# **Energy & Petrochemicals**

SET Energy Index Close: 2/5/2023 Bt6.144mn

Bloomberg ticker: SETENERG



# Weaker GRM to hit 2Q23F profit

Share prices for Thai oil refiners are down 6-33% YTD on concerns over a weaker GRM in 2Q23 that may last to end-2023 on rising downside risk for the global economy. Although we expect earnings for these companies to improve sharply QoQ in 1Q23F, this is unlikely to increase market appetite for the industry in the near term. At this juncture, we prefer diversified plays like BCP, which we see as less vulnerable to volatile oil price and GRM.

Better earnings in 1023F. 1023F profit for Thai oil refiners is expected to recover QoQ on better GRM, low crude premium and oil hedging gain, especially for middle distillates (diesel and jet fuel). Integrated oil refiners will also benefit from wider PX spread while those with marketing arms will enjoy a wider marketing margin on slower retail price adjustment and less stringent cap on retail oil prices. Of the six Thai oil refiners, we expect TOP to report the highest net profit in 1Q23 (a jump QoQ off a low base in 4Q22). BCP will also do well, backed by oil refining and marketing and E&P.

Refining margin hit by weak demand and uncertain outlook in 2Q23F. Singapore GRM improved strongly QoQ in 1Q23 to US\$8.2/bbl (+30% QoQ) vs. a five-year average (pre-COVID) of US\$6.1/bbl. GRM has been normalizing since 4Q22 to an average of US\$7.2/bbl. However, higher crude price in 2023 and weaker demand depressed GRM with a fall to US\$3.8/bbl (QTD average), suggesting that demand for refined products is too fragile to absorb higher oil price, especially in Europe and the US. Market GRM is being driven by higher demand for gasoline from greater mobility in China after the country was reopened in 1Q23. Crack spread for diesel is narrowing back to before Russia invaded Ukraine in late 1Q22 as demand in Europe is at its weakest point seasonally and French refineries are coming back. Gas-to-oil switching in response to high gas price has declined upon warmer weather and lower gas price. GRM will remain weak in 2Q23 until there are signs economies are improving. Key factors to be watched include refinery run cuts, especially export-oriented producers (+), China's higher export quota (-) and new capacity from China and the Middle East.

Aromatics is key earnings support. Despite new capacity, PX spread recovered from 4Q22 on tighter supply in the region from planned refinery maintenance shutdowns and higher demand for the alternative PX feedstock product, gasoline blendstock. The PX price rise has been at a slower pace than naphtha cost, implying narrowing PX-naphtha spread in the near term. Benzene-ULG95 spread was weak at below US\$100/t in 1Q23 and has continued to fall in April. Demand for downstream benzene products polystyrene (PS) and acrylonitrile butadiene styrene (ABS) improved slightly and helped support benzene price, signaling a slight improvement in demand for production of home appliances and for construction.

Marketing margin wider on lower oil price. Marketing margin widened in 1Q23 (+5% QoQ) to Bt2.1/liter and is up a further 18% to Bt2.5/liter in April vs. 5-year average of Bt2/liter. This reflects the lag in adjusting retail oil price during a steady decline in global oil price and stronger domestic demand, especially for gasoline (+6.5% YoY). A more volatile oil price in 2Q23 increases the risk to marketing margin via a possible inventory loss. We believe downside risk to marketing margin is lower at the current crude oil price of US\$80/bbl± than in 2022 when price averaged US\$100/bbl.

Top pick is BCP. Business diversification is BCP's strong point and it is our top pick on solid earnings in 2023 despite a fall of 29% due to abnormally high GRM and gas price in 2022, as business diversification minimizes the damage from volatile oil price. Share price is down 5.6% YTD but still outperforms peers and SETENERG. It plans to acquire majority interest in ESSO, which we see as an accretive acquisition on a fair purchase price, providing earnings and synergy benefits in operations and marketing. Apart from this and solid GRM in 2023F, we like BCP for its exposure to E&P in Norway, gaining from the strong oil and gas market in Europe to replace supply from Russia.

Key risk factors: 1) Volatile oil price, GRM and FX, 2) changes in consumer preferences for fossil fuel and 3) changes in regulatory policy on GHG emissions, including carbon tax and carbon credit.

Oil	refiner	y: share	price p	perforn	nance `	YTD				
									+0.3	Oil price (Dubai)
							-	4.3		Oil price (Brent)
							-5.6			BCP
							-7.5			SPRC
							-8.4			SET
						-12.7				PTTGC
						-12.9				SETENERG
					-16.4					TOP
				-21.2						IRPC
	-33	3.7								ESSO
-4		35 -3			20 -	-15	-10	-5	0 5	% YTD

Source: Bloomberg Finance L.P. and InnovestX Research

Valu	Valuation summary														
	Rating	Price (Bt)	TP (Bt)	ETR (%)	P/E 23F	(x) 24F	P/B\ 23F	′ (x) 24F							
BCP	Outperform		44.0	57.6	3.1	4.5	0.6	0.5							
ESSO	Neutral	8.4	10.3	30.5	3.9	3.8	0.9	0.8							
IRPC	Neutral	2.4	3.9	70.2	7.8	7.2	0.6	0.6							
PTT	Outperform	31.0	48.0	61.9	7.5	7.4	0.8	0.8							
PTTEP	Neutral	148.5	185.0	29.3	9.5	9.8	1.2	1.1							
SPRC	Neutral	9.9	12.5	36.4	5.6	5.4	1.0	1.0							
TOP	Neutral	47.0	76.0	66.0	7.4	6.9	0.6	0.6							
Averag	е				6.4	6.4	0.8	0.7							

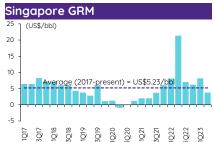
Source: InnovestX Research

Price	perfo	orma	nce								
	Α	bsolute	Relative to SET								
(%)	1M	3M	12M	1M	3M	12M					
BCP	(9.8)	(17.4)	(11.9)	(5.6)	(8.7)	(4.7)					
ESSO	(7.2)	(9.7)	(11.2)	(2.9)	(0.3)	(4.0)					
IRPC	(11.2)	(21.7)	(32.0)	(7.0)	(13.5)	(26.5)					
PTT	(2.4)	(6.1)	(16.8)	2.2	3.8	(10.0)					
PTTEP	(6.9)	(10.5)	0.0	(2.5)	(1.2)	8.1					
SPRC	(10.8)	(11.6)	(9.2)	(6.6)	(2.4)	(1.8)					
TOP	(13.0)	(17.9)	(17.2)	(8.9)	(9.3)	(10.5)					

Source: SET and InnovestX Research



Source: SET InnovestX Research



Source: SFT InnovestX Research

# Analust

#### Chaipat Thanawattano

Fundamental Investment Analyst on Securities (662) 949-1005 chaipat.thanawattano@scb.co.th



Figure 1: Earnings preview - BCP

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(Btmn)	1Q22	4Q22	1Q23F	%YoY	%QoQ
Sales	69,055	84,583	75,637	9.5	(10.6)
EBITDA	12,852	6,010	11,385	(11.4)	89.4
Net profit	4,356	473	2,328	(46.6)	392.6
EPS (Bt/share)	3.16	0.34	1.69	(46.6)	392.6
Crude run (kbd)	122	123	125	2.1	1.7
Base GRM (US\$/bbl)	6.8	14.7	11.0	60.8	(25.1)
Marketing margin (Bt/litre)	0.6	0.8	0.9	52.5	11.1
EBITDA - power (Bt mn)	3,075	794	402	(86.9)	(49.4)

EBITDA – power (Bt mn) 3,075 Expected result date: **10 May**  **Comment:** BCP's net profit is expected to improve strongly QoQ in 1Q23F without huge asset impairment for the E&P business in Norway and strong sales volume growth at Okea. We also expect inventory loss to be largely offset by oil hedging gain.

We expect operating GRM to fall QoQ on lower crack spread for diesel and jet fuel with total yield of middle distillate products rising to 63% in 1Q23 from 59% in 4Q22, mainly for jet fuel, to accommodate higher domestic demand. This reduced product yield of unconverted oil (UO) to 8% in 1Q23 from 10% in 4Q22 although crack spread of this product remained strong.

Profit contribution from oil marketing is expected to improve QoQ on higher marketing margin (+11% QoQ to Bt0.9/litre) on a lower oil price. Sales volume is expected to slip 5% QoQ from high season in 4Q22.

Earnings contribution from power is expected to fall QoQ from hydropower plants in Laos as the start of electricity to EVN was delayed. This led total electricity sales volume to fall 50% QoQ, though there was a slight offset by seasonally higher electricity sales from solar power plants.

Profit contribution of the natural resources business jumped QoQ in 1Q23 thanks to stronger sales volume which largely offset lower average selling price (-24% QoQ).

Source: Company data and InnovestX Research

Figure 2: Earnings preview - IRPC

(Btmn)	1Q22	4Q22	1Q23F	%YoY	%QoQ
Sales	79,432	57,007	78,946	(0.6)	38.5
EBITDA	7,027	(7,970)	2,271	(67.7)	n.a.
Core profit	(1,300)	(2,857)	1,466	n.a.	n.a.
Net profit	1,501	(7,149)	552	(63.2)	n.a.
EPS (Bt/share)	0.07	(0.35)	0.03	(63.2)	n.a.
Crude run (kbd)	194	119	195	0.5	63.9
Market GIM (US\$/bbl)	7.1	6.5	13.0	83.6	100.0
Expected result date: 9 May					

the month-long planned major turnaround of the oil refinery in 4Q22. This is behind the rise in crude intake run to 195kbd (91%) from 119kbd (55% utilization).

Comment: IRPC's earnings are expected to recover QoQ without

Higher crude intake and higher market GRM is expected to lift market GIM to US\$13/bbl in 1Q23 from US\$6.5/bbl in 4Q22. This will be partly offset by net inventory loss of US\$2/bbl.

With unit cost of US\$14-15/bbl, IRPC's net profit will be weak at only Bt552mn in 1023F.

Source: Company data and InnovestX Research

Figure 3: Earnings preview - SPRC

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(Btmn)	1Q22	4Q22	1Q23F	%YoY	%QoQ
Sales	65,404	65,706	59,265	(9.4)	(9.8)
EBITDA	6,669	(2,147)	1,474	(77.9)	n.a.
Core profit	468	76	736	57.4	874.1
Net profit	5,284	260	1,224	(76.8)	370.6
EPS (Bt/share)	1.22	0.06	0.28	(76.8)	370.6
Crude run (kbd)	150	163	165	9.9	1.2
Market GRM (US\$/bbl)	8.5	5.4	6.5	(23.2)	20.6

Expected result date: 10 May

**Comment:** SPRC's 1Q23F earnings are expected to improve QoQ on higher GRM, which was driven by gasoline crack spread. Despite the persistent high ship-to-ship cost as the SPM remains offline, we expect SPRC's GRM to increase to US\$6.5/bbl in 1Q23.

Although lower oil price will cause some inventory losses in 1Q23, there will be offset from the reversal of net realizable value (NRV) that was booked at end-2022.

We expect operating cost to fall QoQ on seasonal factors in 4Q22 and additional expenses from replacing the catalyst for the Heavy Vacuum Gas Oil Hydrotreating Unit (HVGO HTU) during the 12-13 day planned shutdown in 4Q22.

We expect SPRC to switch back from maximizing yield of middle distillate products to gasoline to accommodate higher demand, following China's reopening.

Source: Company data and InnovestX Research

Figure 4: Earnings preview - TOP

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(Btmn)	1Q22	4Q22	1Q23F	%YoY	%QoQ
Sales	120,882	123,132	115,119	(4.8)	(6.5)
EBITDA	18,687	2,398	8,121	(56.5)	238.7
Core profit	2,025	3,389	5,879	190.3	73.4
Net profit	7,183	147	4,178	(41.8)	2,745.6
EPS (Bt/share)	3.52	0.07	2.05	(41.8)	2,745.6
Utilization - refinery (%)	109%	103%	112%	2.8	8.7
Market GIM (US\$/bbl)	7.6	11.1	11.9	56.6	7.2
Acct. GIM (US\$/bbl)	23.6	1.5	8.6	(63.5)	475.0
P2F - Aromatics (US\$/t)	25	45	110	340.0	144.4
P2F - Lube base oil (US\$/t)	97	184	105	8.2	(42.9)

Expected result date: 10 May

Comment: TOP's 1Q23F earnings are expected to improve strongly QoQ, though weaken YoY. Although we expect TOP to book net inventory loss of Bt3.5bn in 1Q23, it will be partly offset by hedging gain of Bt400mn, mainly on hedging of gasoil (diesel) crack spread.

Market GIM (gross integrated margin) is expected to improve to US\$11.9/bbl on higher market GRM and a drop in crude premium to US\$3/bbl from US\$7/bbl in 4Q22 due to weaker-than-expected fuel consumption in China despite the country's reopening. Crack spread of gasoline was able to support overall GRM despite a weaker crack spread for middle distillates. We estimate an increase in market GRM to US\$9.8/bbl from US\$9.3/bbl in 4Q22.

The oil refinery ran at a higher utilization rate of 112% in 1Q23F after a marginal shutdown of CDU#2 (50kbd) in 4Q22.

Higher aromatics spread QoQ will boost profit contribution. We expect GIM contribution from the segment (including LAB) to go up QoQ to US\$1/bbl vs. +US\$0.8/bbl in 4Q22.

GIM contribution from lube base oil is expected to rise marginally to US\$1.1/bbl in 1Q23 from US\$1/bbl in 4Q22 on higher utilization although product spread stayed weak on higher feedstock cost (fuel oil).

Source: Company data and InnovestX Research



Figure 5: Earnings preview - PTTGC

(Btmn)	1Q22	4Q22	1Q23F	%YoY	%QoQ
Sales	176,767	126,442	119,299	(32.5)	(5.6)
EBITDA	18,440	(1,665)	7,536	(59.1)	n.m.
Core profit	6,236	(1,796)	(41)	n.m.	n.m.
Net profit	4,212	(968)	119	(97.2)	n.m.
EPS (Bt/share)	0.93	(0.21)	0.03	(97.2)	n.m.
CDU utilization rate	101%	56%	100%	(1.0)	44.0
Market GRM (PTTGC)	7.60	9.70	10.20	34.2	5.2
Utilization rate - PE	106%	95%	100%	(6.0)	5.0
Utilization rate - BTX	100%	82%	90%	(10.0)	8.0
P2F margin - aromatics (US\$/t)	48	96	244	408.0	154.0

Expected result date: 10 May

Comment: PTTGC's earnings are expected to turn to the black in 1Q23F with net profit of Bt119mn. We expect operating profit to remain in the red.

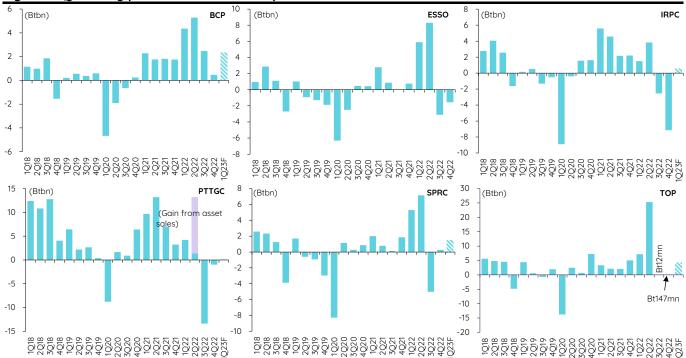
Behind better earnings QoQ will be stronger market GRM and product spread for aromatics, mainly PX. Its oil refinery was fully operational in 1Q23 after a 49-day planned maintenance shutdown in 4Q22. We expect it to record a gain from crack spread hedging of diesel (gasoil) due to weaker crack spread in the spot market and FX gain of Bt570mn. This will be offset by net inventory loss on lower oil price.

Profit contribution from olefins and polymer will remain weak on lower utilization rate from the 59-day planned shutdown of an olefins cracker (450ktpa, 21% of total olefins capacity).

While the performance chemicals segment (mainly allnex) will contribute better profit QoQ after sales volume recovered from low season in 4Q22, this was offset by weak earnings from the intermediate segment (phenol) and JV (PTTAC), where product spreads remained weak due to lower demand from the construction materials industry.

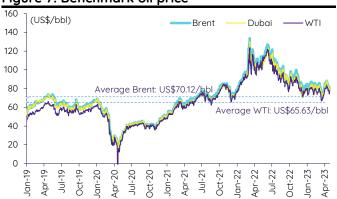
Source: Company data and InnovestX Research





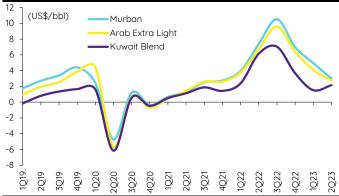
Source: Company data and InnovestX Research

Figure 7: Benchmark oil price



Source: Bloomberg Finance L.P. and InnovestX Research

Figure 8: Crude oil premium/discount



Source: Industry data, Bloomberg Finance L.P. and InnovestX Research

Wed, May 3, 2023

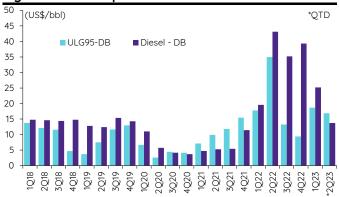


Figure 9: Singapore GRM (hydrocracking)



Source: Reuters and InnovestX Research

Figure 11: Crack spread - Diesel vs. Gasoline



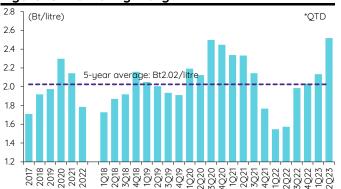
Source: TOP and InnovestX Research

Figure 13: Lube base oil and bitumen spreads



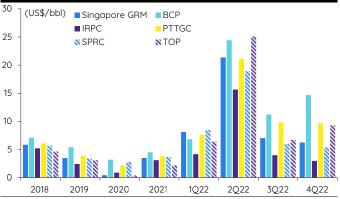
Source: TOP and InnovestX Research

Figure 15: Marketing margin



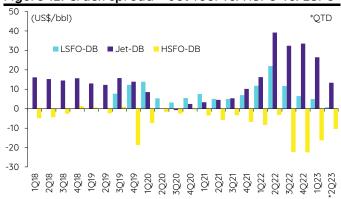
Source: Ministry of Energy and InnovestX Research

Figure 10: Market GRM comparison



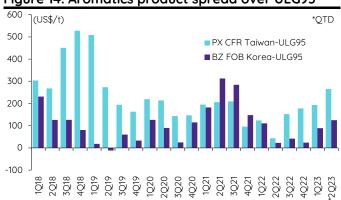
Source: Company data and InnovestX Research

Figure 12: Crack spread - Jet fuel vs. HSFO vs. LSFO



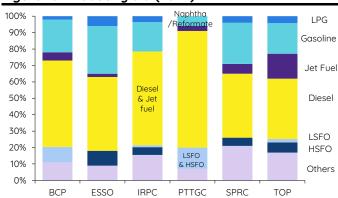
Source: TOP and InnovestX Research

Figure 14: Aromatics product spread over ULG95



Source: TOP and InnovestX Research

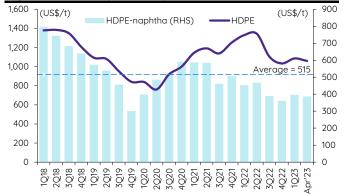
Figure 16: Product yield (2022)



Source: Company data and InnovestX Research

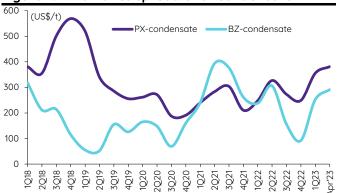






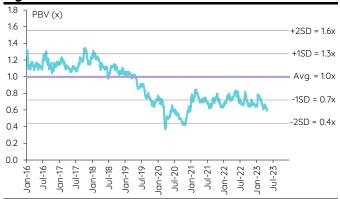
Source: Industry data and InnovestX Research

# Figure 19: Aromatics spread over condensate



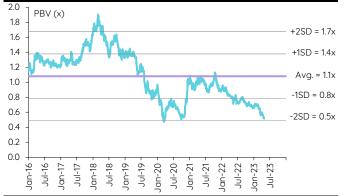
Source: Industry data and InnovestX Research

## Figure 21: BCP - PBV band



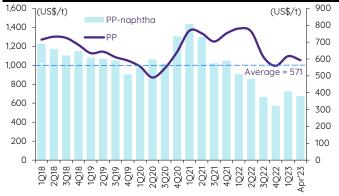
Source: InnovestX Research

Figure 23: IRPC - PBV band



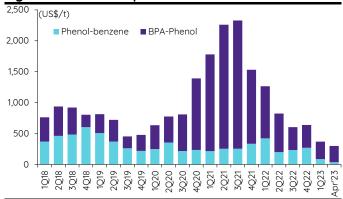
Source: InnovestX Research

Figure 18: PP price & spread



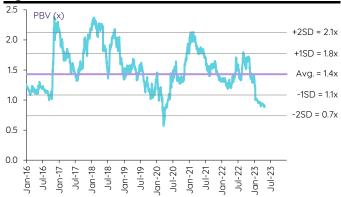
Source: Industry data and InnovestX Research

# Figure 20: Product spread - Phenol & BPA



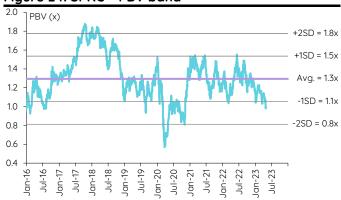
Source: Industry data and InnovestX Research

#### Figure 22: ESSO - PBV band



Source: InnovestX Research

Figure 24: SPRC - PBV band



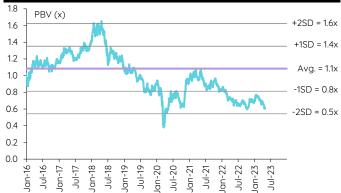
Source: InnovestX Research







Figure 26: PTTGC - PBV band



Source: InnovestX Research

Figure 27: Valuation summary (price as of May 2, 2023)

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	Rating Price Target ETR				P/E (x)		EPS g	EPS growth (%)		P/BV (x)		RC	DE (%)	)	Div. Yield (%)			EV/EBITDA (x)		(x)		
		(Bt/Sh	)(Bt/Sh)	(%)	22A	23F	24F	22A	23F	24F	22A	23F	24F	22A	23F	24F	22A	23F	24F	22A	23F	24F
BCP	Outperform	1 29.75	44.0	57.6	2.2	3.1	4.5	99	(29)	(30)	0.7	0.6	0.5	24	15	9	7.6	9.7	7.1	1.8	1.5	1.3
ESSO	Neutral	8.35	10.3	30.5	3.0	3.9	3.8	114	(22)	2	1.1	0.9	0.8	41	25	21	9.6	7.2	8.4	5.1	5.6	4.6
IRPC	Neutral	2.38	3.9	70.2	17.3	7.8	7.2	(82)	123	9	0.6	0.6	0.6	3	8	8	2.9	6.3	7.1	10.3	6.2	5.6
PTT	Outperform	31.00	48.0	61.9	5.5	7.5	7.4	9	(26)	2	0.8	8.0	0.8	11	7	7	6.5	7.1	7.1	3.4	3.0	2.5
PTTEP	Neutral	148.50	185.0	29.3	6.5	9.5	9.8	112	(32)	(3)	1.3	1.2	1.1	21	13	12	6.2	4.7	4.7	2.2	3.0	3.1
SPRC	Neutral	9.90	12.5	36.4	5.7	5.6	5.4	55	3	3	1.1	1.0	1.0	20	19	18	11.2	10.1	11.1	4.3	3.4	2.8
TOP	Neutral	47.00	76.0	66.0	3.1	7.4	6.9	61	(58)	7	0.6	0.6	0.6	22	9	9	7.9	4.3	4.5	4.4	9.4	8.8
Averag	е				6.2	6.4	6.4	52	(6)	(1)	0.9	0.8	0.7	20	14	12	7.4	7.1	7.1	4.5	4.6	4.1

Source: InnovestX Research

Figure 28: Regional peer comparison

Company	PE (x)		EPS Growth (%)		Р	BV (x)		R	OE (%)		Div.	Yield (%	)	EV/EBITDA (x)				
	23F	24F	25F	23F	24F	25F	23F	24F	25F	23F	24F	25F	23F	24F	25F	23F	24F	25F
Bharat Petroleum	10.0	8.0	6.2	12.4	24.1	30.0	1.3	1.2	1.0	12.1	16.0	n.m.	3.6	4.3	4.6	10.0	7.9	n.a.
Hindustan Petroleum	10.5	4.9	4.9	185.2	112.2	1.3	1.1	1.0	0.7	8.6	20.5	n.m.	5.1	6.4	5.6	n.a.	7.4	n.a.
Indian Oil	10.6	7.4	6.3	29.8	42.5	16.7	0.8	0.8	0.6	9.7	12.3	7.6	6.4	7.7	7.6	8.3	6.4	5.6
Reliance Industries	21.7	19.6	18.4	12.0	11.0	6.4	1.8	1.7	1.7	8.5	8.8	8.8	0.4	0.4	0.6	12.0	10.8	9.9
S-Oil	6.2	6.1	6.4	(33.7)	1.7	(5.6)	0.9	0.8	0.8	16.0	14.9	13.0	4.8	5.0	4.6	4.5	4.3	4.5
SKC	45.4	17.3	10.5	214.3	161.9	65.4	1.9	1.7	1.6	4.4	10.7	16.4	1.1	1.1	1.2	14.7	8.3	6.1
Bangchak Corp	5.2	5.9	5.0	(38.3)	(11.6)	16.9	0.6	0.5	0.5	9.8	8.8	9.0	6.4	6.2	6.9	3.4	3.8	3.8
IRPC	9.8	8.9	6.1	215.7	10.3	45.5	0.6	0.6	0.5	5.2	7.1	8.1	4.3	4.8	5.9	8.7	7.3	6.5
Esso Thailand	4.6	4.9	4.3	(34.7)	(4.2)	11.9	1.0	0.8	0.7	19.1	18.0	15.1	6.0	7.9	9.3	6.9	6.6	6.9
Thai Oil	7.5	7.6	5.3	(59.7)	(1.3)	42.5	0.6	0.6	0.6	8.7	7.9	11.4	5.6	5.3	8.1	8.9	9.2	6.9
Star Petroleum Refining	6.3	6.2	5.7	(11.1)	1.3	9.3	1.0	0.9	0.9	15.3	13.8	13.6	7.3	7.4	7.7	4.9	5.1	5.1
Average	13.7	9.3	7.2	141.0	36.0	21.8	1.1	1.0	0.9	10.2	12.3	11.4	4.5	5.1	5.7	8.2	7.1	6.1

Source: Bloomberg Finance L.P



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## CG Rating 2022 Companies with CG Rating

#### Companies with Excellent CG Scoring

#### Companies with Very Good CG Scoring

2S, 7UP, ABICO, ABM, ACE, ACG, ADB, ADD, AEONTS, AGE, AHC, AIE, AIT, ALUCON, AMANAH, AMR, APCO, APCS, AQUA, ARIN, ARROW, AS, ASAP, ASEFA, ASIA, ASIAN, ASIMAR, ASK, ASN, ATP30, B, BA, BC, BCH, BE8, BEC, SCAP, BH, BIG, BJC, BJCHI, BLA, BR, BRI, BROOK, BSM, BYD, CBG, CEN, CHARAN, CHAYO, CHG, CHOTI, CHOW, CI, CIG, CITY, CIVIL, CMC, CPL, CPW, CRANE, CRD, CSC, CSP, CV, CWT, DCC, DHOUSE, DITTO, DMT, DOD, DPAINT, DV8, EASON, EFORL, ERW, ESSO, ESTAR, FE, FLOYD, FORTH, FSS, FTE, BBX, GCAP, GENCO, GJS, GTB, GYT, HEMP, HPT, HTC, HUMAN, HYDRO, ICN, IFS, IIG, IMH, INET, INGRS, INSET, INSURE, IRCP, IT, ITD, J, JAS, JCK, JCKH, JMT, JR, KBS, KCAR, KIAT, KISS, KK, KOOL, KTIS, KUMWEL, KUN, KWC, KWM, L&E, LDC, LEO, LH, LHK, M, MATCH, MBAX, MEGA, META, MFC, MICRO, MILL, MITSIB, MK, MODERN\*, MTI, NBC, NCAP, NCH, NDR, NETBAY, NEX, NINE, NATION, NNCL, NOVA, NPK, NRF, NTV, NUSA, NWR, OCC, OGC, ONEE, PACO, PATO, PB, PICO, PIMO, PIN, PJW, PL, PLE, PM, PMTA, PPP, PPPM, PRAPAT, PRECHA, PRIME, PRIN, PRINC, PROEN, PROS, PROUD, PSG, PSTC, PT, PTC, QLT, RCL, RICHY, RJH, ROJNA, RPC, RT, RWI, S11, SA, SABUY, SAK, SALEE, SAMCO, SANKO, SAPPE, SAWAD, SCI, SCP, SE, SECURE, SFLEX, SFP, SFT, SGP, SIAM, SINGER, SKE, SKN, SKR, SKY, SLP, SMART, SMD, SMIT, SMT, SNNP, SNP, SO, SPA, SPC, SPCG, SR, SRICHA, SSF, SSP, STANLY, STC, STPI, SUC, SVOA, SVT, SWC, SYNEX, TAE, TAKUNI, TCC, TCMC, TFG, TFI, TFM, TGH, TIDLOR, TIGER, TIPH, TITLE, TM, TMC, TMI, TNI, TNP, TNR, TOG, TPA, TPAC, TPCS, TPIPL, TPIPP, TPLAS, TPS, TQR, TRITN, TRT, TRU, TRV, TSE, TVT, TWP, UBE, UEC, UKEM, UMI, UOBKH, UP, UPF, UTP, VIBHA, VL, VPO, VRANDA, WGE, WIIK, WIIN, WINMED, WORK, WP, XO, YUASA, ZIGA

#### Companies with Good CG Scoring

A, A5, AI, ALL, ALPHAX, AMC, APP, AQ, AU, B52, BEAUTY, BGT, BLAND, BM, BROCK, BSBM, BTNC, CAZ, CCP, CGD, CMAN, CMO, CMR;CPANEL, CPT, CSR, CTW, D, DCON, EKH, EMC, EP, EVER, F&D, FMT, GIFT, GLOCON, GLORY, GREEN, GSC, HL, HTECH, IHL, INOX, JAK, JMART, JSP;JUBILE, KASET, KCM, KWI, KYE, LEE, LPH, MATI, M-CHAI, MCS, MDX, MENA, MJD, MORE, MPIC, MUD, NC, NEWS, NFC, NSL, NV, PAF, PEACE, PF, PK, PPM, PRAKIT, PTL, RAM, ROCK, RP, RPH, RSP, SIMAT, SISB, SK, SOLAR, SPACK, SPG, SQ, STARK, STECH, SUPER, SVH, PTECH, TC;TCCC, TCJ, TEAM, THE, THMUI, TKC;TNH, TNPC, TOPP, TPCH, TPOLY, TRUBB, TTI, TYCN, UMS, UNIQ;UPA, UREKA, VARO, W, WFX, WPH, YGG

#### Corporate Governance Report

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To recognize well performers, the list of companies attaining "Good", "Very Good" and "Excellent" levels of recognition (Not including listed companies qualified in the "no announcement of the results" clause from 1 January 2021 to 27 October 2022) is publicized.

\* บริษัทหรือกรรมการหรือผู้บริหารของบริษัทที่มีข่าวด้านการกำกับดูแลกิจการ เช่น การกระทำผิดเกี่ยวกับหลักทรัพย์ การทุจริต คอร์รัปซัน เป็นต้น ซึ่งการใช้ข้อมูล CGR ควรตร:หนักถึงข่าวดังกล่าวประกอบด้วย

#### Anti-corruption Progress Indicator Certified (ได้รับการรับรอง)

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

#### Declared (ประกาศเจตนารมณ์)

AAI, AH, ASW, BBGI, CBG, CI, CPW, CV, DMT, DOHOME, EKH, EVER, FLOYD, GLOBAL, GREEN, ICN, ITC, J, JAS, JMART, JMT, JTS, LEO, LH, MEGA, MENA, MODERN, NER, OR, OSP, OTO, PRIME, PRTR, RBF, RT, SA, SANKO, SFLEX, SIS, SUPER, SVOA, SVT, TEGH, TGE, TIPH, TKN, TMI, TPLAS, VARO, W, WIN, WPH

#### N/A

24CS, 3K-BAT, A, A5, AAV, ABM, ACAP, ACC, ACE, ACG, ADB, ADD, AEONTS, AFC, AGE, AHC, AIT, AJA, AKR, ALL, ALLA, ALPHAX, ALT, ALUCON, AMARC, AMARIN, AMC, AMR, ANAN, AOT, APCO, APEX, APP, APURE, AQ, AQUA, ARIN, ARIP, ARROW, ASAP, ASEFA, ASIA, ASIMAR, ASN, ATP30, AU, AUCT, AURA, B52, BA, BBIK, BC, BCT, BDMS, BEAUTY, BEM, BGT, BH, BIG, BIOTEC, BIS, BIZ, BJCB, BJCHI, BKD, BLAND, BLESS, BLISS, BM, BOL, BR, BRI, BROCK, BSM, BTG, BTNC, BTW, BUI, BVG, BYD, CAZ, CCET, CCP, CEYE, CGD, CH, CHARAN, CHASE, CHAYO, CHG, CHIC, CHO, CITY, CIVIL, CK, CKP, CMAN, CMO, CMR, CNT, COLOR, COMAN, CPANEL, CPH, CPR, CPT, CRANE, CRD, CSP, CSR, CSS, CTW, CWT, D, DCON, DDD, DEXON, DHOUSE, DITTO, DOD, DPAINT, DTCENT, DTCI, DV8, EASON, EE, EFORL, EMC, ESSO, F&D, FANCY, FE, FMT, FN, FORTH, FTI, FVC, GENCO, GIFT, GL, GLAND, GLOCON, GLORY, GRAMMY, GRAND, GSC, GTB, GTV, GYT, HFT, HL, HPT, HTECH, HUMAN, HYDRO, IFEC, IHL, IIG, IMH, IND, INGRS, INSET, IP, IRCP, IT, ITD, ITNS, ITTHI, JAK, JCK, JCKH, JCT, JDF, JSP, JUBILE, KAMART, KC, KCC, KCM, KDH, KEX, KGEN, KIAT, KISS, KJL, KK, KKC, KLINIQ, KOOL, KTIS, KTMS, KUMWEL, KUN, KWC, KWM, KYE, LALIN, LDC, LEE, LIT, LOXLEY, LPH, LST, MACO, MANRIN, MASTER, MATI, MAX, M-CHAI, MCS, MDX, MEB, METCO, MGC, MGT, MICRO, MIDA, MITSIB, MJD, MK, ML, MORE, MOSHI, MPIC, MTW, MUD, MVP, NATION, NC, NCH, NCL, NDR, NEWS, NEX, NFC, NNCL, NOVA, NPK, NSL, NTSC, NTV, NUSA, NV, NVD, NYT, OHTL, OISHI, ONEE, PACE, PACO, PAF, PCC, PEACE, PERM, PF, PICO, PIN, PJW, PLE, PLT, PLUS, PMTA, POLAR, POLY, POMPUI, PORT, POST, PPM, PGS, PRAKIT, PRAPAT, PRECHA, PRI, PRIN, PRO, PROEN, PROUD, PSG, PTC, PTL, RAM, RCL, READY, RICHY, SH, ROCK, ROH, ROJNA, RP, RPC, RPH, RSP, S, S11, SABUY, SAF, SAFARI, SALEE, SAM, SAMART, SAMCO, SAMTEL, SAUCE, SAWAD, SAWANG, SCAP, SCI, SCP, SDC, SE, SEAFCO, SECURE, SENAJ, SFP, SFT, SGC, SGF, SHANG, SHR, SIAM, SICT, SIMAT, SISB, SJWD, SK, SKE, SKN, SKY, SLM, SLP, SM, SMART, SMD, SMT, SNNP, SO, SOLAR, SONIC, SPA, SPCG, SPG, SPVI, SQ, SR, SSC, SSS, STANLY, STARK, STC, STEC, STECH, STHAI, STI, STP, STP, STP, SUC, SUN, SU

#### **Explanations**

Companies participating in Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC) under Thai Institute of Directors (as of April 17, 2023) are categorised into: companies that have declared their intention to join CAC, and companies certified by CAC.