Thailand is middle distillate heavy

Diesel and jet have the highest margins

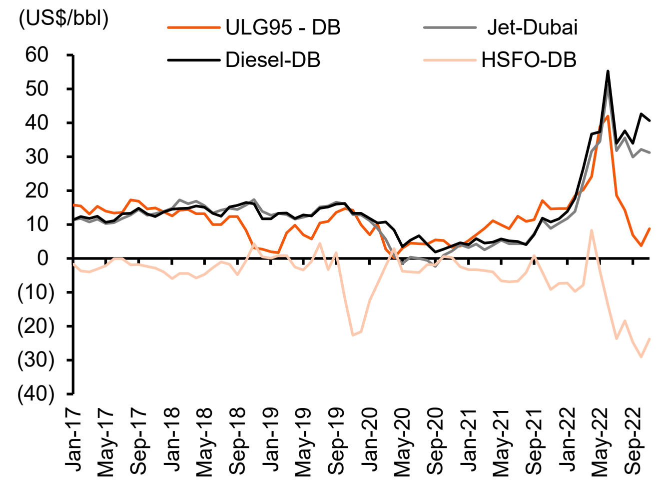
Diesel and jet are relatively high-margin products in the refined product mix. This is favorable for Thai refiners given their high mix of these middle-distillate products. Within the current Singapore GRM of US$10.1/bbl, the diesel spread is at US$39/bbl and the jet spread is US$36. The drag is high-sulfur fuel oil at -US$18/bbl, which Thai refiners have low exposure to. Thai average output is 55% middle distillates vs. 35% in the calculation of the Singapore GRM benchmark and 5% high-sulfur fuel oil vs. 23% in the benchmark calculation.

Ex 12: Thai Refineries Have High Jet+Diesel Yields



Sources: Company data, Thanachart estimates

Ex 13: Jet+Diesel Margins Are The Highest



Source: Bloomberg

Earnings and TP revisions

We lower our gasoline and HSFO margin assumptions…

…but raise those for the diesel margin

We revise down our normalized earnings estimates for the Thai refinery sector by 2/-2/-7% in 2022-24F. That is mainly because we lower our Singapore GRM assumptions by US$4.1/1.6/1.1 per barrel to US$9.0/7.9/7.6 in 2022-24F. In detail, we cut the spreads of gasoline and high sulfur fuel oil (HSFO) products and raise the spreads of diesel and jet products. That said, our assumptions still point to a very tight market over the next three years. Our GRM assumptions look high vs. the five-year pre-COVID average of US$5-6/bbl.

Ex 14: GRM Assumption Changes

						New			Old			Change (US$/bbl)		
	2020	2021	1Q22	2Q22	3Q22	2022F	2023F	2024F	2022F	2023F	2024F	2022F	2023F	2024F
(US$/bbl)														
Gasoline-Dubai	4.4	11.0	17.8	31.3	13.2	16.2	12.0	12.0	21.3	15.0	15.0	*(5.1)*	*(3.0)*	*(3.0)*
Diesel-Dubai	6.2	6.7	19.6	33.1	12.5	32.4	29.0	26.0	33.2	25.0	23.0	*(0.7)*	*4.0*	*3.0*
Jet-Dubai	2.6	5.8	16.2	36.8	32.4	29.0	27.0	24.0	32.5	25.0	23.0	*(3.5)*	*2.0*	*1.0*
HSFO-Dubai	(3.0)	(4.9)	(8.3)	2.8	(8.7)	(14.3)	(10.0)	(8.0)	(9.6)	(8.0)	(8.0)	*(4.7)*	*(2.0)*	*0.0*
SG GRM	**0.7**	**3.1**	**8.0**	**18.6**	**6.9**	**9.0**	**7.9**	**7.6**	**13.1**	**9.5**	**8.8**	***(4.1)***	***(1.6)***	***(1.1)***

Sources: Bloomberg, Thanachart estimates

Ex 15: Earning Revisions

(Bt m)		New			Old			Change (%)		
	2021	2022F	2023F	2024F	2022F	2023F	2024F	2022F	2023F	2024F
Net profit										
BCP	7,624	14,769	6,237	5,869	9,314	5,459	5,084	*58.6*	*14.3*	*15.4*
ESSO	4,443	11,687	6,052	4,938	17,297	5,845	5,808	*(32.4)*	*3.5*	*(15.0)*
SPRC	4,746	8,663	5,947	4,515	13,807	5,073	5,583	*(37.3)*	*17.2*	*(19.1)*
TOP	12,578	39,216	16,194	13,625	41,105	12,960	15,056	*(4.6)*	*25.0*	*(9.5)*
Normalized profit										
BCP	4,592	13,279	6,863	6,364	9,937	6,474	5,282	*33.6*	*6.0*	*20.5*
ESSO	(1,704)	9,927	6,052	5,764	10,648	7,339	6,508	*(6.8)*	*(17.5)*	*(11.4)*
SPRC	(1,542)	9,070	5,947	5,341	11,348	6,870	6,444	*(20.1)*	*(13.4)*	*(17.1)*
TOP	5,583	29,568	16,194	14,644	31,457	15,270	16,216	*(6.0)*	*6.0*	*(9.7)*

Sources: Company data, Thanachart estimates

Ex 16: Target Price And Recommendation Changes

BBG Code	Rec. Old	Rec. New	Current price (Bt)	Target price (Bt)	*Up/down side (%)*	Market Cap (US$ m)	Norm PE 2022F (x)	Norm PE 2023F (x)	P/BV 2022F (x)	P/BV 2023F (x)	Div yield 2022F (x)	Div yield 2023F (x)	ROE 2022F (%)	ROE 2023F (%)
BCP TB	BUY	BUY	31.75	37.00	*16.5*	1,234	3.3	6.5	0.7	0.6	5.7	3.8	22.3	9.9
ESSO TB	BUY	BUY	12.30	16.00	*30.1*	1,202	4.3	6.8	1.5	1.4	12.2	6.2	41.8	21.6
SPRC TB	BUY	BUY	11.70	14.50	*23.9*	1,432	5.6	8.5	1.3	1.2	10.3	5.9	24.4	14.5
TOP TB	BUY	BUY	55.50	70.00	*26.1*	3,500	4.0	7.7	0.8	0.7	5.4	5.5	20.8	9.6

Sources: Bloomberg, Thanachart estimates

ESSO and TOP are our top refinery picks

Lower sector valuation vs. higher GRM and ROE

We see the refinery sector as inexpensive with a winter catalyst of GRM rebounding back to a higher level. The sector is still trading at 1.0x P/BV in 2023F vs. its five-year pre-COVID average of 1.2x and this is despite the much higher level of GRM at present and for the next three years, based on our forecasts. The sector's aggregate earnings were -Bt1.4bn in 2019 and we estimate Bt35bn in 2023F. ROE was -4% in 2019 vs. our projection of 14% in 2023F.

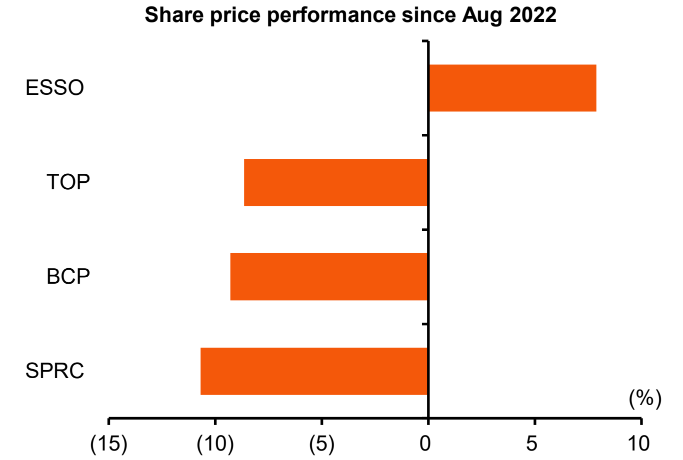
Both ESSO and TOP have a high middle-distillate product mix

Our recommendations remain unchanged for all the stocks under our coverage while we keep TOP and ESSO as our top picks as both have a relatively high mix of high-margin middle-distillate products vs. peers. Exhibit 12 shows that 52% of the total output of TOP and ESSO is middle distillates. As for TOP, we also like it as the biggest-cap stock in the refinery sector and for its low valuations at 0.7x 2023F P/BV and 7.7x PE. TOP is also being hit the least in the sector from the rising oil tanker freight rate as it also has its own tankers at 75% of its total very large crude carrier (VLCC) use.

TOP looks cheap to us while ESSO offers high yields

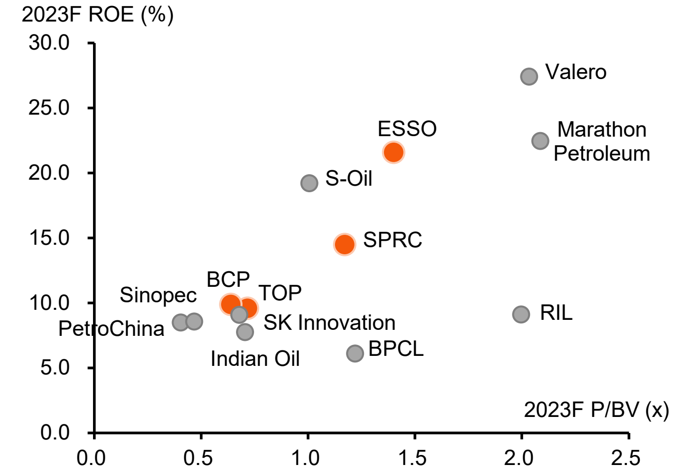
As for ESSO, we like it for its dividend angle. We project dividend yields of 12/6.2% in 2022-23F. In 2022F, our DPS estimate is Bt1.5, of which Bt0.5 was paid out as the 1H22 interim dividend. So, the remaining Bt1.0 DPS implies an 8% yield for its 2H22F performance, and we expect the payment period to be in around May 2023.

Ex 17: Share Price Performance



Source: Bloomberg

Ex 18: P/BV Vs. ROE



Sources: Bloomberg, Thanachart estimates

Ex 19: Sector Valuation Comparison

		BCP	ESSO	SPRC	TOP	Industry
Rating		BUY	BUY	BUY	BUY	
Target price (Bt)	**Thanachart**	37.00	16.00	14.50	70.00	
	Consensus	37.00	14.10	12.70	63.00	
Consensus rec.	BUY	9	2	9	17	
	HOLD	4	4	6	5	
	SELL	0	1	3	3	
Sales (Bt m)	2021	199,417	172,878	172,484	345,496	890,276
	2022F	249,634	169,762	273,611	491,591	1,184,599
	2023F	278,249	169,343	246,337	428,902	1,122,831
	2024F	250,860	165,990	232,246	389,795	1,038,890
Norm profits	2021	4,592	(1,704)	(1,542)	5,583	6,929
(Bt m)	2022F	13,279	9,927	9,070	29,568	61,844
	2023F	6,741	6,252	5,947	16,174	35,114
	2024F	5,372	5,760	5,341	14,633	31,107
Sales	2021	46.1	36.5	32.5	39.4	38.6
growth (%)	2022F	25.2	(1.8)	58.6	42.3	31.1
	2023F	11.5	(0.2)	(10.0)	(12.8)	(2.9)
	2024F	(9.8)	(2.0)	(5.7)	(9.1)	(6.7)
Norm EPS	2021	na	na	na	na	na
growth (%)	2022F	189.2	na	na	416.8	303.0
	2023F	(49.2)	(37.0)	(34.4)	(48.3)	(42.2)
	2024F	(20.3)	(7.9)	(10.2)	(9.5)	(12.0)
Operating	2021	6.6	(0.3)	0.1	2.6	2.2
margin (%)	2022F	13.3	7.5	4.1	8.4	8.3
	2023F	9.4	4.3	3.1	5.1	5.5
	2024F	8.1	4.1	2.8	5.0	5.0
ROE (%)	2021	9.2	(10.2)	(5.1)	4.7	(0.3)
	2022F	22.3	41.8	24.4	20.8	27.3
	2023F	9.9	21.6	14.5	9.6	13.9
	2024F	7.5	18.7	12.5	8.3	11.7
Dividend yield	2021	6.3	0.0	1.5	4.6	3.1
(%)	2022F	5.7	12.2	10.3	5.4	8.4
	2023F	3.8	6.2	5.9	5.5	5.3
	2024F	3.8	5.8	4.5	4.9	4.7
P/BV (x)	2021	0.8	2.2	1.5	0.9	1.4
	2022F	0.7	1.5	1.3	0.8	1.0
	2023F	0.6	1.4	1.2	0.7	1.0
	2024F	0.6	1.3	1.2	0.7	0.9
Norm PE (x)	2021	9.5	na	na	20.5	15.0
	2022F	3.3	4.3	5.6	4.0	4.3
	2023F	6.5	6.8	8.5	7.7	7.4
	2024F	8.1	7.4	9.5	8.5	8.4
EV/EBITDA (x)	2021	4.3	32.0	19.6	15.6	17.9
	2022F	2.6	3.8	3.7	5.4	3.9
	2023F	3.9	5.5	4.5	10.3	6.0
	2024F	4.5	5.4	4.4	11.0	6.3
Net D/E (x)	2021	0.7	1.5	0.1	1.1	0.9
	2022F	0.8	0.6	0.1	0.9	0.6
	2023F	1.0	0.5	(0.1)	1.0	0.6
	2024F	0.9	0.3	(0.2)	0.9	0.5

Sources: Company data; Thanachart estimates

Valuation Comparison

Ex 20: Comparison With Regional Peers

Company	Code	Country	EPS Growth 22F (%)	EPS Growth 23F (%)	PE 22F (x)	PE 23F (x)	P/BV 22F (x)	P/BV 23F (x)	EV/EBITDA 22F (x)	EV/EBITDA 23F (x)	Div. Yield 22F (%)	Div. Yield 23F (%)	ROE 22F (%)	ROE 23F (%)
PetroChina	857 HK	China	50.6	(12.8)	4.6	5.3	0.5	0.4	2.9	3.0	10.6	8.9	10.5	8.5
Sinopec	386 HK	China	(1.5)	(2.4)	6.1	6.2	0.5	0.5	3.5	3.4	10.6	10.3	9.1	8.6
Average			**24.5**	**(7.6)**	**5.3**	**5.8**	**0.5**	**0.5**	**3.2**	**3.2**	**10.6**	**9.6**	**9.8**	**8.5**
SK Innovation	096770	S.Korea	na	(24.5)	6.0	7.9	0.8	0.7	4.5	5.8	2.1	2.0	14.3	9.1
S-Oil	010950	S.Korea	71.2	(31.8)	3.9	5.7	1.1	1.0	3.0	4.7	8.0	5.3	31.5	19.2
Average			**71.2**	**(28.1)**	**5.0**	**6.8**	**0.9**	**0.9**	**3.8**	**5.3**	**5.1**	**3.6**	**22.9**	**14.1**
Reliance Industries	RIL IB	India	31.2	21.8	29.8	24.5	2.3	2.1	19.3	14.8	0.3	0.3	8.0	9.1
Indian Oil	IOCL IB	India	65.8	(59.1)	4.2	10.3	0.8	0.8	5.8	9.5	10.2	4.9	19.3	7.7
Bharat Petroleum	BPCL IB	India	(0.3)	(72.8)	7.3	26.7	1.4	1.3	8.9	16.6	7.5	2.7	18.8	5.2
Hindustan Petroleum	HPCL IB	India	(12.6)	(14.7)	5.1	6.0	0.8	0.9	9.3	11.1	7.3	5.2	17.2	12.9
Average			**21.0**	**(31.2)**	**11.6**	**16.9**	**1.3**	**1.3**	**10.8**	**13.0**	**6.3**	**3.3**	**15.8**	**8.7**
Marathon Petroleum	MPC US	USA	na	(45.2)	4.8	8.7	2.2	2.0	3.4	5.4	2.0	2.4	45.4	22.5
Valero	VLO US	USA	na	(36.8)	4.8	7.6	2.3	1.9	3.6	5.3	2.9	3.0	50.7	27.4
Phillips 66	PSX US	USA	na	(29.6)	5.2	7.4	1.7	1.5	4.4	6.1	3.5	3.6	41.2	22.7
PBF Energy'	PBF US	USA	na	(59.5)	1.7	4.2	1.0	0.8	1.2	2.5	0.5	2.0	na	22.2
Delek	DK US	USA	na	(31.5)	4.8	6.9	1.8	1.5	3.5	4.5	2.0	2.6	45.8	28.3
Average			**na**	**(40.5)**	**4.2**	**7.0**	**1.8**	**1.6**	**3.2**	**4.7**	**2.2**	**2.7**	**45.8**	**24.6**
Bangchak Corp*	BCP TB *	Thailand	189.2	(49.2)	3.3	6.5	0.7	0.6	2.6	3.9	5.6	3.8	22.3	9.9
ESSO (Thailand) *	ESSO TB *	Thailand	na	(37.0)	4.2	6.7	1.5	1.4	3.7	5.4	12.4	6.3	41.8	21.6
Star Petroleum Refining	SPRC TB *	Thailand	na	(34.4)	5.5	8.5	1.3	1.2	3.7	4.4	10.3	5.9	24.4	14.5
Thai Oil *	TOP TB *	Thailand	416.8	(48.3)	4.0	7.7	0.8	0.7	5.4	10.3	5.4	5.5	20.8	9.6
Average			**303.0**	**(42.2)**	**4.3**	**7.3**	**1.0**	**1.0**	**3.9**	**6.0**	**8.4**	**5.4**	**27.3**	**13.9**
Total Average			**152.7**	**(29.9)**	**5.9**	**8.4**	**1.1**	**1.0**	**4.9**	**6.2**	**9.6**	**8.1**	**24.3**	**14.0**

Sources: Bloomberg, * Thanachart estimates
Based on 29 November 2022 closing prices

STOCK PERFORMANCE

	Absolute (%)				Rel SET (%)			
	1M	3M	12M	YTD	1M	3M	12M	YTD
SET INDEX	**1.0**	**(0.9)**	**3.6**	**(2.0)**	—	—	—	—
Energy	**(0.6)**	**(5.7)**	**20.6**	**14.6**	**(1.6)**	**(4.8)**	**17.0**	**16.6**
BCP TB	4.1	(9.9)	31.2	25.7	3.1	(9.0)	27.6	27.7
ESSO TB	(15.2)	(12.8)	69.7	67.3	(16.1)	(11.9)	66.1	69.4
IRPC TB	(1.3)	(9.4)	(17.1)	(19.3)	(2.2)	(8.5)	(20.7)	(17.3)
IVL TB	(0.6)	(3.5)	6.4	(3.5)	(1.6)	(2.6)	2.8	(1.5)
PTT TB	(7.6)	(11.3)	(6.3)	(12.5)	(8.6)	(10.4)	(9.9)	(10.5)
PTTEP TB	3.9	11.9	66.1	59.7	2.9	12.8	62.5	61.8
PTTGC TB	10.9	1.6	(14.2)	(17.9)	9.9	2.5	(17.8)	(15.9)
SPRC TB	(1.7)	(9.3)	30.0	19.4	(2.7)	(8.4)	26.4	21.4
TOP TB	1.8	(8.6)	19.4	12.1	0.9	(7.8)	15.8	14.1

Source: Bloomberg

SECTOR - SWOT ANALYSIS

S — Strength

- Synergies within the PTT group could help lower costs and increase competitiveness via integration.
- Strong balance sheets should enable Thai energy companies to take advantage of low oil prices in M&As.

W — Weakness

- High-cost E&P operations in Thailand.
- Earnings and cash flows are highly volatile, following fluctuations in global oil prices.

O — Opportunity

- Thai refineries, i.e., TOP, IRPC and PTTGC have room for further downstream expansion into higher value-added plastic pellets.
- Overseas acquisitions that could drive growth and value.

T — Threat

- Cheap imported LNG is a major threat to local gas producers, including PTTEP.
- Regulatory risk, i.e. price caps.

REGIONAL COMPARISON

	EPS growth		PE		P/BV		EV/EBITDA		Div. Yield	
Name	22F (%)	23F (%)	22F (x)	23F (x)	22F (x)	23F (x)	22F (x)	23F (x)	22F (%)	23F (%)
China	24.5	(7.6)	5.3	5.8	0.5	0.5	3.2	3.2	10.6	9.6
S.Korea	71.2	(28.1)	5.0	6.8	0.9	0.9	3.8	5.3	5.1	3.6
India	21.0	(31.2)	11.6	16.9	1.3	1.3	10.8	13.0	6.3	3.3
USA	na	(40.5)	4.2	7.0	1.8	1.6	3.2	4.7	2.2	2.7
Thailand	303.0	(42.2)	4.3	7.3	1.0	1.0	3.9	6.0	8.4	5.4
Average	**104.9**	**(29.9)**	**6.1**	**8.7**	**1.1**	**1.0**	**5.0**	**6.4**	**6.5**	**4.9**

Sources: Bloomberg Consensus
Note: * Thanachart estimate – using normalized EPS

BUY (Unchanged) | **TP: Bt 37.00** (From: Bt 39.00)

Change in Numbers | **Upside : 16.5%** | **30 NOVEMBER 2022**

Small Cap Research

Bangchak Corporation Pcl (BCP TB)

A unique exposure

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We maintain our BUY rating on BCP and but cut our TP to Bt37 as we assume higher capex. We see BCP's profit staying solid in 2023F, driven by elevated GRM, E&P volume growth, and its growing petrol station business. BCP is trading at what we regard as an attractive 2023F P/BV of 0.6x vs. ROE of 10% and dividend yield of 3.8%.

Thanachart Securities

Reaffirming BUY

We reaffirm our BUY rating on BCP despite cutting our DCF-based 12-month TP, using a 2023F base year, to Bt37 from Bt39. We expect the company's profit outlook to remain solid for all of its core businesses (refinery, E&P, and petrol stations). We see refinery benefiting from strong middle-distillate margins while its E&P and petrol station businesses will likely continue to see higher volume growth. Valuations also look attractive at 0.6x P/BV vs. ROE of 22.3% in 2022F and 9.9% in 2023F. BCP is trading at 2022F PE of 3.3x and 6.5x in 2023F.

Refinery outlook still solid

We revise BCP's market GRM up by 14% on average to USD13.5/8.2/7.3 over 2022-24F. The higher GRM forecasts factor in a higher unconverted oil (UCO) yield, the margin for which is at a premium to diesel. This product is a niche one that is mainly used as a lube base for machinery, and it made up 11% of BCP's refinery yield in 9M22, an increase from 9% in 2021. Additionally, the company looks poised to benefit from healthier middle-distillate margins with middle-distillate exposure of 58% vs. peers' average of 52%. Note that BCP said that there is room for it to increase its middle-distillate yield by another 5%.

E&P volume growth

BCP is one of only a few companies in Thailand to have E&P business exposure. The company has a 45.7% stake in the listed Norwegian E&P operator, OKEA, which should allow BCP to benefit from the prevailing high oil and European gas prices. The business accounted for 7% of BCP's profit in 3Q22. OKEA has acquired 35.2% in the Brage Unit, 6.4615% in the Ivar Aasen Unit, and 6% in the Nova field from Wintershall, which should increase its sales volume by 40% in 2023F.

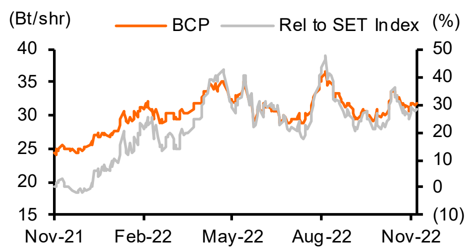
Growing petrol station profit

We expect BCP's petrol station EBITDA to continue to grow in 2023F despite the high base in 2022F. We estimate EBITDA to increase by 3% after growing by 20% in 2022F, driven by volume growth and a recovery in marketing margin. The lower oil price environment should also help support its demand growth in 2023F.

COMPANY VALUATION

Y/E Dec (Bt m)	2021A	2022F	2023F	2024F
Sales	199,417	249,634	278,249	250,860
Net profit	7,624	14,769	6,741	4,877
Consensus NP	—	14,496	7,645	6,414
Diff frm cons (%)	—	*1.9*	*(11.8)*	*(24.0)*
Norm profit	4,592	13,279	6,741	5,372
Prev. Norm profit	—	9,937	6,474	5,282
Chg frm prev (%)	—	*33.6*	*4.1*	*1.7*
Norm EPS (Bt)	3.3	9.6	4.9	3.9
Norm EPS grw (%)	na	189.2	(49.2)	(20.3)
Norm PE (x)	9.5	3.3	6.5	8.1
EV/EBITDA (x)	4.3	2.6	3.9	4.5
P/BV (x)	0.8	0.7	0.6	0.6
Div yield (%)	6.3	5.7	3.8	3.8
ROE (%)	9.2	22.3	9.9	7.5
Net D/E (%)	68.5	75.8	98.9	86.6

PRICE PERFORMANCE



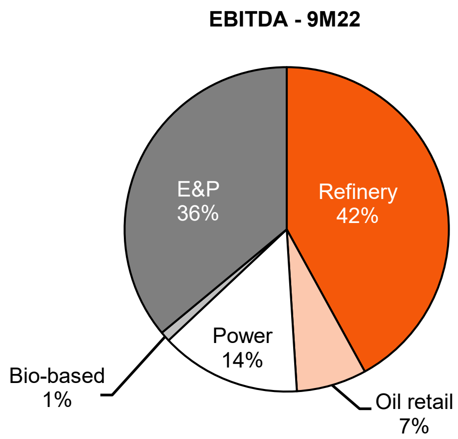
COMPANY INFORMATION

Price *as of* 29-Nov-22 (Bt)	31.75
Market Cap (US$ m)	1,235.6
Listed Shares (m shares)	1,376.9
Free Float (%)	64.3
Avg Daily Turnover (US$ m)	5.8
12M Price H/L (Bt)	36.75/24.20
Sector	Energy
Major Shareholder	Social Security Office 14.40%

Sources: Bloomberg, Company data, Thanachart estimates

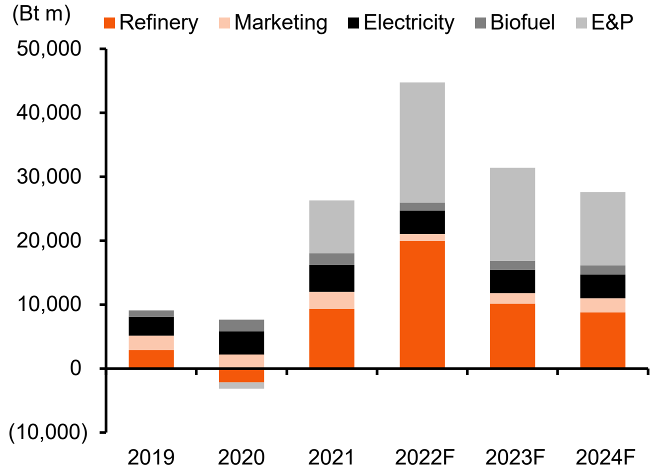
ESG Summary Report ……………..…………..….. P16

Ex 1: EBITDA Breakdown



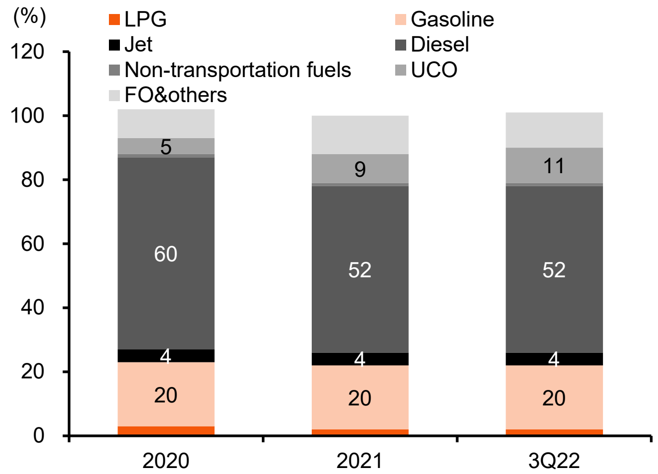
Sources: Company data

Ex 2: EBITDA Forecasts



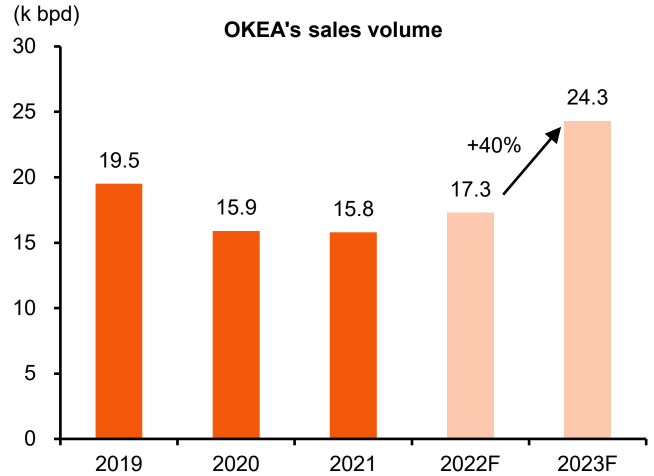
Sources: Company data, Thanachart estimates

Ex 3: BCP's Refinery Yield Has Improved



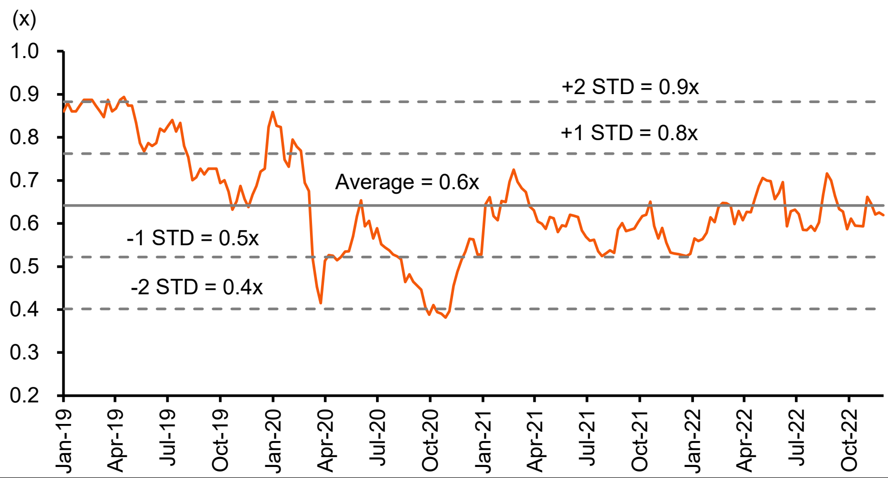
Sources: Company data

Ex 4: E&P Volume Growth



Sources: Company data, Thanachart estimates

Ex 5: BCP's P/BV



Sources: Bloomberg, Thanachart estimates

Ex 6: Earnings Revisions

	2019	2020	2021	2022F	2023F	2024F
Normalized profit (Bt m)						
New	1,138.2	(4,450.2)	4,591.7	13,279	6,741	5,372
Old				*9,937*	*6,474*	*5,282*
Change (%)				*33.6*	*4.1*	*1.7*
Net profit (Bt m)						
New	1,731.6	(6,967.1)	7,623.8	14,769	6,741	4,877
Old				9,314	5,459	5,084
Change (%)				*58.6*	*23.5*	*(4.1)*
Market GRM (USD/bbl)						
New	5.4	3.2	4.2	13.7	8.2	7.3
Old				11.8	7.1	6.2
Change (%)				*16.8*	*14.6*	*18.8*
Refinery utilization (%)						
New	93.8	81.0	72.8	93.0	95.0	85.0
Old				93.0	*95.0*	*85.0*
Change (%)				-	-	-
E&P EBITDA (Bt m)						
New	(36)	(1,004)	8,251	18,797	18,382	14,512
Old				18,049	14,120	12,290
Change (%)				*4.1*	*30.2*	*18.1*

Sources: Company data, Thanachart estimates

Ex 7: 12-month DCF-based TP Calculation, Using A Base Year Of 2023F

(Bt m)		2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	2031F	2032F	2033F	Terminal value
EBITDA		34,670	28,568	25,776	26,047	25,328	25,976	26,105	25,692	26,378	26,523	26,673	
Free cash flow *		(23,636)	11,255	9,073	10,269	11,429	8,727	10,541	11,982	9,307	11,196	11,444	203,002
PV of free cash flow *		(22,125)	9,858	7,345	7,747	8,035	5,717	6,436	6,818	4,753	5,305	5,033	89,275
Risk-free rate (%)	2.5												
Market risk premium (%)	8.0												
Beta	1.1												
WACC (%)	6.9												
Terminal growth (%)	2.0												
Enterprise value - add investments	134,197												
Net debt (2022F)	64,461												
Minority interest	19,394												
Equity value	50,342												
# of shares (m)	1,377												
Equity value/share (Bt)	**37**												

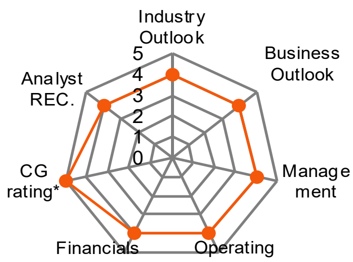
Sources: Company data, Thanachart estimates
Note: *Excluding solar farm cash flows; our TP is rounded up

COMPANY DESCRIPTION

Bangchak Corporation (BCP) engages in a number of businesses with its core operations centring on oil refining (capacity 120,000bpd) and marketing (the No.3 player in Thailand with a 16% market share). In recent years, the company has invested heavily in the power business, chiefly renewable energy via 70%-owned subsidiary BCPG. It has also diversified into new industries such as oil & gas exploration and production.

Source: Thanachart

COMPANY RATING



Rating Scale	
Excellent	**5**
Good	**4**
Fair	**3**
Weak	**2**
Very Weak	**1**
None	**0**

Source: Thanachart; *CG Rating

THANACHART'S SWOT ANALYSIS

S — Strength

- An integrated refinery and marketing model. This provides BCP with a high-margin outlet for its refinery.
- Access to high-quality yet relatively low-priced domestic crude oil helps improve its GRM vs. peers.

W — Weakness

- Volatile earnings due to its refinery exposure.
- Significant investments in new businesses have yet to pay off.
- Limited opportunity to expand its refinery given constraints over land availability.

O — Opportunity

- Diversifying into green energy.

T — Threat

- The government intervenes in the marketing margin at the gas station business, especially when oil prices increase rapidly.
- Overpaying for acquisitions and higher-than-expected expansion costs.

CONSENSUS COMPARISON

	Consensus	Thanachart	Diff
Target price (Bt)	38.26	37.00	-3%
Net profit 22F (Bt m)	14,496	14,769	2%
Net profit 23F (Bt m)	7,645	6,741	-12%
Consensus REC	**BUY: 9**	**HOLD: 4**	**SELL: 0**

HOW ARE WE DIFFERENT FROM THE STREET?

- Our 2022F earnings are in-line with consensus, but lower in 2023F due to our lower Brent oil price assumptions.
- Our TP is slightly less than consensus as we likely assume lower long-term crude prices.

Sources: Bloomberg consensus, Thanachart estimates

RISKS TO OUR INVESTMENT CASE

- Lower-than-expected GRM would represent the key downside risk to our EPS forecasts and TP.
- Lower-than-expected returns on new investments would represent another downside risk to our EPS forecasts and TP.

Source: Thanachart

BCP

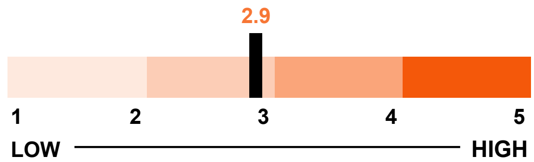
Thai Oil Pcl

Sector: Resources | Energy & Utilities

ESG & Sustainability Report

Bangchak Petroleum (BCP) is a refining company with a nationwide network of retail service stations. Our ESG score for BCP is 2.92, which is above the sector average of 2.9 due to its lower energy intensity and clearer targets and initiatives to reduce carbon emissions.

Thanachart ESG Rating



	SETTHSI Index	THSI Index	DJSI Index	MSCI (CCC-AAA)	Arabesque S-Ray (0-100)	Refinitiv (0-100)	S&P Global (0-100)	Moody's (0-100)	CG Rating (0-5)
BCP	YES	YES	-	AA	53.67	82.31	84.61	-	5.0

Sources: SETTRADE, SETTHSI Index, Thailand Sustainability Investment (THSI), The Dow Jones Industrial Average (DJSI), MSCI ESG Research LLC, Arabesque S-Ray®, Refinitiv ESG Information, S&P Global Market Intelligence, Moody's ESG Solutions, Thai IOD (CG rating)
Note: Please see third party on "term of use" in the following back page.

Factors	Our Comments
ENVIRONMENT - **Environmental Policies & Guidelines** - **Energy Management** - **Carbon Management** - **Water Management** - **Waste Management**	▪ In 2021, BCP released 1.06mt of CO2 equivalent, a 10% increase from 2018. We believe this was due to its business expansion since 2018. However, emission intensity was at 120kg/BOE (barrels of crude oil equivalent), which was below Thai energy peers' average of 280kg/BOE. Most carbon emissions come from its refinery business at 99% of its greenhouse gas (GHG) emissions. ▪ The company's main strategy to reduce carbon emissions is by introducing green innovations and products as well as improving plant efficiency and promoting the circular economy. BCP manages waste using the 3Rs (Reduce, Reuse & Recycle) strategy. ▪ BCP has a target to achieve net-zero GHG emissions by 2050 and to be a carbon-neutral organization by 2030.
SOCIAL - **Human Rights** - **Staff Management** - **Health & Safety** - **Product Safety & Quality** - **Social Responsibility**	▪ BCP group's occupational health and safety management system is in line with international standard. The company had zero cases of significant oil and chemical spills and zero lost-time injury frequency (LTI) in 2021. ▪ BCP says it tries to ensure employee development as well as employee happiness. In 2021, employees on average received 27.99 hours of training and an employee engagement score of 70%. ▪ The company also tries to ensure the wellness of the surrounding community. BCP's employees spent 1,762 voluntary hours on plastic water bottle collection through its "Rak Pan Sook" project.
GOVERNANCE & SUSTAINABILITY - **Board** - **Ethics & Transparency** - **Business Sustainability** - **Risk Management** - **Innovation**	▪ BCP has an appropriate board structure, in our view. There are 10 independent directors among the 15 board members, and the chairman of the board is an independent director. ▪ Its M&A track record has caused some concern in the past with investments in non-core assets such as its lithium and E&P businesses. BCP has seen substantial impairments in its E&P assets. However, this situation has now improved with the company focusing more on its core businesses. ▪ Balance-sheet strength is better and clear of debt covenants post-capital increase and the IPO of its power and bio-based subsidies. However, BCP is subject to forex risk and commodities' price fluctuation risk.

Sources: Thanachart, Company data

Likely to report a profit decline in 2023F due to the absence of stock gains

BCP's investments are mainly in its subsidiary, BCPG

INCOME STATEMENT

FY ending Dec (Bt m)	2020A	2021A	2022F	2023F	2024F
Sales	136,450	199,417	249,634	278,249	250,860
Cost of sales	132,122	179,179	208,998	243,761	223,095
Gross profit	**4,328**	**20,238**	**40,636**	**34,488**	**27,765**
% gross margin	3.2%	10.1%	16.3%	12.4%	11.1%
Selling & administration expenses	7,141	7,153	7,370	8,215	7,406
Operating profit	**(2,813)**	**13,085**	**33,266**	**26,273**	**20,359**
% operating margin	-2.1%	6.6%	13.3%	9.4%	8.1%
Depreciation & amortization	6,821	8,075	7,920	8,397	8,210
EBITDA	**4,008**	**21,159**	**41,186**	**34,670**	**28,568**
% EBITDA margin	2.9%	10.6%	16.5%	12.5%	11.4%
Non-operating income	533	(512)	1,026	1,026	1,026
Non-operating expenses	0	0	0	0	0
Interest expense	(1,969)	(2,540)	(2,735)	(3,724)	(3,466)
Pre-tax profit	**(4,250)**	**10,034**	**31,557**	**23,575**	**17,919**
Income tax	(1,589)	4,263	15,222	14,890	11,231
After-tax profit	**(2,661)**	**5,771**	**16,335**	**8,685**	**6,688**
% net margin	-2.0%	2.9%	6.5%	3.1%	2.7%
Shares in affiliates' Earnings	(592)	1,042	246	246	246
Minority interests	(1,197)	(2,221)	(3,302)	(2,189)	(1,561)
Extraordinary items	(2,517)	3,032	1,490	0	(495)
NET PROFIT	**(6,967)**	**7,624**	**14,769**	**6,741**	**4,877**
Normalized profit	**(4,450)**	**4,592**	**13,279**	**6,741**	**5,372**
EPS (Bt)	(5.1)	5.5	10.7	4.9	3.5
Normalized EPS (Bt)	(3.2)	3.3	9.6	4.9	3.9

BALANCE SHEET

FY ending Dec (Bt m)	2020A	2021A	2022F	2023F	2024F
ASSETS:					
Current assets:	47,296	69,372	64,165	70,343	65,731
Cash & cash equivalent	21,676	32,829	20,000	20,000	20,000
Account receivables	6,402	15,234	19,070	21,256	19,163
Inventories	16,162	18,497	21,575	25,164	23,030
Others	3,055	2,812	3,520	3,924	3,538
Investments & loans	15,586	14,070	14,070	14,070	14,070
Net fixed assets	54,567	69,233	83,813	115,416	115,207
Other assets	30,874	49,110	71,347	74,775	71,493
Total assets	**148,323**	**201,785**	**233,395**	**274,604**	**266,501**
LIABILITIES:					
Current liabilities:	25,502	34,105	37,846	46,646	42,705
Account payables	12,277	15,651	18,255	21,292	19,487
Bank overdraft & ST loans	3,975	1,257	4,223	5,542	5,186
Current LT debt	5,174	9,464	8,024	10,530	9,854
Others current liabilities	4,076	7,734	7,344	9,282	8,179
Total LT debt	**54,095**	**69,787**	**72,215**	**94,772**	**88,683**
Others LT liabilities	10,409	28,334	38,320	41,307	38,448
Total liabilities	**90,006**	**132,226**	**148,381**	**182,725**	**169,836**
Minority interest	11,950	16,092	19,394	21,583	23,144
Preferreds shares	0	0	0	0	0
Paid-up capital	1,377	1,377	1,377	1,377	1,377
Share premium	11,157	11,157	11,157	11,157	11,157
Warrants	0	0	0	0	0
Surplus	10,732	12,069	12,069	12,069	12,069
Retained earnings	**23,100**	**28,863**	**41,016**	**45,692**	**48,917**
Shareholders' equity	46,366	53,467	65,620	70,296	73,521
Liabilities & equity	**148,323**	**201,785**	**233,395**	**274,604**	**266,501**

Sources: Company data, Thanachart estimates

We project negative FCF in 2022-23F due to power subsidiary capex

BCP looks inexpensive on a P/BV basis.

CASH FLOW STATEMENT

FY ending Dec (Bt m)	2020A	2021A	2022F	2023F	2024F
Earnings before tax	(4,250)	10,034	31,557	23,575	17,919
Tax paid	1,589	(4,263)	(15,222)	(14,890)	(11,231)
Depreciation & amortization	6,821	8,075	7,920	8,397	8,210
Chg In working capital	1,139	(7,793)	(4,310)	(2,738)	2,421
Chg In other CA & CL / minorities	6,732	8,341	(852)	1,780	(471)
Cash flow from operations	**12,032**	**14,394**	**19,093**	**16,124**	**16,847**
Capex	(8,804)	(22,741)	(22,500)	(40,000)	(8,000)
Right of use	(11,087)	(2,538)	0	0	0
ST loans & investments	0	0	0	0	0
LT loans & investments	5,556	1,516	0	0	0
Adj for asset revaluation	(190)	0	0	0	0
Chg In other assets & liabilities	(1,248)	3,531	(10,405)	(442)	(72)
Cash flow from investments	**(15,773)**	**(20,231)**	**(32,905)**	**(40,442)**	**(8,072)**
Debt financing	15,935	17,513	3,598	26,384	(7,122)
Capital increase	0	0	0	0	0
Dividends paid	(743)	(2,672)	(2,616)	(2,065)	(1,652)
Warrants & other surplus	2,661	2,150	0	0	0
Cash flow from financing	**17,854**	**16,991**	**982**	**24,318**	**(8,775)**
Free cash flow	**3,227**	**(8,347)**	**(3,407)**	**(23,876)**	**8,847**

VALUATION

FY ending Dec	2020A	2021A	2022F	2023F	2024F
Normalized PE (x)	na	9.5	3.3	6.5	8.1
Normalized PE - at target price (x)	na	11.1	3.8	7.6	9.5
PE (x)	na	5.7	3.0	6.5	9.0
PE - at target price (x)	na	6.7	3.4	7.6	10.4
EV/EBITDA (x)	21.3	4.3	2.6	3.9	4.5
EV/EBITDA - at target price (x)	23.1	4.7	2.8	4.1	4.7
P/BV (x)	0.9	0.8	0.7	0.6	0.6
P/BV - at target price (x)	1.1	1.0	0.8	0.7	0.7
P/CFO (x)	3.6	3.0	2.3	2.7	2.6
Price/sales (x)	0.3	0.2	0.2	0.2	0.2
Dividend yield (%)	4.4	6.3	5.7	3.8	3.8
FCF Yield (%)	7.4	(19.1)	(7.8)	(54.6)	20.2
(Bt)					
Normalized EPS	(3.2)	3.3	9.6	4.9	3.9
EPS	(5.1)	5.5	10.7	4.9	3.5
DPS	1.4	2.0	1.8	1.2	1.2
BV/share	33.7	38.8	47.7	51.1	53.4
CFO/share	8.7	10.5	13.9	11.7	12.2
FCF/share	2.3	(6.1)	(2.5)	(17.3)	6.4

Sources: Company data, Thanachart estimates

We expect D/E to remain elevated

FINANCIAL RATIOS

FY ending Dec	2020A	2021A	2022F	2023F	2024F
Growth Rate					
Sales (%)	(28.4)	46.1	25.2	11.5	(9.8)
Net profit (%)	na	na	93.7	(54.4)	(27.6)
EPS (%)	na	na	93.7	(54.4)	(27.6)
Normalized profit (%)	na	na	189.2	(49.2)	(20.3)
Normalized EPS (%)	na	na	189.2	(49.2)	(20.3)
Dividend payout ratio (%)	(27.7)	36.1	16.8	24.5	33.9
Operating performance					
Gross margin (%)	3.2	10.1	16.3	12.4	11.1
Operating margin (%)	(2.1)	6.6	13.3	9.4	8.1
EBITDA margin (%)	2.9	10.6	16.5	12.5	11.4
Net margin (%)	(2.0)	2.9	6.5	3.1	2.7
D/E (incl. minor) (x)	1.1	1.2	1.0	1.2	1.1
Net D/E (incl. minor) (x)	0.7	0.7	0.8	1.0	0.9
Interest coverage - EBIT (x)	na	5.2	12.2	7.1	5.9
Interest coverage - EBITDA (x)	2.0	8.3	15.1	9.3	8.2
ROA - using norm profit (%)	na	2.6	6.1	2.7	2.0
ROE - using norm profit (%)	na	9.2	22.3	9.9	7.5
DuPont					
ROE - using after tax profit (%)	na	11.6	27.4	12.8	9.3
- asset turnover (x)	1.0	1.1	1.1	1.1	0.9
- operating margin (%)	na	6.3	13.7	9.8	8.5
- leverage (x)	2.8	3.5	3.7	3.7	3.8
- interest burden (%)	186.4	79.8	92.0	86.4	83.8
- tax burden (%)	na	57.5	51.8	36.8	37.3
WACC (%)	6.9	6.9	6.9	6.9	6.9
ROIC (%)	(3.1)	8.6	17.0	7.4	4.7
NOPAT (Bt m)	(2,813)	7,525	17,220	9,678	7,598
invested capital (Bt m)	87,934	101,145	130,081	161,141	157,243

Sources: Company data, Thanachart estimates

Small Cap Research

Thanachart Securities

BUY (Unchanged)

Change in Numbers

TP: Bt 16.00 (From: Bt 18.00)

Upside : 30.1%

30 NOVEMBER 2022

Esso (Thailand) Pcl (ESSO TB)

Also using its own drivers

ESSO, along with TOP, is one of our top Thai refinery space picks. While we expect ESSO to benefit from the tight global refinery market, we also like its own stories of capacity debottlenecking and a growing petrol station business. ESSO pays high dividend yields, too.

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Another top pick in the refinery space

This report is a part of *Energy sector – Tight refinery market,* dated 30 November 2022. We reaffirm our BUY call on ESSO, along with TOP, our other top Thai refinery pick. We like ESSO not only for the top-down story of a tight global refinery market, but also for its own growth drivers. ESSO has high exposure to high-margin middle distillate output at 52%. The change in its paraxylene storage to oil storage capacity in early 2023 should result in ESSO running its 175kbd capacity at a higher utilization rate. ESSO also has growth story from its petrol station business. Lastly, we see ESSO as a high dividend yield stock at 12.2/6.2% in 2022-23F. Note that it paid a Bt0.5 DPS for its 1H22 performance and we expect a remaining Bt1.0 DPS (8% yield) to be paid for its 2H22F performance.

GRM still high despite some cuts

We lower our assumptions for ESSO's gross refining margin (GRM) by 9% on average to USD12.0/7.3/7.0/bbl in 2022-24F. This is mainly because of our lower gasoline and high sulfur fuel (HSFO) margin assumptions which offset our higher diesel spread assumptions. Despite these cuts, ESSO's GRM is still elevated relative to its five-year pre-COVID average of USD3.9/bbl. With our lower profit forecasts, our DCF-based 12-month TP (2023F base year) falls to Bt16/share from Bt18.

Higher effective capacity for 2023F

ESSO is converting its paraxylene storage to oil storage capacity and the project should be complete early next year. This would allow the company to run its refinery units at a higher utilization level. Against peers for which we already foresee only limited room for further utilization increases, we estimate ESSO's utilization rate to rise to 77/84% in 2022-23F vs. 71% in 2021.

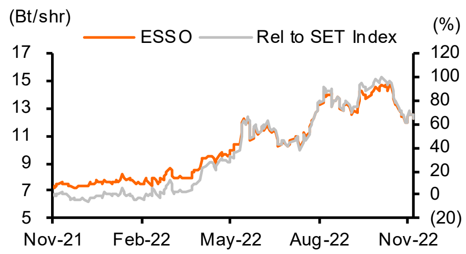
Expanding petrol station business

We expect the refinery business to account for 75% of ESSO's EBITDA and the petrol station business for 25% in 2023F. ESSO's petrol station business offers a growth story. ESSO in 2020 entered into a deal with Susco Pcl (SUSCO TB, Bt4.44, BUY) to manage and rebrand over 80 SUSCO stations to ESSO ones. As of 3Q22, 68 of SUSCO's stations had been converted to the ESSO brand. The company said that it is in negotiations to convert more stations. With that, ESSO's oil retail market share increased to 14% in 3Q22 from 9.5% in 2021.

COMPANY VALUATION

Y/E Dec (Bt m)	2021A	2022F	2023F	2024F
Sales	172,878	169,762	169,343	165,990
Net profit	4,443	11,687	5,242	4,934
Consensus NP	—	16,206	6,376	6,359
Diff frm cons (%)	—	*(27.9)*	*(17.8)*	*(22.4)*
Norm profit	(1,704)	9,927	6,252	5,760
Prev. Norm profit	—	10,648	7,339	6,508
Chg frm prev (%)	—	*(6.8)*	*(14.8)*	*(11.5)*
Norm EPS (Bt)	(0.5)	2.9	1.8	1.7
Norm EPS grw (%)	na	na	(37.0)	(7.9)
Norm PE (x)	na	4.3	6.8	7.4
EV/EBITDA (x)	32.0	3.8	5.5	5.4
P/BV (x)	2.2	1.5	1.4	1.3
Div yield (%)	0.0	12.2	6.2	5.8
ROE (%)	na	41.8	21.6	18.7
Net D/E (%)	146.7	56.8	45.6	29.7

PRICE PERFORMANCE



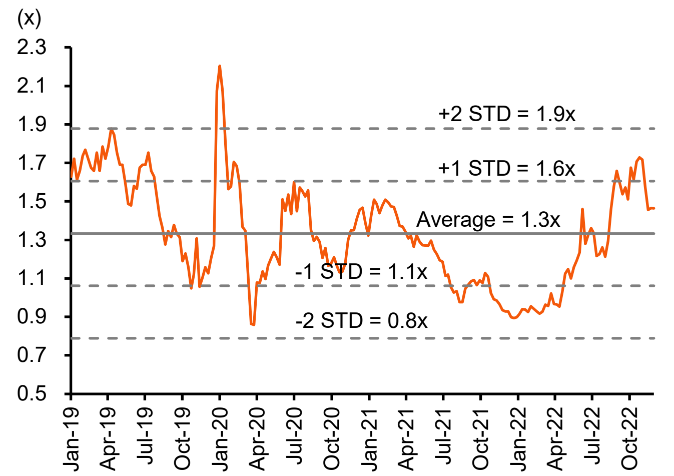
COMPANY INFORMATION

Price *as of* 29-Nov-22 (Bt)	12.30
Market Cap (US$ m)	1,203.1
Listed Shares (m shares)	3,460.9
Free Float (%)	34.0
Avg Daily Turnover (US$ m)	9.1
12M Price H/L (Bt)	14.70/7.20
Sector	Energy
Major Shareholder	ExxonMobil Int'l 65.99%

Sources: Bloomberg, Company data, Thanachart estimates

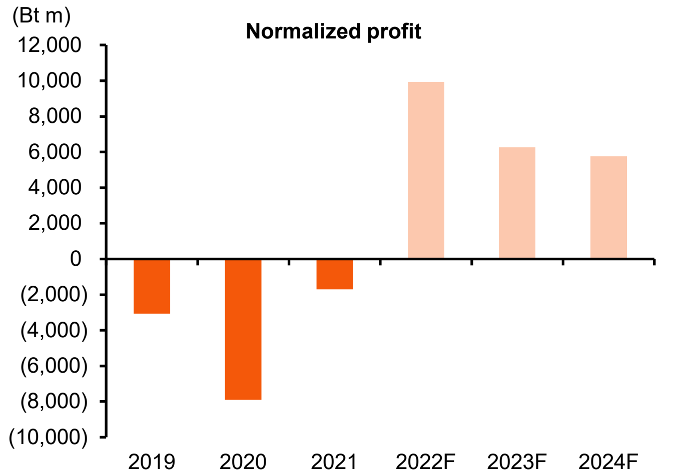
ESG Summary Report P24

Ex 1: ESSO's P/BV At Bottom Of Historical Range…



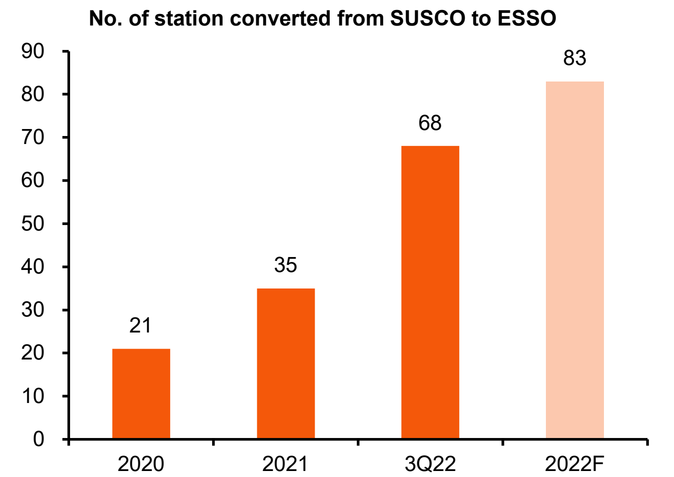
Sources: Bloomberg, Thanachart estimates

Ex 2: …But Profit At High End Of Historical Range



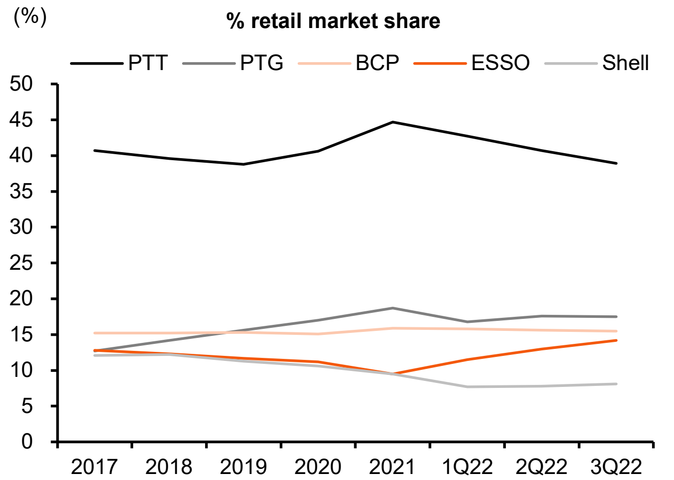
Sources: Company data, Thanachart estimates

Ex 3: More Aggressive Expansion in 2022F



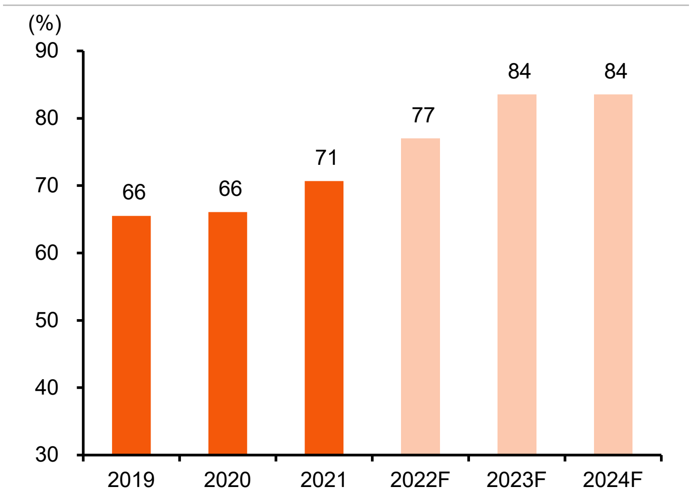
Sources: Company data; Thanachart estimates

Ex 4: ESSO's Is Gaining More Retail Market Share



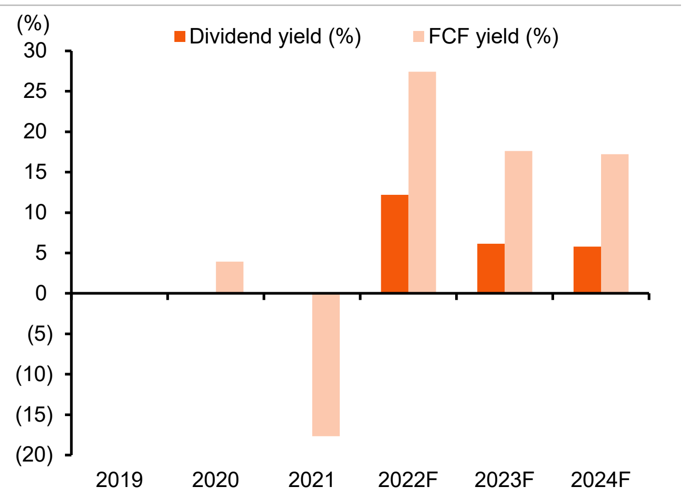
Source: DOEB

Ex 5: ESSO's Utilization Rate



Sources: Company data; Thanachart estimates

Ex 6: FCF Yield Vs. Dividend Yield



Sources: Company data; Thanachart estimates

Ex 7: Earning Revisions

	2019	2020	2021	2022F	2023F	2024F
ESSO's market GRM (USD/bbl)						
New	2.2	1.3	3.7	10.7	7.3	7.0
Old				12.0	8.0	7.4
Change (%)				*(11.2)*	*(9.3)*	*(4.7)*
Refinery utilization (%)						
New	65.5	66.1	70.7	77.0	83.5	83.5
Old				77.0	83.5	83.5
Change (%)				*0.0*	*0.0*	*0.0*
Petrol station volume growth (%)						
New	(3.7)	(2.3)	4.2	13.0	6.0	4.0
Old				13.0	6.0	4.0
Change (ppt)				*0.0*	*0.0*	*0.0*
Normalized profit (Bt m)						
New	(3,066)	(7,911)	(1,704)	9,927	6,252	5,760
Old				10,648	7,339	6,508
Change (%)				*(6.8)*	*(14.8)*	*(11.5)*
Net profit (Bt m)						
New	(3,066)	(7,911)	4,443	11,687	5,242	4,934
Old				17,297	5,845	5,808
Change (%)				*(32.4)*	*(10.3)*	*(15.0)*

Sources: Company data, Thanachart estimates

Ex 8: 12-month DCF-based TP Calculation, Using A Base Year Of 2023F

(Bt m)		2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	2031F	2032F	2033F	Terminal Value
EBITDA + dividend		10,247	9,714	6,686	7,990	7,553	7,620	7,688	7,755	7,822	7,890	7,957	
Free cash flow		6,892	7,198	4,192	5,405	4,928	5,037	5,105	5,173	5,241	5,309	5,377	81,793
PV of free cash flow		6,395	6,195	3,305	3,936	3,315	3,130	2,930	2,743	2,472	2,303	2,146	32,642
Risk-free rate (%)	2.5												
Market risk premium (%)	8.0												
Beta	1.1												
WACC (%)	7.8												
Terminal growth (%)	2.0												
Enterprise value - add investments	71,512												
Net debt (2022F)	16,084												
Minority interest	8												
Equity value	55,419												
# of shares (m)	3,461												
Equity value/share (Bt)	**16.0**												

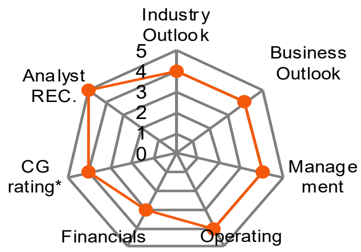
Sources: Company data, Thanachart estimates

COMPANY DESCRIPTION

Esso (Thailand) Pcl (ESSO) is one of the leading refining companies in Thailand. It operates a 177,000bpd complex refinery with a Nelson Complexity of 6.6. It controls 13% of Thailand's refining production capacity and commands around a 15% oil retail market share. ESSO also has a PX capacity of 0.5m tonnes. The company is a 65%-owned subsidiary of ExxonMobil while the Ministry of Finance owns 7%. ESSO has one of the highest sales volumes in the domestic market at over 90%, as its parent, ExxonMobil, has strategically positioned ESSO as a key refinery supplier for Thailand, while ExxonMobil's larger refinery and petrochemical complex in Singapore is used for export markets.

Source: Thanachart

COMPANY RATING



Rating Scale	
Excellent	5
Good	4
Fair	3
Weak	2
Very Weak	1
None	0

Source: Thanachart; *CG Rating

THANACHART'S SWOT ANALYSIS

S — Strength

- Technology transfer and benefits of crude sourcing from Exxon – its parent company.

W — Weakness

- Inactive parent company policy limits growth potential.
- Government intervention in retail refined oil price easier than at the wholesale level via control of marketing margins.
- Being a less complex refinery would cause the company to have a higher cost structure and is thus less competitive.

O — Opportunity

- Only moves along with industry; limited growth opportunities in our view.

T — Threat

- Rivals under the PTT group are active in capacity expansion and new areas of growth potential.
- Threat of substitutes such as electric vehicles may lower demand for oil products.

CONSENSUS COMPARISON

	Consensus	Thanachart	Diff
Target price (Bt)	14.46	16.00	11%
Net profit 22F (Bt m)	16,206	11,687	-28%
Net profit 23F (Bt m)	6,376	5,242	-18%
Consensus REC	**BUY: 2**	**HOLD: 4**	**SELL: 1**

HOW ARE WE DIFFERENT FROM THE STREET?

- 2023F profit is lower than consensus as we incorporate an inventory loss.
- Consequently, our TP is higher than the Street's. We believe this is due to our more positive refinery outlook.

Sources: Bloomberg consensus, Thanachart estimates

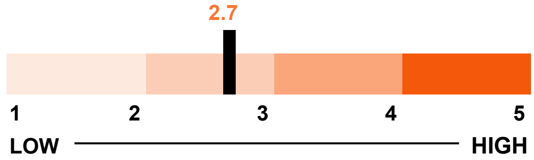
RISKS TO OUR INVESTMENT CASE

- Lower-than-expected refining margins would be the key downside risk to our call.
- Lower-than-expected domestic demand growth would negatively impact ESSO's oil retail business and this is a secondary downside risk to our call.

Source: Thanachart

Esso (Thailand) Pcl (ESSO) is a mid-scale Thai refining company with a capacity of 174k b/d. Our ESG score for ESSO is 2.7, which is at the low end of our coverage. We see ESSO's green-energy strategy still lagging behind peers'. We don't believe ESSO has a strong intention to make new investments that require heavy capex in Thailand.

Thanachart ESG Rating



	SETTHSI Index	THSI Index	DJSI Index	MSCI (CCC-AAA)	Arabesque S-Ray (0-100)	Refinitiv (0-100)	S&P Global (0-100)	Moody's (0-100)	CG Rating (0-5)
ESSO	-	-	-	-	51.43	37.08	11.20	-	4.0

Sources: SETTRADE, SETTHSI Index, Thailand Sustainability Investment (THSI), The Dow Jones Industrial Average (DJSI), MSCI ESG Research LLC, Arabesque S-Ray®, Refinitiv ESG Information, S&P Global Market Intelligence, Moody's ESG Solutions, Thai IOD (CG rating)
Note: Please see third party on "term of use" toward the back of this report.

Factors	Our Comments

ENVIRONMENT

- **Environmental Policies & Guidelines**
- **Energy Management**
- **Carbon Management**
- **Water Management**
- **Waste Management**

▪ ESSO is a Thai refinery with the second-lowest carbon emission intensity level in the sector at 161kg/BOE (barrels of crude oil equivalent) vs. the sector average of 280kg/BOE. However, we still assign the company the lowest ESG score at 2.7 because it lags behind peers in having clear targets and plans for ESG issues.

▪ ESSO released 1mt of CO_2 equivalent in 2021, which was a 5% reduction in carbon emissions from the 2020 level with an investment of approximately Bt17m.

▪ Since 2021, 93% of disposed water from the refinery has been sent for external reuse.

▪ ESSO has no concrete target to cut carbon emissions. However, it supports its parent company ExxonMobil's aim to achieve net-zero greenhouse gas (GHG) emissions by 2050. We believe the company's key focus will be on energy optimization for its existing operation and that it is unlikely to make big green investments unless Thailand comes up with clearer policies on carbon pricing.

SOCIAL

- **Human Rights**
- **Staff Management**
- **Health & Safety**
- **Product Safety & Quality**
- **Social Responsibility**

▪ ESSO has high operational safety standards and achieved several safety milestones in 2021. There were no safety lost-time incidents and no reportable spills in 2021. Neither its refinery nor aromatics plants have reported any spills for 14 years while there have been no lost-time incidents for 10 years for its employees and contractors.

▪ In 2021, ESSO provided training and skills development for its employees with a proven global training curriculum. The number of employee training hours has increased by 81%. It also provides annual health checks and flu vaccines for staff.

▪ ESSO won the platinum award from The American Chamber of Commerce in Thailand in recognition of Corporate Social Responsibility for 12 consecutive years.

GOVERNANCE & SUSTAINABILITY

- **Board**
- **Ethics & Transparency**
- **Business Sustainability**
- **Risk Management**
- **Innovation**

▪ We see ESSO as having an appropriate board structure. There are five independent directors from a total of 13 and there are three female directors.

▪ ESSO is dependent on ExxonMobil Corporation in several areas, including for crude purchases, technology, and its global sales network. However, it runs its operation independently and the products purchased are based on market prices.

▪ We see room for improvement in terms of information disclosure. Relative to refinery peers, we see ESSO having the lowest information disclosure.

▪ Earnings volatility is high the given nature of its business that is exposed to fluctuations in oil prices and refining margin. However, the company has low net gearing and limited capex requirements, mainly for its petrol station business and refinery maintenance.

Sources: Thanachart, Company data

Core profit expects to remains elevated despite off from high base in 2022F.

INCOME STATEMENT

FY ending Dec (Bt m)	2020A	2021A	2022F	2023F	2024F
Sales	126,672	172,878	169,762	169,343	165,990
Cost of sales	131,408	168,408	152,082	157,052	154,397
Gross profit	**(4,736)**	**4,471**	**17,681**	**12,291**	**11,592**
% gross margin	-3.7%	2.6%	10.4%	7.3%	7.0%
Selling & administration expenses	5,217	5,068	4,976	4,964	4,866
Operating profit	**(9,953)**	**(597)**	**12,704**	**7,327**	**6,727**
% operating margin	-7.9%	-0.3%	7.5%	4.3%	4.1%
Depreciation & amortization	2,568	2,808	2,853	2,920	2,987
EBITDA	**(7,385)**	**2,210**	**15,557**	**10,247**	**9,714**
% EBITDA margin	-5.8%	1.3%	9.2%	6.1%	5.9%
Non-operating income	70	29	70	71	71
Non-operating expenses	0	0	0	0	0
Interest expense	(360)	(311)	(308)	(219)	(186)
Pre-tax profit	**(10,243)**	**(879)**	**12,465**	**7,179**	**6,611**
Income tax	(2,048)	1,051	2,922	1,311	1,234
After-tax profit	**(8,195)**	**(1,930)**	**9,544**	**5,869**	**5,378**
% net margin	-6.5%	-1.1%	5.6%	3.5%	3.2%
Shares in affiliates' Earnings	285	227	384	384	384
Minority interests	(1)	(1)	(1)	(1)	(1)
Extraordinary items	0	6,147	1,760	(1,010)	(826)
NET PROFIT	**(7,911)**	**4,443**	**11,687**	**5,242**	**4,934**
Normalized profit	**(7,911)**	**(1,704)**	**9,927**	**6,252**	**5,760**
EPS (Bt)	(2.3)	1.3	3.4	1.5	1.4
Normalized EPS (Bt)	(2.3)	(0.5)	2.9	1.8	1.7

With low capex, higher profit should improve its balance sheet

BALANCE SHEET

FY ending Dec (Bt m)	2020A	2021A	2022F	2023F	2024F
ASSETS:					
Current assets:	22,921	33,784	33,905	34,425	33,854
Cash & cash equivalent	262	802	3,000	3,000	3,000
Account receivables	5,083	8,171	8,024	8,004	7,846
Inventories	13,144	18,786	16,965	17,519	17,223
Others	4,432	6,025	5,917	5,902	5,785
Investments & loans	5,649	4,455	4,455	4,455	4,455
Net fixed assets	24,750	23,706	22,553	21,333	20,046
Other assets	8,058	8,109	8,041	8,031	7,958
Total assets	**61,378**	**70,055**	**68,955**	**68,245**	**66,313**
LIABILITIES:					
Current liabilities:	35,446	42,008	31,986	30,302	26,577
Account payables	4,452	5,117	4,621	4,772	4,692
Bank overdraft & ST loans	16,703	19,323	12,721	11,002	8,343
Current LT debt	5,167	5,667	3,731	3,227	2,447
Others current liabilities	9,125	11,900	10,913	11,301	11,095
Total LT debt	**6,333**	**3,999**	**2,633**	**2,277**	**1,727**
Others LT liabilities	5,239	4,839	6,036	6,030	5,982
Total liabilities	**47,019**	**50,846**	**40,655**	**38,609**	**34,286**
Minority interest	7	7	8	9	10
Preferreds shares	0	0	0	0	0
Paid-up capital	17,075	17,075	17,075	17,075	17,075
Share premium	4,032	4,032	4,032	4,032	4,032
Warrants	0	0	0	0	0
Surplus	325	731	731	731	731
Retained earnings	**(7,080)**	**(2,637)**	**6,454**	**7,790**	**10,180**
Shareholders' equity	14,352	19,201	28,292	29,627	32,017
Liabilities & equity	**61,378**	**70,055**	**68,955**	**68,245**	**66,313**

Sources: Company data, Thanachart estimates

Strong cash-flow generation due to limited capex and lower working capital requirements

CASH FLOW STATEMENT

FY ending Dec (Bt m)	2020A	2021A	2022F	2023F	2024F
Earnings before tax	(10,243)	(879)	12,465	7,179	6,611
Tax paid	2,048	(1,051)	(2,922)	(1,311)	(1,234)
Depreciation & amortization	2,568	2,808	2,853	2,920	2,987
Chg In working capital	6,754	(8,064)	1,472	(384)	374
Chg In other CA & CL / minorities	2,269	1,436	(494)	786	295
Cash flow from operations	**3,394**	**(5,751)**	**13,374**	**9,191**	**9,034**
Capex	(1,718)	(1,763)	(1,700)	(1,700)	(1,700)
Right of use	(4,287)	(18)	0	0	0
ST loans & investments	0	0	0	0	0
LT loans & investments	(1,941)	1,193	0	0	0
Adj for asset revaluation	0	0	0	0	0
Chg In other assets & liabilities	3,126	5,685	3,025	(1,007)	(800)
Cash flow from investments	**(4,821)**	**5,098**	**1,325**	**(2,707)**	**(2,500)**
Debt financing	1,259	787	(9,905)	(2,578)	(3,990)
Capital increase	0	0	0	0	0
Dividends paid	(1)	(1)	(2,596)	(3,906)	(2,544)
Warrants & other surplus	153	406	0	0	0
Cash flow from financing	**1,411**	**1,193**	**(12,501)**	**(6,484)**	**(6,534)**
Free cash flow	**1,676**	**(7,514)**	**11,674**	**7,491**	**7,334**

We think ESSO's valuation looks attractive, at 1.4x 2023F P/BV

With low capex and strong cashflow, we expect ESSO to pay good yield.

VALUATION

FY ending Dec	2020A	2021A	2022F	2023F	2024F
Normalized PE (x)	na	na	4.3	6.8	7.4
Normalized PE - at target price (x)	na	na	5.6	8.9	9.6
PE (x)	na	9.6	3.6	8.1	8.6
PE - at target price (x)	na	12.5	4.7	10.6	11.2
EV/EBITDA (x)	na	32.0	3.8	5.5	5.4
EV/EBITDA - at target price (x)	na	37.8	4.6	6.7	6.7
P/BV (x)	3.0	2.2	1.5	1.4	1.3
P/BV - at target price (x)	3.9	2.9	2.0	1.9	1.7
P/CFO (x)	12.5	(7.4)	3.2	4.6	4.7
Price/sales (x)	0.3	0.2	0.3	0.3	0.3
Dividend yield (%)	0.0	0.0	12.2	6.2	5.8
FCF Yield (%)	3.9	(17.7)	27.4	17.6	17.2
(Bt)					
Normalized EPS	(2.3)	(0.5)	2.9	1.8	1.7
EPS	(2.3)	1.3	3.4	1.5	1.4
DPS	0.0	0.0	1.5	0.8	0.7
BV/share	4.1	5.5	8.2	8.6	9.3
CFO/share	1.0	(1.7)	3.9	2.7	2.6
FCF/share	0.5	(2.2)	3.4	2.2	2.1

Sources: Company data, Thanachart estimates

We expect net gearing to improve over the next few years

FINANCIAL RATIOS

FY ending Dec	2020A	2021A	2022F	2023F	2024F
Growth Rate					
Sales (%)	(25.2)	36.5	(1.8)	(0.2)	(2.0)
Net profit (%)	na	na	163.0	(55.1)	(5.9)
EPS (%)	na	na	163.0	(55.1)	(5.9)
Normalized profit (%)	na	na	na	(37.0)	(7.9)
Normalized EPS (%)	na	na	na	(37.0)	(7.9)
Dividend payout ratio (%)	0.0	0.0	44.4	50.0	50.0
Operating performance					
Gross margin (%)	(3.7)	2.6	10.4	7.3	7.0
Operating margin (%)	(7.9)	(0.3)	7.5	4.3	4.1
EBITDA margin (%)	(5.8)	1.3	9.2	6.1	5.9
Net margin (%)	(6.5)	(1.1)	5.6	3.5	3.2
D/E (incl. minor) (x)	2.0	1.5	0.7	0.6	0.4
Net D/E (incl. minor) (x)	1.9	1.5	0.6	0.5	0.3
Interest coverage - EBIT (x)	na	na	41.2	33.5	36.1
Interest coverage - EBITDA (x)	na	7.1	50.4	46.9	52.2
ROA - using norm profit (%)	na	na	14.3	9.1	8.6
ROE - using norm profit (%)	na	na	41.8	21.6	18.7
DuPont					
ROE - using after tax profit (%)	na	na	40.2	20.3	17.4
- asset turnover (x)	2.0	2.6	2.4	2.5	2.5
- operating margin (%)	na	na	7.5	4.4	4.1
- leverage (x)	3.5	3.9	2.9	2.4	2.2
- interest burden (%)	103.6	154.7	97.6	97.0	97.3
- tax burden (%)	na	na	76.6	81.7	81.3
WACC (%)	7.8	7.8	7.8	7.8	7.8
ROIC (%)	(20.4)	(1.4)	20.5	13.5	12.7
NOPAT (Bt m)	(9,953)	(597)	9,726	5,990	5,471
invested capital (Bt m)	42,293	47,389	44,376	43,134	41,534

Sources: Company data, Thanachart estimates

Small Cap Research

BUY (Unchanged)

Change in Numbers

TP: Bt 14.50 (From: Bt 15.50)

Upside : 23.9%

30 NOVEMBER 2022

Star Petroleum Refining (SPRC TB)

Riding the GRM trend

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We maintain our BUY call on SPRC but trim our TP to Bt14.5 from Bt15.5 on the back of our lower refining margin assumptions. We view the stock as attractively valued trading on an 8.5x 2023F PE multiple amid an elevated refinery margin outlook.

Thanachart Securities

Maintaining BUY

This report is a part of *Energy sector – Tight refinery market,* dated 30 November 2022. We maintain our BUY call on SPRC. We still expect SPRC to benefit from strong middle-distillate margins albeit to a lesser extent relative to its peers. We see the company as a well-run refinery with a strong balance sheet. We believe its high FCF yields of 17-19% can support dividend yields of 5.9/4.5% over 2023-24F. The stock looks attractive to us at 8.5x 2023F PE and 1.2x P/BV, near its historical averages while we estimate high ROE levels of 14.5/12.5% over 2024-23F.

Factoring in lower GRM

We factor in a lower market gross refining margin (GRM) for SPRC as we have done for other refiners. We assume a USD7.9/7.6/6.9/bbl Singapore GRM in 2023-25F. As for its product mix, SPRC could be at a slight disadvantage to other local refiners given its relatively high gasoline yield and the spread softness for that product. We cut our normalized profit estimates for SPRC by 20/13/17% over 2022-24F and therefore our DCF-based 12-month TP, using a 2023F base year, falls to Bt14.5/share from Bt15.5 previously.

Elevated GRM despite lagging peers

SPRC's GRM has consistently outperformed peers' since 2015 as the gasoline spread has been higher than the diesel spread. Looking ahead, we expect SRPC's GRM to underperform peers' again over 2022-24F. This is given our expectation that middle distillates will be the key support factor for strong refinery margins. Relative to peers, SPRC has more exposure to gasoline and less exposure to middle-distillate products. Its gasoline yield was at 25% in 3Q22 vs. peers' 20% while its middle-distillate yield was at 44% vs. peers' 49%. Another factor behind the underperformance was that the company was also seeing higher-than-normal freight costs as its SPM license is currently suspended. Despite the underperformance, we still expect SPRC to enjoy elevated GRM. We estimate SRPC's GRM to be at USD9/7.0/6.7 per bbl over 2022-24F, still much higher than its five-year average of USD3.9/bbl.

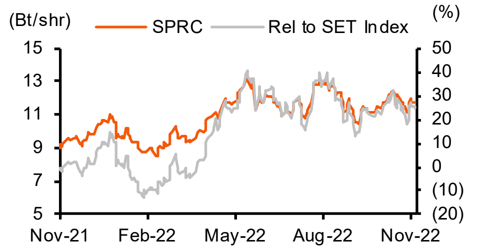
Gasoline margin bottoming out

SPRC's gasoline margin looks to be bottoming out and it is now at USD15/bbl vs. the bottom of USD3.8/bbl in October despite low seasonal demand. We believe this has been due to below-average US gasoline inventories and lower oil prices that should help stimulate demand. This bodes well for SPRC given its higher gasoline yield. We expect its gasoline margin to be at its historical average level of USD12/bbl between 2023-24F, dropping from USD19/bbl in 2022F given lower demand growth.

COMPANY VALUATION

Y/E Dec (Bt m)	2021A	2022F	2023F	2024F
Sales	172,484	273,611	246,337	232,246
Net profit	4,746	8,663	5,947	4,515
Consensus NP	—	12,259	6,552	6,419
Diff frm cons (%)	—	*(29.3)*	*(9.2)*	*(29.7)*
Norm profit	(1,542)	9,070	5,947	5,341
Prev. Norm profit	—	11,348	6,870	6,444
Chg frm prev (%)	—	*(20.1)*	*(13.4)*	*(17.1)*
Norm EPS (Bt)	(0.4)	2.1	1.4	1.2
Norm EPS grw (%)	na	na	(34.4)	(10.2)
Norm PE (x)	na	5.6	8.5	9.5
EV/EBITDA (x)	19.6	3.7	4.5	4.4
P/BV (x)	1.5	1.3	1.2	1.2
Div yield (%)	1.5	10.3	5.9	4.5
ROE (%)	na	24.4	14.5	12.5
Net D/E (%)	14.9	5.5	(8.8)	(20.2)

PRICE PERFORMANCE



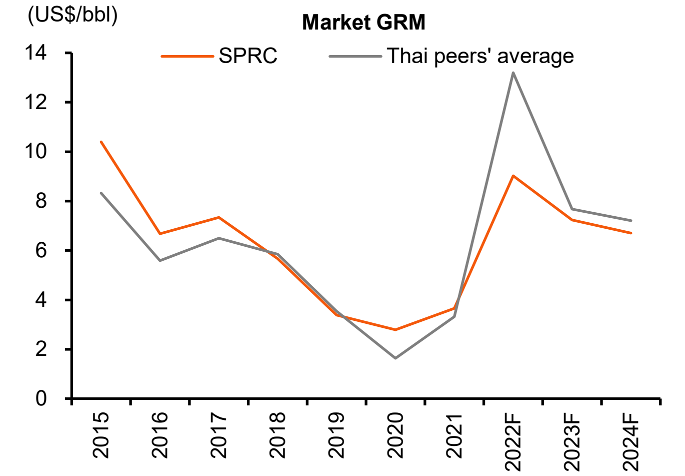
COMPANY INFORMATION

Price *as of* 29-Nov-22 (Bt)	11.70
Market Cap (US$ m)	1,433.8
Listed Shares (m shares)	4,335.9
Free Float (%)	39.4
Avg Daily Turnover (US$ m)	9.2
12M Price H/L (Bt)	13.30/8.50
Sector	Energy
Major Shareholder	Chevron Asia Holdings 60.56%

Sources: Bloomberg, Company data, Thanachart estimates

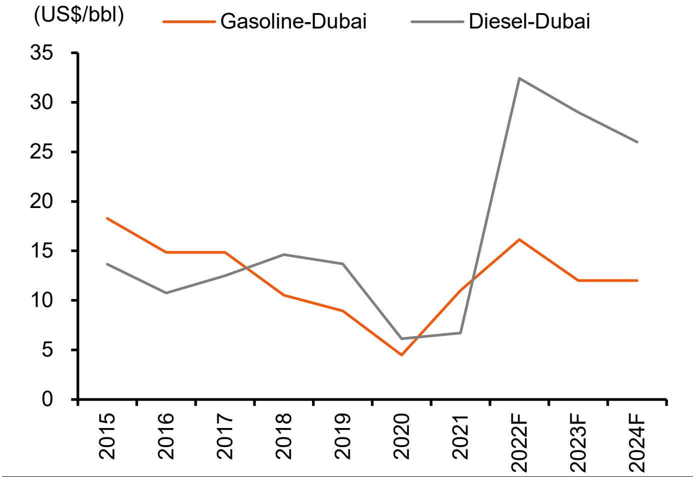
ESG Summary Report ……………………………. P32

Ex 1: SPRC's GRM Vs. Thai Peers' Average



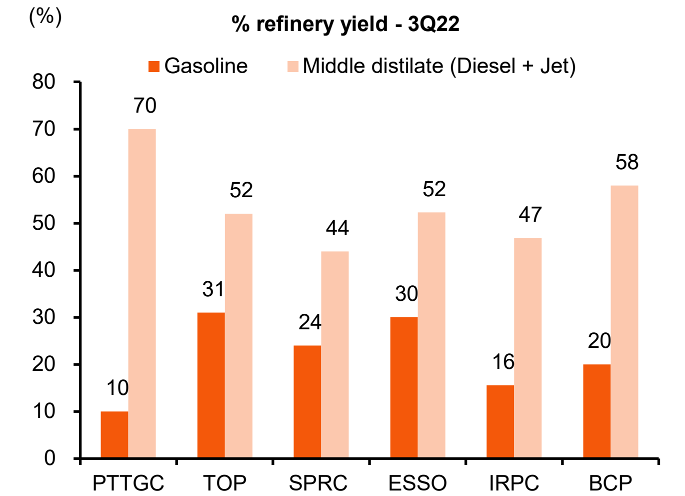
Sources: Company data, Thanachart estimates

Ex 2: Gasoline Margin To Be At A Discount To Diesel



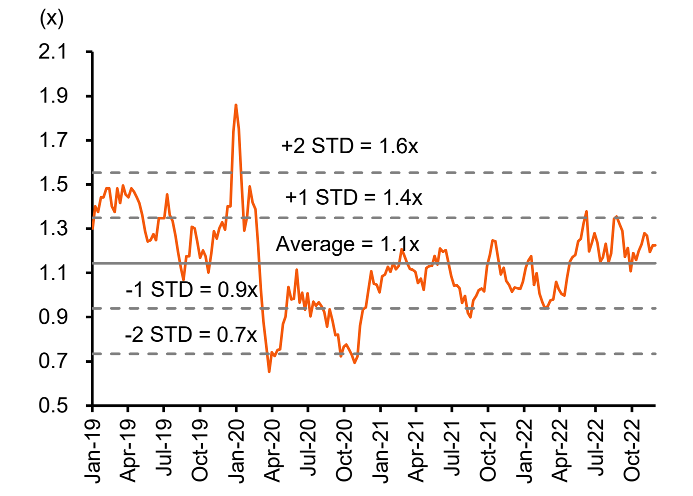
Sources: Bloomberg, Thanachart estimates

Ex 3: Thai Refinery Yield



Source: Company data

Ex 4: SPRC's P/BV Range



Sources: Bloomberg, Thanachart estimates

Ex 5: Earnings Revisions

	2019	2020	2021	2022F	2023F	2024F
Normalized profit (Bt m)						
New	(4,034)	(6,325)	(1,542)	9,070	5,947	5,341
Old				11,348	6,870	6,444
Change (%)				*(20.1)*	*(13.4)*	*(17.1)*
Net profit (Bt m)						
New	(1,694)	(12,280)	4,746	8,663	5,947	4,515
Old				13,807	5,073	5,583
Change (%)				*(37.3)*	*17.2*	*(19.1)*
Market GRM (US$/bbl)						
New	3.4	2.8	3.7	9.0	7.2	6.7
Old				9.9	7.5	7.4
Change (%)				*(9.0)*	*(3.7)*	*(8.8)*
Utilization (%)						
New	81.5	86.7	77.2	90.0	92.0	94.0
Old				92.0	98.0	98.0
Change (ppt)				*(2.0)*	*(6.0)*	*(4.0)*

Sources: Company data, Thanachart estimates

Ex 6: 12-month DCF-based TP Calculation, Using A Base Year Of 2023F

(Bt m)		2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	2031F	2032F	2033F	Terminal Value
EBITDA + dividend		10,477	9,433	7,763	6,913	7,430	7,436	7,439	7,442	5,381	7,454	7,460	
Free cash flow		10,247	8,474	5,420	1,902	5,892	5,896	5,903	5,911	7,671	2,525	5,940	66,899
PV of free cash flow		9,402	7,131	4,129	1,323	3,745	3,421	3,129	2,862	3,261	976	2,088	23,511
Risk-free rate (%)	2.5												
Market risk premium (%)	8.0												
Beta	1.0												
WACC (%)	9.0												
Terminal growth (%)	1.0												
Enterprise value - add Investments	64,979												
Net debt (2022F)	2,198												
Minority interest	0												
Equity value	62,780												
# of shares (m)	4,336												
Equity value/sh (Bt)	**14.5**												

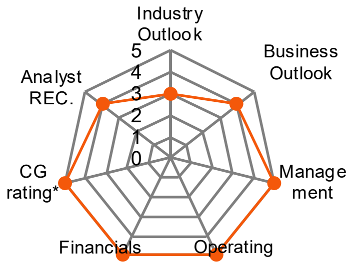
Sources: Thanachart estimates

COMPANY DESCRIPTION

Star Petroleum Refining Pcl's (SPRC) refinery produces petroleum products, which include LPG, premium and regular grades of unleaded gasoline, high-speed diesel, jet fuel, and fuel oil, as well as petrochemical feedstocks used in the petrochemical industry, which include PGP, LPG, chemical-grade naphtha, mixed C4, and reformate. The company has refining capacity of 175K b/d.

Source: Thanachart

COMPANY RATING



Rating Scale	
Excellent	5
Good	4
Fair	3
Weak	2
Very Weak	1
None	0

Source: Thanachart; *CG Rating

THANACHART'S SWOT ANALYSIS

S — Strength

- Strong operator with a very high utilization rate and high plant reliability.
- Procurement, distribution, and technical support from parent Chevron.

W — Weakness

- Volatile earnings due to its pure refinery exposure.
- Lack of company-owned retail channel limits upside from domestic product placement and higher marketing margin.
- Limited growth potential to expand its refinery business given that Thailand is a net export country for refined oil products.

O — Opportunity

- Opportunities to upgrade and/or expand its refinery to meet higher local demand.
- Expansion into new businesses or securing its own retail channel.

T — Threat

- High oil prices could slow local demand and force it to sell in the lower-margin export market.
- Threat of substitutes such as electric vehicles may lower demand for oil products.

CONSENSUS COMPARISON

	Consensus	Thanachart	Diff
Target price (Bt)	12.83	14.50	13%
Net profit 22F (Bt m)	12,259	8,663	-29%
Net profit 23F (Bt m)	6,552	5,947	-9%
Consensus REC	**BUY: 9**	**HOLD: 6**	**SELL: 3**

HOW ARE WE DIFFERENT FROM THE STREET?

- We are significantly below the Bloomberg consensus for 2022F due to our lower GRM forecast and stock loss. Our 2023F is below consensus as we factor in a higher freight rate.
- Our DCF-based TP is higher than the consensus number due to our more positive view on refinery margins.

Sources: Bloomberg consensus, Thanachart estimates

RISKS TO OUR INVESTMENT CASE

- Downside risks would be a sudden increase in oil exports from China or a collapse in demand that would lead to a refinery margin correction.
- A secondary downside risk would be sudden government intervention at the ex-refinery price to help reduce inflationary pressure.

Source: Thanachart

SPRC

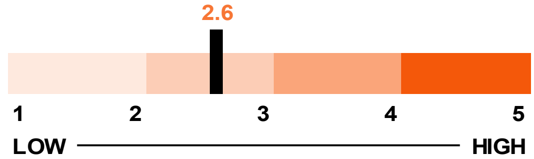
Star Petroleum Refining Pcl

Sector: Resources | Energy & Utilities

ESG & Sustainability Report

SRPC appears to have decent transparency and robust measures to protect minority interests to offset related-party transactions with its major shareholder, Chevron. Our ESG score for SPRC of 2.6 is due to its high energy intensity given the nature of its business and the lack of green investment project announcements.

Thanachart ESG Rating



	SETTHSI Index	THSI Index	DJSI Index	MSCI (CCC-AAA)	Arabesque S-Ray (0-100)	Refinitiv (0-100)	S&P Global (0-100)	Moody's (0-100)	CG Rating (0-5)
SPRC	-	-	-	-	56.47	54.92	26.94	-	5.0

Sources: SETTRADE, SETTHSI Index, Thailand Sustainability Investment (THSI), The Dow Jones Industrial Average (DJSI), MSCI ESG Research LLC, Arabesque S-Ray®, Refinitiv ESG Information, S&P Global Market Intelligence, Moody's ESG Solutions, Thai IOD (CG rating)
Note: Please see third party on "term of use" toward the back of this report.

Factors	Our Comments

ENVIRONMENT

- **Environmental Policies & Guidelines**
- **Energy Management**
- **Carbon Management**
- **Water Management**
- **Waste Management**

- In 2021, SPRC released 1.3mt of CO2 equivalent, which was steady from 2018. Emission intensity was at 194kg/BOE (barrels of crude oil equivalent). This was below Thai energy peers' average of 280kg/BOE. We believe this was due to its less diversified business as the company only has refinery operations.
- The company doesn't have clear emission reductions targets. However, SPRC does have targets for spill prevention, improving air quality, and waste/water management. In addition, SPRC plans to partner with Chevron, a leading global refiner, to study and establish continuous improvements that need to be made to bring down energy usage and greenhouse gas emissions
- SPRC lags global peers in terms of diversifying into the biofuel or renewable business that could help it to reduce carbon emissions. We believe the company is maintaining its goal is to use capex for efficiency improvements.

SOCIAL

- **Human Rights**
- **Staff Management**
- **Health & Safety**
- **Product Safety & Quality**
- **Social Responsibility**

- The safety principles in the Environment, Health and Safety (EHS) Management System are used as a safety framework for all of SPRC's practices. The company experienced an oil spill incident in early 2022, but the company acted quickly and no serious injuries were reported. SPRC also showed a responsible attitude toward minimizing the environmental damage and the company paid compensation to affected people of US$42m this year.
- In 2021, SPRC did not receive any complaints through any of its whistleblowing channels. As of December 2021, SPRC had a hiring rate of 7%, with 499 full-time employees of whom 492 work on a permanent basis. Some 70% of employees have been with SPRC for over 10 years and the turnover rate is only 2%

GOVERNANCE & SUSTAINABILITY

- **Board**
- **Ethics & Transparency**
- **Business Sustainability**
- **Risk Management**
- **Innovation**

- The major shareholder is Chevron South Asia Limited, with a 60.6% stake. However, the company is run independently and has flexibility in purchasing crude.
- The company has a good mix of board of director members with a policy guidelines and performance review on an annual basis. Four of SPRC's eight board members are independent non-executive directors (INEDs). Only one executive director serves on the board: CEO Robert Joseph Dobrik, a representative from Chevron.
- Operating performance margins are in line with the benchmarks and can be cross-checked easily. Audit fees are reported and IFRS accounting standards are used. While there is some risk from contingent liabilities, commodities prices, and forex rates, the balance sheet is generally strong.

Though we expect lower profit in 2023F, we see upside risk if the Ukraine war is prolonged

Balance sheet remains strong despite a difficult operating environment during the pandemic

INCOME STATEMENT

FY ending Dec (Bt m)	2020A	2021A	2022F	2023F	2024F
Sales	130,163	172,484	273,611	246,337	232,246
Cost of sales	137,169	171,528	261,460	237,897	224,876
Gross profit	**(7,006)**	**956**	**12,151**	**8,440**	**7,370**
% gross margin	-5.4%	0.6%	4.4%	3.4%	3.2%
Selling & administration expenses	911	749	881	881	881
Operating profit	**(7,916)**	**207**	**11,270**	**7,559**	**6,489**
% operating margin	-6.1%	0.1%	4.1%	3.1%	2.8%
Depreciation & amortization	2,832	2,644	2,874	2,918	2,944
EBITDA	**(5,084)**	**2,851**	**14,144**	**10,477**	**9,433**
% EBITDA margin	-3.9%	1.7%	5.2%	4.3%	4.1%
Non-operating income	71	62	40	70	103
Non-operating expenses	143	(433)	0	0	0
Interest expense	(177)	(212)	(249)	(204)	(130)
Pre-tax profit	**(7,880)**	**(376)**	**11,061**	**7,425**	**6,462**
Income tax	(1,555)	1,166	1,990	1,478	1,121
After-tax profit	**(6,325)**	**(1,542)**	**9,070**	**5,947**	**5,341**
% net margin	-4.9%	-0.9%	3.3%	2.4%	2.3%
Shares in affiliates' Earnings	0	0	0	0	0
Minority interests	0	0	0	0	0
Extraordinary items	(5,955)	6,288	(407)	0	(826)
NET PROFIT	**(12,280)**	**4,746**	**8,663**	**5,947**	**4,515**
Normalized profit	**(6,325)**	**(1,542)**	**9,070**	**5,947**	**5,341**
EPS (Bt)	(2.8)	1.1	2.0	1.4	1.0
Normalized EPS (Bt)	(1.5)	(0.4)	2.1	1.4	1.2

BALANCE SHEET

FY ending Dec (Bt m)	2020A	2021A	2022F	2023F	2024F
ASSETS:					
Current assets:	19,323	32,731	43,304	43,691	44,254
Cash & cash equivalent	1,635	2,945	5,000	9,000	11,500
Account receivables	8,515	13,219	16,732	15,064	14,202
Inventories	9,052	16,486	21,444	19,511	18,443
Others	121	81	128	115	109
Investments & loans	0	0	0	0	0
Net fixed assets	24,156	24,219	23,045	20,827	18,583
Other assets	3,062	1,776	2,763	2,497	2,359
Total assets	**46,541**	**58,726**	**69,112**	**67,015**	**65,197**
LIABILITIES:					
Current liabilities:	10,740	20,031	21,652	19,330	18,002
Account payables	7,821	13,961	18,045	16,419	15,520
Bank overdraft & ST loans	0	0	0	0	0
Current LT debt	1,380	4,680	1,080	797	396
Others current liabilities	1,539	1,390	2,527	2,114	2,086
Total LT debt	**8,857**	**3,374**	**6,118**	**4,519**	**2,246**
Others LT liabilities	517	950	1,297	1,262	1,145
Total liabilities	**20,114**	**24,355**	**29,067**	**25,111**	**21,394**
Minority interest	0	0	0	0	0
Preferreds shares	0	0	0	0	0
Paid-up capital	30,004	30,004	30,004	30,004	30,004
Share premium	978	978	978	978	978
Warrants	0	0	0	0	0
Surplus	(7,447)	(4,207)	(4,207)	(4,207)	(4,207)
Retained earnings	**2,892**	**7,596**	**13,270**	**15,129**	**17,029**
Shareholders' equity	26,427	34,371	40,045	41,904	43,804
Liabilities & equity	**46,541**	**58,726**	**69,112**	**67,015**	**65,197**

Sources: Company data, Thanachart estimates

With limited capex, high GRM, FCF is strong over the next three years

CASH FLOW STATEMENT

FY ending Dec (Bt m)	2020A	2021A	2022F	2023F	2024F
Earnings before tax	(7,880)	(376)	11,061	7,425	6,462
Tax paid	1,555	(1,166)	(1,990)	(1,478)	(1,121)
Depreciation & amortization	2,832	2,644	2,874	2,918	2,944
Chg In w orking capital	1,736	(5,999)	(4,386)	1,974	1,031
Chg In other CA & CL / minorities	847	(171)	1,086	(402)	(23)
Cash flow from operations	**(910)**	**(5,068)**	**8,645**	**10,437**	**9,293**
Capex	(253)	(2,665)	(1,700)	(700)	(700)
Right of use	0	0	0	0	0
ST loans & investments	0	0	0	0	0
LT loans & investments	0	0	0	0	0
Adj for asset revaluation	0	0	0	0	0
Chg In other assets & liabilities	(7,191)	7,670	(1,045)	234	(804)
Cash flow from investments	**(7,444)**	**5,005**	**(2,745)**	**(466)**	**(1,504)**
Debt financing	3,738	(1,824)	(856)	(1,882)	(2,674)
Capital increase	0	0	0	0	0
Dividends paid	(271)	(774)	(2,989)	(4,088)	(2,616)
Warrants & other surplus	6,502	3,971	0	0	0
Cash flow from financing	**9,969**	**1,373**	**(3,844)**	**(5,970)**	**(5,289)**
Free cash flow	**(1,163)**	**(7,733)**	**6,945**	**9,737**	**8,593**

Valuation at 1.2x P/BV looks attractive to us vs. ROE of 14.5% in 2023F

VALUATION

FY ending Dec	2020A	2021A	2022F	2023F	2024F
Normalized PE (x)	na	na	5.6	8.5	9.5
Normalized PE - at target price (x)	na	na	6.9	10.6	11.8
PE (x)	na	10.7	5.9	8.5	11.2
PE - at target price (x)	na	13.2	7.3	10.6	13.9
EV/EBITDA (x)	na	19.6	3.7	4.5	4.4
EV/EBITDA - at target price (x)	na	23.8	4.6	5.6	5.7
P/BV (x)	1.9	1.5	1.3	1.2	1.2
P/BV - at target price (x)	2.4	1.8	1.6	1.5	1.4
P/CFO (x)	(55.7)	(10.0)	5.9	4.9	5.5
Price/sales (x)	0.4	0.3	0.2	0.2	0.2
Dividend yield (%)	0.0	1.5	10.3	5.9	4.5
FCF Yield (%)	(2.3)	(15.2)	13.7	19.2	16.9
(Bt)					
Normalized EPS	(1.5)	(0.4)	2.1	1.4	1.2
EPS	(2.8)	1.1	2.0	1.4	1.0
DPS	0.0	0.2	1.2	0.7	0.5
BV/share	6.1	7.9	9.2	9.7	10.1
CFO/share	(0.2)	(1.2)	2.0	2.4	2.1
FCF/share	(0.3)	(1.8)	1.6	2.2	2.0

Sources: Company data, Thanachart estimates

ROE looks set to remain at double-digit levels over the next three years.

FINANCIAL RATIOS

FY ending Dec	2020A	2021A	2022F	2023F	2024F
Growth Rate					
Sales (%)	(22.9)	32.5	58.6	(10.0)	(5.7)
Net profit (%)	na	na	82.5	(31.4)	(24.1)
EPS (%)	na	na	82.5	(31.4)	(24.1)
Normalized profit (%)	na	na	na	(34.4)	(10.2)
Normalized EPS (%)	na	na	na	(34.4)	(10.2)
Dividend payout ratio (%)	0.0	16.3	60.1	50.0	50.0
Operating performance					
Gross margin (%)	(5.4)	0.6	4.4	3.4	3.2
Operating margin (%)	(6.1)	0.1	4.1	3.1	2.8
EBITDA margin (%)	(3.9)	1.7	5.2	4.3	4.1
Net margin (%)	(4.9)	(0.9)	3.3	2.4	2.3
D/E (incl. minor) (x)	0.4	0.2	0.2	0.1	0.1
Net D/E (incl. minor) (x)	0.3	0.1	0.1	(0.1)	(0.2)
Interest coverage - EBIT (x)	na	1.0	45.2	37.0	49.9
Interest coverage - EBITDA (x)	na	13.5	56.8	51.3	72.6
ROA - using norm profit (%)	na	na	14.2	8.7	8.1
ROE - using norm profit (%)	na	na	24.4	14.5	12.5
DuPont					
ROE - using after tax profit (%)	na	na	24.4	14.5	12.5
- asset turnover (x)	2.6	3.3	4.3	3.6	3.5
- operating margin (%)	na	na	4.1	3.1	2.8
- leverage (x)	1.7	1.7	1.7	1.7	1.5
- interest burden (%)	102.3	229.4	97.8	97.3	98.0
- tax burden (%)	na	na	82.0	80.1	82.7
WACC (%)	9.0	9.0	9.0	9.0	9.0
ROIC (%)	(20.2)	0.6	23.2	14.3	13.6
NOPAT (Bt m)	(7,916)	207	9,164	6,055	5,199
invested capital (Bt m)	35,029	39,480	42,243	38,220	34,946

Sources: Company data, Thanachart estimates

BUY (Unchanged) | **TP: Bt 70.00** (Unchanged) | **30 NOVEMBER 2022**

Change in Numbers | **Upside : 26.1%**

Thai Oil Public Co Ltd (TOP TB)

A top refinery pick

We reaffirm BUY on TOP as a top refinery pick. We see it as best positioned ahead of EU sanctions on Russian refined products next February. TOP has high diesel exposure, is hurt less by rising freight rates, and has a compelling valuation, in our view, at 0.7x 2023F P/BV.

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Thanachart Securities

One of our top sector picks

This report is a part of *Energy sector – Tight refinery market,* dated 30 November 2022. We reaffirm our BUY rating on shares TOP as a top refinery sector pick with a DCF-based 12-month TP (2023F base year) of Bt70/share as we see the stock as best positioned to enjoy what we expect to be a tighter refinery market next year. *First*, TOP has the highest high-margin middle-distillate output mix among Thai refiners at 52%. *Second*, while we expect the jet fuel spread to improve further on the back of more demand from global tourism and business turnarounds, we foresee the diesel spread getting a boost from the European Union's (EU) planned ban on Russian refined products from February 2023. *Third*, TOP is the only Thai refiner that has a long-term capacity growth story in 2025F. *Fourth*, TOP runs its own VLCCs or crude carriers at 75% of use so it is hurt less than peers by rising freight rates. *Lastly*, TOP looks compelling to us on 0.7x P/BV and 7.7x PE in 2023F. We also estimate 5.4/5.5% dividend yields in 2022-23F. Our other top pick in the refinery sector is ESSO.

Elevated GRM

Although TOP's gross refining margin (GRM) has come down from its peak level during the onset of the Russia-Ukraine war, we expect it to remain elevated. We estimate TOP's GRM at USD14.8/7.2/7.6 per barrel in 2022-24F, vs. its five-year pre-COVID average of USD5.5/bbl. Our GRM forecasts remain high despite us lowering them by USD1.3/0.5/1.8 per barrel from our previous estimates to reflect weaker-than-expected gasoline and high-sulfur fuel oil spreads. Please refer to our top-down refinery market view in the main section of our sector report.

Strong sequential 4Q22-1Q23F profits on tap

We expect near-term GRM catalysts to be winter demand, rising demand for jet fuel during the high tourism season, and the EU ban on Russian oil refined products from February 2023. The average diesel spread so far in 4Q22 has risen by 19% to USD42/bbl from 3Q22's average. The Murban crude premium has also trended lower in 4Q22, implying a better margin for TOP. We also don't expect any hedging or inventory losses in 4Q22F.

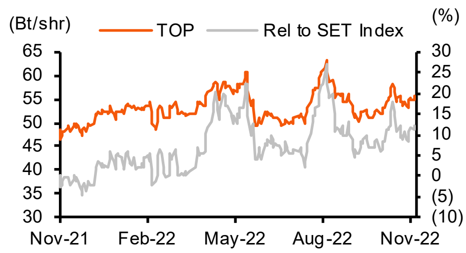
Capacity growth

The completion of TOP's net new capacity of 400kbd, or a hike of 45% via its Clean Fuel Project (CFP), has been delayed from an original target of early 2024 to early 2025. We already factor this into our earnings revisions in this report (see our revisions table in Exhibit 8). Despite the delay, TOP remains the only Thai refiner with capacity growth that we expect to lift its earnings in 2025F.

COMPANY VALUATION

Y/E Dec (Bt m)	2021A	2022F	2023F	2024F
Sales	345,496	491,591	428,902	389,795
Net profit	12,578	39,216	15,099	13,614
Consensus NP	—	36,597	13,138	13,157
Diff frm cons (%)	—	*7.2*	*14.9*	*3.5*
Norm profit	5,583	29,568	16,174	14,633
Prev. Norm profit	—	31,457	15,270	16,216
Chg frm prev (%)	—	*(6.0)*	*5.9*	*(9.8)*
Norm EPS (Bt)	2.7	14.0	7.2	6.6
Norm EPS grw (%)	na	416.8	(48.3)	(9.5)
Norm PE (x)	20.5	4.0	7.7	8.5
EV/EBITDA (x)	15.6	5.4	10.3	11.0
P/BV (x)	0.9	0.8	0.7	0.7
Div yield (%)	4.6	5.4	5.5	4.9
ROE (%)	4.7	20.8	9.6	8.3
Net D/E (%)	112.8	87.2	100.1	93.7

PRICE PERFORMANCE



COMPANY INFORMATION

Price *as of* 29-Nov-22 (Bt)	55.50
Market Cap (US$ m)	3,501.7
Listed Shares (m shares)	2,232.3
Free Float (%)	52.0
Avg Daily Turnover (US$ m)	24.6
12M Price H/L (Bt)	63.00/46.50
Sector	Energy
Major Shareholder	PTT Pcl 45.03%

Sources: Bloomberg, Company data, Thanachart estimates

ESG Summary Report ……….……………….. P41

A top refinery pick

We think it's time to build up a position ahead of further diesel strength

We reaffirm our BUY call on shares of Thai Oil Pcl (TOP), and we believe now is the time to build up a position to take advantage of a diesel rally in 1Q23F, particularly since TOP's share price has recently retreated by 12% since August 2022 when China announced new export quotas for its oil products to ease the domestic glut. However, the refinery margin has been exceptionally strong, mainly supported by diesel and jet margins. The diesel spread is now at USD39/bbl QTD vs. USD35 in 3Q22 and the jet spread is at USD36 vs. USD32 in 3Q22. Note that the spreads rallied despite a warmer-than-expected winter.

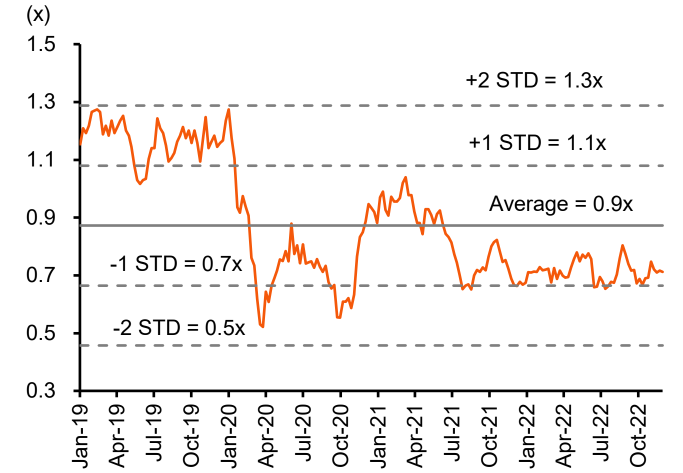
Very low middle-distillate inventory is a key factor supporting high margins

Looking ahead, we expect the refinery market to remain tight in 2023F supported by continued low middle-distillate inventory. With a further loss of Russian diesel supply due to European Union (EU) sanctions on oil products effective from 5 February 2023 and jet fuel consumption likely to grow, this will likely continue. A faster-than-expected country reopening by China and a sudden spike in winter demand represent two key upside risks.

High profit, but low valuations

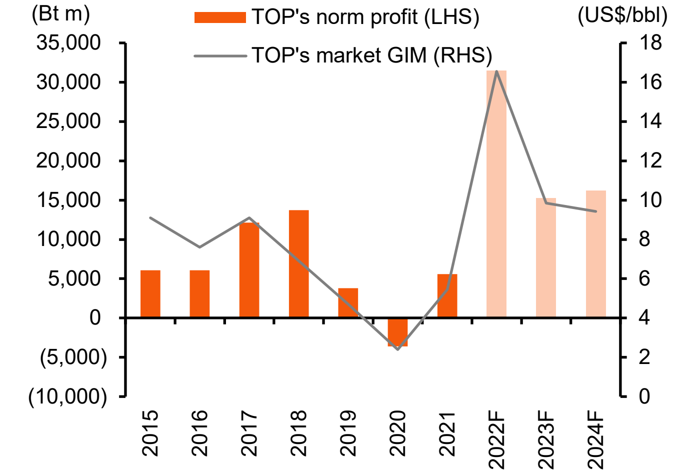
Consequently, we estimate TOP's core earnings to remain at higher levels of Bt14-16bn over 2023-24F compared to their historical range of Bt6-14bn since 2013. We view the stock as attractively valued, trading on less than 8x 2023F PE and 0.7x P/BV and offering 5.5% forecast dividend yields.

Ex 1: TOP's P/BV At Bottom Of Historical Range…



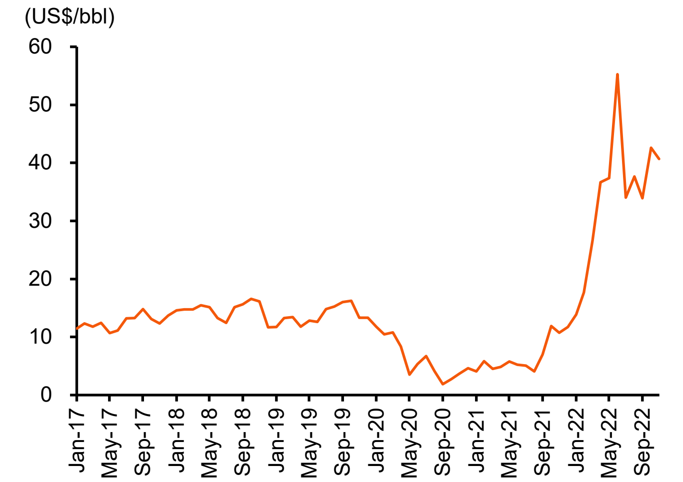
Sources: Bloomberg, Thanachart estimates

Ex 2: …But Profit At High End Of Historical Range



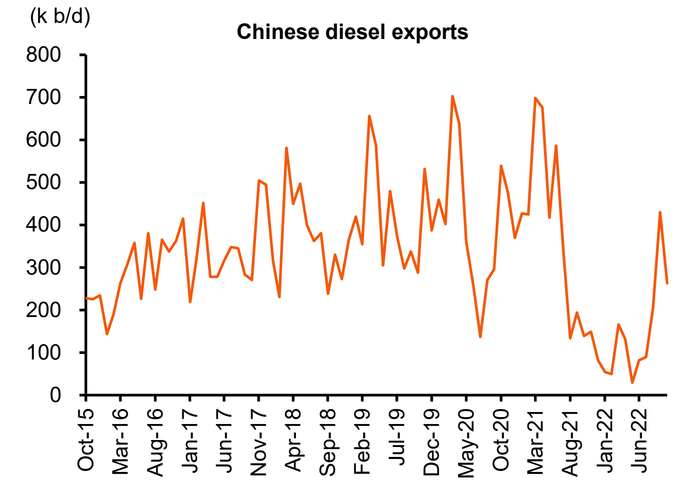
Sources: Company data, Thanachart estimates

Ex 3: Diesel Spread Remains Stubbornly High…



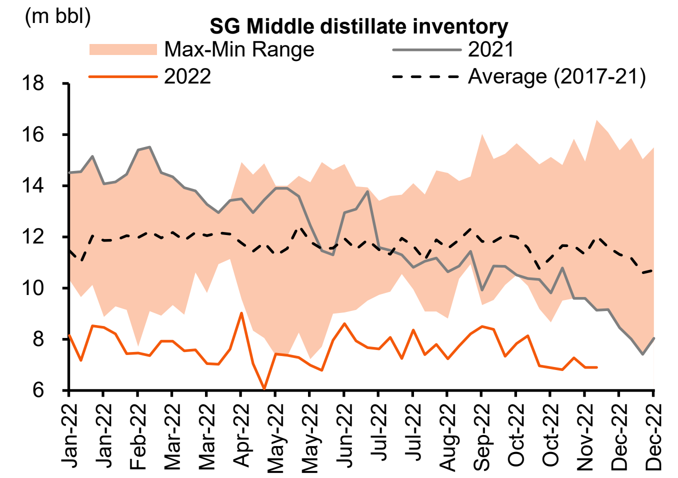
Source: Bloomberg

Ex 4: …Despite The Return Of Chinese Exports



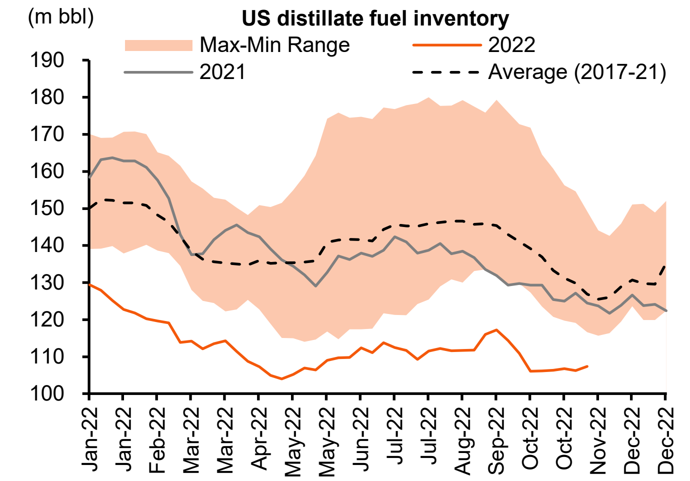
Source: Bloomberg

Ex 5: Middle-Distillate Inventories Are Very Low In Asia…



Source: Bloomberg

Ex 6: …And In The US

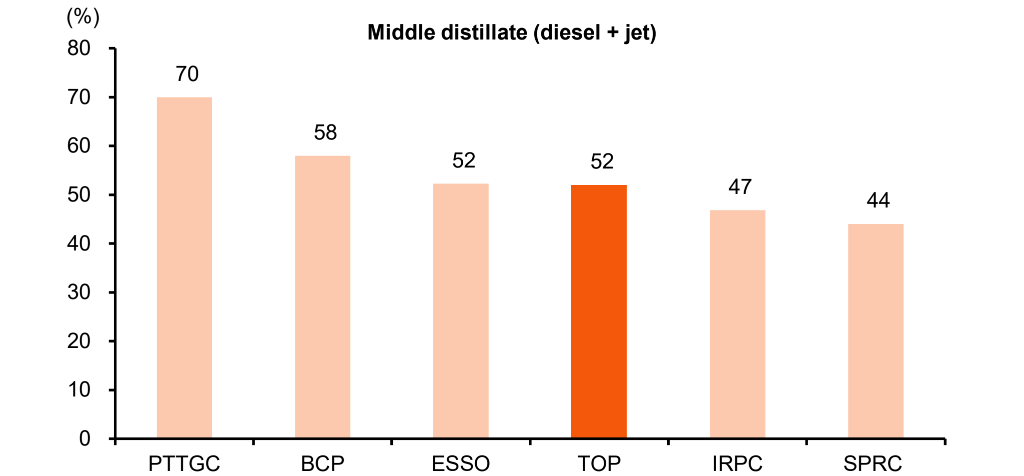


Source: Bloomberg

TOP has the best middle-distillate exposure

The strength in the middle-distillate spread is especially positive for TOP given its high middle-distillate yield of 52% vs. peers' average of 49% in 3Q22. Additionally, TOP will likely be more resilient to the prevailing surge in freight costs as the company owns 75% of its very large crude carrier (VLCC) fleet where the prices are contract-based.

Ex 7: TOP Has High Exposure To Diesel/Jet Among Thai Refineries



Source: Company data

Our earnings revisions

We lift 2023F profit as we raise our lube base forecast while CFP's startup is delayed to 2025

We lift our core profit estimate for TOP by 6% in 2023F on the back of our higher lube base margin assumption, which offsets our lower gross refining margin (GRM) forecast for the company. Our higher lube base margin assumption is due to the very weak high sulfur fuel oil (HSFO) price, which is the key feedstock for TOP's lube base unit. We raise our lube base margin assumption by USD100/tonne to USD500/tonne in 2023F to reflect the weak HSFO price, but this is still lower than the spot spread of USD750/tonne as we expect the spread to soften due to higher capacity addition in 2023F. We lower our 2024F profit by 10% as we assume the Clean Fuel Project (CFP) project is delayed to start up in 2025F. We keep our DCF-based 12-month TP, using a 2023F base year, unchanged at Bt70/share.

Ex 8: Key Operating Assumption Changes

				New			Old			Change (%)		
	2019	2020	2021	2022F	2023F	2024F	2022F	2023F	2024F	2022F	2023F	2024F
Market GRM (USD/bbl)	3.6	(1.9)	6.9	15.0	7.6	7.2	16.3	8.2	8.9	*(8.0)*	*(6.5)*	*(19.7)*
Refinery utilization (%)	107	101	100	110	108	100	110	108	90	*0.0*	*0.0*	*10.0*
Lube base spread (USD/tonne)	321	389	847	684	500	450	450	400	400	*51.9*	*25.0*	*12.5*
Market GIM (USD/bbl)	4.7	2.4	5.5	16.5	9.3	8.9	17.5	9.3	9.6	*(5.6)*	*0.2*	*(7.1)*
Net profit (Bt m)	6,277	(3,301)	12,578	39,216	15,099	13,614	41,105	12,960	15,056	*(4.6)*	*16.5*	*(9.6)*
Normalized profit (Bt m)	**4,556**	**(10,421)**	**5,583**	**29,568**	**16,174**	**14,633**	**31,457**	**15,270**	**16,216**	***(6.0)***	***5.9***	***(9.8)***

Sources: Company data, Thanachart estimates

Ex 9: 12-month DCF-based TP Calculation For Downstream Business, Using A Base Year Of 2023F

(Bt m)		2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	2031F	2032F	2033F	Terminal Value
EBITDA		29,216	26,818	29,348	32,685	29,607	31,548	32,482	32,482	33,516	33,516	33,516	
Free cash flow		(16,589)	14,561	22,293	22,030	19,179	21,146	21,935	21,973	22,939	22,966	23,047	352,974
PV of free cash flow		(15,401)	12,544	17,599	16,073	12,933	13,176	12,631	11,695	10,860	10,004	9,240	141,507
Risk-free rate (%)	2.5												
Market risk premium (%)	8.0												
Beta	1.1												
WACC (%)	7.7												
Terminal growth (%)	2.0												
Enterprise value - add investments	252,861												
Net cash/(debt) (2022F)	145,192												
Minority interest	2,818												
Equity value	104,851												
# of shares (m)	2,040												
Equity value/share (Bt)	**51**												

Sum-of-the-parts valuation	Value (Bt m)	Per share (Bt/shr)	% of total	Methodology
Downstream	104,851	51	73%	DCF
Power (GPSC)	10,898	5	8%	DCF
Chandra Asri	28,291	14	20%	BBG consensus
Total value per share	**144,040**	**70**		

Sources: Thanachart estimates

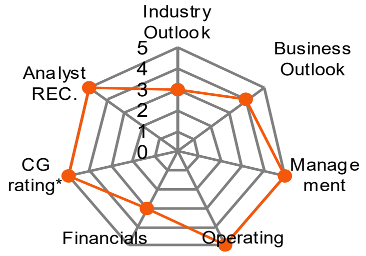
Note: Net debt position is for all businesses except GPSC, which is not consolidated

COMPANY DESCRIPTION

Thai Oil Pcl (TOP) is the flagship refinery under the PTT group which owns a 49% stake in the company. Its capacity of 275kbd makes up 25% of Thailand's total. With a Nelson complexity of 9.8, TOP produces 0.8m tpa of aromatics and 0.3m tpa of lube base oil and bitumen. The company also recently purchased a 15% stake in listed company Chandra Asri, one of the leading petrochemical complexes in Indonesia, which is also owned by SCC with a 30.5% stake. Its other businesses include power, marine transport, and ethanol production.

Source: Thanachart

COMPANY RATING



Rating Scale	
Excellent	**5**
Good	**4**
Fair	**3**
Weak	**2**
Very Weak	**1**
None	**0**

Source: Thanachart; *CG Rating

THANACHART'S SWOT ANALYSIS

S — Strength

- Some of the lowest operating costs in the region.
- Being part of the PTT group gives TOP secured off-take agreements.

W — Weakness

- Volatile earnings due to commodity exposure especially in the refining business where demand outlook is weak.
- Weak balance sheet with substantial capex over the next two years due to the USD4bn investment in clean fuel project (CFP).

O — Opportunity

- Potential further chemical expansion following investment in Chandra Asri.
- Ability to upgrade derivatives into value-added plastic products.

T — Threat

- High oil prices could slow local demand and force it to sell in the lower-margin export market.
- Overpaying for acquisitions and higher-than-expected expansion costs.

CONSENSUS COMPARISON

	Consensus	Thanachart	Diff
Target price (Bt)	62.76	70.00	12%
Net profit 22F (Bt m)	36,597	39,216	7%
Net profit 23F (Bt m)	13,138	15,099	15%
Consensus REC	**BUY: 17**	**HOLD: 5**	**SELL: 3**

HOW ARE WE DIFFERENT FROM THE STREET?

- Our 2023F net profit is above the Bloomberg consensus as we are more bullish on the refinery outlook.
- Consequently, our DCF-derived SOTP-based target price is higher due to our higher GRM assumptions.

Sources: Bloomberg consensus, Thanachart forecasts

RISKS TO OUR INVESTMENT CASE

- The key downside risk to our call would be a lower-than-expected GRM.
- Another secondary downside risk to our call would be lower oil prices, which would lead to stock loss.
- A higher-than-expected light sweet crude premium would be another secondary downside risk to our call.
- Downside risk would also come from a sudden increase in China oil exports or a collapse in demand that would lead to a correction in refinery margin.

Source: Thanachart

TOP

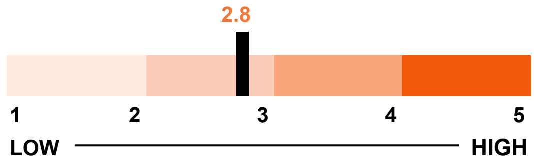
Thai Oil Pcl

Sector: Resources | Energy & Utilities

ESG & Sustainability Report

TOP is Thailand's largest oil refiner with a total capacity of 275kbd. Our ESG score for TOP is 2.8, which is slightly below the 2.9 sector average. TOP doesn't have green energy projects and we expect its greenhouse gas emissions to rise with its new capacity, the Clean Fuel Project (CFP), in 2024F.

Thanachart ESG Rating



	SETTHSI Index	THSI Index	DJSI Index	MSCI (CCC-AAA)	Arabesque S-Ray (0-100)	Refinitiv (0-100)	S&P Global (0-100)	Moody's (0-100)	CG Rating (0-5)
TOP	YES	YES	YES	BBB	50.03	85.05	88.13	38.0	5.0

Sources: SETTRADE, SETTHSI Index, Thailand Sustainability Investment (THSI), The Dow Jones Industrial Average (DJSI), MSCI ESG Research LLC, Arabesque S-Ray®, Refinitiv ESG Information, S&P Global Market Intelligence, Moody's ESG Solutions, Thai IOD (CG rating)
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Factors	Our Comments
ENVIRONMENT – **Environmental Policies & Guidelines** – **Energy Management** – **Carbon Management** – **Water Management** – **Waste Management**	▪ In 2021, TOP released 3.1mt of CO2 equivalent, falling 10% from the level in 2018 given lower production as a result of weak demand during the COVID crisis. However, its emission intensity has been steady at 220-230kg/BOE (barrels of crude oil equivalent) since 2018. The intensity is below the sector average of 280kg/BOE. ▪ We expect TOP's greenhouse gas (GHG) intensity to increase in 2024F when its Clean Fuel Project (CFP) starts up. CFP is designed to use heavy crude oil as feedstock and upgrading high-sulfur oil into high-value products means more heat and GHG emissions. ▪ TOP has a target to achieve net zero GHG emissions by 2060 but has no medium-term goal. TOP still appears to lag global peers in green energy investment.
SOCIAL – **Human Rights** – **Staff Management** – **Health & Safety** – **Product Safety & Quality** – **Social Responsibility**	▪ TOP's staff health and safety management system is in line with ISO standards. The company's safety performance is on par with the top 10% safety performers in the oil and gas industry. ▪ In 2021, TOP spent Bt506m on human capital development with its employees on average receiving 275 hours of training per full-time equivalent (FTE). Its staff turnover rate was at 1.17% in 2021 which was below its 2.5% target. Its employee satisfaction rate of 94% was above its 85% target. ▪ TOP tries to ensure the well-being of surrounding communities and says it has received no complaints from local communities about negative environmental impacts.
GOVERNANCE & SUSTAINABILITY – **Board** – **Ethics & Transparency** – **Business Sustainability** – **Risk Management** – **Innovation**	▪ TOP is 45% owned by PTT. Therefore, there are a lot of related-party transactions with PTT, including crude feedstock purchases. However, measures are taken to ensure market-based pricing. ▪ Eight of the 15 board members are independent. Its board of directors (BOD) is chaired by an independent director, Dr. Supot Teachavorasinskun. However, there is only one female on the board. The average tenure of board members is 2.56 years. ▪ Accounting & Audit are generally easy to cross check and seem transparent. ▪ TOP's business by its nature has very high earnings volatility. It is also in the middle of a heavy capex cycle due to the new CFP.

Source: Thanachart

We expect earnings to normalize at a higher base

Balance sheet is stronger given a more favorable earnings outlook

INCOME STATEMENT

FY ending Dec (Bt m)	2020A	2021A	2022F	2023F	2024F
Sales	247,913	345,496	491,591	428,902	389,795
Cost of sales	255,300	333,614	445,246	402,622	366,380
Gross profit	**(7,387)**	**11,882**	**46,345**	**26,279**	**23,415**
% gross margin	-3.0%	3.4%	9.4%	6.1%	6.0%
Selling & administration expenses	2,650	3,056	4,916	4,289	3,898
Operating profit	**(10,037)**	**8,826**	**41,429**	**21,990**	**19,517**
% operating margin	-4.0%	2.6%	8.4%	5.1%	5.0%
Depreciation & amortization	7,554	7,424	7,454	7,226	7,300
EBITDA	**(2,483)**	**16,250**	**48,883**	**29,216**	**26,818**
% EBITDA margin	-1.0%	4.7%	9.9%	6.8%	6.9%
Non-operating income	1,115	1,136	1,616	1,410	1,281
Non-operating expenses	0	0	0	0	0
Interest expense	(4,292)	(3,595)	(4,363)	(3,929)	(3,905)
Pre-tax profit	**(13,215)**	**6,367**	**38,682**	**19,471**	**16,894**
Income tax	(647)	2,034	7,841	3,934	3,561
After-tax profit	**(12,568)**	**4,333**	**30,841**	**15,537**	**13,333**
% net margin	-5.1%	1.3%	6.3%	3.6%	3.4%
Shares in affiliates' Earnings	2,566	1,675	(669)	1,165	1,780
Minority interests	(419)	(425)	(605)	(528)	(480)
Extraordinary items	7,120	6,995	9,648	(1,075)	(1,019)
NET PROFIT	**(3,301)**	**12,578**	**39,216**	**15,099**	**13,614**
Normalized profit	**(10,421)**	**5,583**	**29,568**	**16,174**	**14,633**
EPS (Bt)	(1.6)	6.1	18.6	6.8	6.1
Normalized EPS (Bt)	(5.1)	2.7	14.0	7.2	6.6

BALANCE SHEET

FY ending Dec (Bt m)	2020A	2021A	2022F	2023F	2024F
ASSETS:					
Current assets:	114,229	101,239	133,136	103,840	87,151
Cash & cash equivalent	71,354	29,696	50,000	30,000	20,000
Account receivables	12,702	23,415	29,902	26,089	23,710
Inventories	22,461	39,576	41,066	37,135	33,792
Others	7,712	8,552	12,168	10,617	9,649
Investments & loans	24,521	55,412	55,412	55,412	55,412
Net fixed assets	145,225	178,399	233,646	261,786	269,643
Other assets	22,213	27,094	30,768	29,906	29,556
Total assets	**306,188**	**362,144**	**452,962**	**450,944**	**441,761**
LIABILITIES:					
Current liabilities:	28,620	38,476	73,187	34,795	33,431
Account payables	9,517	23,001	26,181	11,031	11,042
Bank overdraft & ST loans	713	929	1,076	1,134	1,056
Current LT debt	7,952	4,213	31,059	10,224	9,522
Others current liabilities	10,438	10,334	14,871	12,407	11,811
Total LT debt	**136,237**	**163,343**	**163,057**	**194,250**	**180,923**
Others LT liabilities	21,212	37,230	50,140	46,439	44,315
Total liabilities	**186,069**	**239,050**	**286,384**	**275,485**	**258,669**
Minority interest	3,889	2,213	2,818	3,346	3,825
Preferreds shares	0	0	0	0	0
Paid-up capital	20,400	20,400	22,323	22,323	22,323
Share premium	2,456	2,456	10,533	10,533	10,533
Warrants	0	0	0	0	0
Surplus	(2,557)	(7,805)	(8,141)	(8,141)	(8,141)
Retained earnings	**95,930**	**105,829**	**139,044**	**147,397**	**154,551**
Shareholders' equity	116,229	120,881	163,760	172,113	179,267
Liabilities & equity	**306,188**	**362,144**	**452,962**	**450,944**	**441,761**

Sources: Company data, Thanachart estimates

Capex on a declining trend over the next three years

We see TOP's 0.7x 2023F P/BV as attractive

CASH FLOW STATEMENT

FY ending Dec (Bt m)	2020A	2021A	2022F	2023F	2024F
Earnings before tax	(13,215)	6,367	38,682	19,471	16,894
Tax paid	871	(1,747)	(7,615)	(4,020)	(3,656)
Depreciation & amortization	7,554	7,424	7,454	7,226	7,300
Chg In working capital	2,096	(14,344)	(4,796)	(7,406)	5,732
Chg In other CA & CL / minorities	(1,806)	(7,818)	(4,337)	(4,463)	(2,526)
Cash flow from operations	**(4,500)**	**(10,117)**	**29,387**	**10,808**	**23,745**
Capex	(46,220)	(40,599)	(62,700)	(35,366)	(15,157)
Right of use	(14,729)	(2,402)	(500)	(500)	(500)
ST loans & investments	(8)	8	0	0	0
LT loans & investments	9,124	(30,891)	0	0	0
Adj for asset revaluation	0	0	0	0	0
Chg In other assets & liabilities	24,448	31,282	23,747	1,389	2,479
Cash flow from investments	**(27,385)**	**(42,602)**	**(39,453)**	**(34,477)**	**(13,178)**
Debt financing	27,070	18,988	26,707	10,415	(14,106)
Capital increase	0	0	10,000	0	0
Dividends paid	(1,020)	(2,652)	(6,001)	(6,746)	(6,461)
Warrants & other surplus	578	(5,274)	(336)	0	0
Cash flow from financing	**26,628**	**11,061**	**30,370**	**3,670**	**(20,567)**
Free cash flow	**(50,720)**	**(50,716)**	**(33,313)**	**(24,558)**	**8,588**

VALUATION

FY ending Dec	2020A	2021A	2022F	2023F	2024F
Normalized PE (x)	na	20.5	4.0	7.7	8.5
Normalized PE - at target price (x)	na	25.8	5.0	9.7	10.7
PE (x)	na	9.1	3.0	8.2	9.1
PE - at target price (x)	na	11.5	3.8	10.3	11.5
EV/EBITDA (x)	na	15.6	5.4	10.3	11.0
EV/EBITDA - at target price (x)	na	17.4	6.0	11.4	12.2
P/BV (x)	1.0	0.9	0.8	0.7	0.7
P/BV - at target price (x)	1.2	1.2	1.0	0.9	0.9
P/CFO (x)	(25.4)	(11.3)	4.0	11.5	5.2
Price/sales (x)	0.5	0.4	0.3	0.3	0.3
Dividend yield (%)	1.2	4.6	5.4	5.5	4.9
FCF Yield (%)	(44.4)	(44.4)	(28.5)	(19.8)	6.9
(Bt)					
Normalized EPS	(5.1)	2.7	14.0	7.2	6.6
EPS	(1.6)	6.1	18.6	6.8	6.1
DPS	0.7	2.6	3.0	3.0	2.7
BV/share	56.5	58.7	73.4	77.1	80.3
CFO/share	(2.2)	(4.9)	13.9	4.8	10.6
FCF/share	(24.6)	(24.6)	(15.8)	(11.0)	3.8

Sources: Company data, Thanachart estimates

With a higher earnings base, ROE looks set to normalize at a higher base

FINANCIAL RATIOS

FY ending Dec	2020A	2021A	2022F	2023F	2024F
Growth Rate					
Sales (%)	(31.9)	39.4	42.3	(12.8)	(9.1)
Net profit (%)	na	na	211.8	(61.5)	(9.8)
EPS (%)	na	na	204.2	(63.6)	(9.8)
Normalized profit (%)	na	na	429.6	(45.3)	(9.5)
Normalized EPS (%)	na	na	416.8	(48.3)	(9.5)
Dividend payout ratio (%)	(43.3)	42.2	17.1	45.0	45.0
Operating performance					
Gross margin (%)	(3.0)	3.4	9.4	6.1	6.0
Operating margin (%)	(4.0)	2.6	8.4	5.1	5.0
EBITDA margin (%)	(1.0)	4.7	9.9	6.8	6.9
Net margin (%)	(5.1)	1.3	6.3	3.6	3.4
D/E (incl. minor) (x)	1.2	1.4	1.2	1.2	1.0
Net D/E (incl. minor) (x)	0.6	1.1	0.9	1.0	0.9
Interest coverage - EBIT (x)	na	2.5	9.5	5.6	5.0
Interest coverage - EBITDA (x)	na	4.5	11.2	7.4	6.9
ROA - using norm profit (%)	na	1.7	7.3	3.6	3.3
ROE - using norm profit (%)	na	4.7	20.8	9.6	8.3
DuPont					
ROE - using after tax profit (%)	na	3.7	21.7	9.3	7.6
- asset turnover (x)	0.8	1.0	1.2	0.9	0.9
- operating margin (%)	na	2.9	8.8	5.5	5.3
- leverage (x)	2.5	2.8	2.9	2.7	2.5
- interest burden (%)	148.1	63.9	89.9	83.2	81.2
- tax burden (%)	na	68.1	79.7	79.8	78.9
WACC (%)	7.7	7.7	7.7	7.7	7.7
ROIC (%)	(6.2)	3.2	12.7	5.7	4.4
NOPAT (Bt m)	(10,037)	6,007	33,032	17,547	15,404
invested capital (Bt m)	189,777	259,670	308,952	347,721	350,768

Sources: Company data, Thanachart estimates

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