

Star Petroleum Refining

(SPRC.BK/SPRC TB)*

Outperform • Maintained

Price as of 16 Jul 2024	8.25
12M target price (Bt/shr)	10.00
Unchanged/Revised up(down)(%)	Unchanged
Upside/downside (%)	21.2

Key messages

เมื่อวันที่ 15 กรกฎาคม SPRC แจ้ง SET ว่าบริษัทได้รับการอนุมัติอย่างเป็นทางการเป็นหนังสือจากหน่วยงานกำกับดูแลหลักทรัพย์เปิดใช้งาน SPM ได้ เรามองบวกกับการที่บริษัทกลับมาเปิดใช้งาน SPM ตั้งแต่วันที่ 14 กรกฎาคม โดยเราคาดว่าค่าการกลั่นของ SPRC จะเพิ่มขึ้นเพราะบริษัทไม่ต้องมีค่าใช้จ่ายพิเศษจากการรับน้ำมันดิบแบบ ship-to-ship ประมาณ US\$1.5/bbl (คิดเป็น 21%-30% ของช่วง GRM ปกติที่ US\$5-7/bbl ของบริษัท) อีกต่อไป ทั้งนี้เรายังคงคำแนะนำซื้อ SPRC และยังคงราคาเป้าหมายปี 2567F เอาไว้ที่ 10.00 บาท (ดูบทวิเคราะห์กลุ่มพลังงานของ KGI ที่เผยแพร่เมื่อวันที่ 18 มิถุนายน) อิงจาก EV/EBITDA ที่ 5.0x ถึงแม้เราคาดว่ากำไรจะลดลง QoQ ใน 2Q67F แต่เราเชื่อว่าราคาหุ้นจะได้แรงหนุนจาก i) ข่าวดีจากการกลับมาเปิดดำเนินการ SPM ตั้งแต่วันที่ 14 กรกฎาคม ซึ่งจะทำให้ต้นทุนการกลั่นลดลงและ market GRM ของ SPRC ดีขึ้น และ ii) ค่าการกลั่นที่คาดว่าจะสูงขึ้นใน 3Q67F ดังนั้นเราจึงเพิ่ม SPRC เข้ามาในพอร์ตหุ้นเด่นของเราในกลุ่มพลังงาน

Trading data

Mkt cap (Btbn/US\$m)	35.8/988		
Outstanding shares (mn)	4,336		
Foreign ownership (mn)	3,021		
3M avg. daily trading (mn)	15.0		
52-week trading range (Bt)	7.35 – 9.45		
Performance (%)	3M	6M	12M
Absolute	(1.8)	3.1	1.2
Relative	1.6	7.5	17.1

Quarterly EPS

Bt	1Q	2Q	3Q	4Q
2022	1.22	1.65	(1.16)	0.06
2023	0.28	(0.49)	0.98	(1.06)
2024	0.91			

Share price chart



Source: SET

Kaweewit Thawilwithayanon, CISA
66.2658.8888 Ext. 8847
kaweewitt@kgi.co.th

กลับมาเปิดใช้งาน SPM อีกครั้ง

Event

Conviction call และประมาณการ 2Q67F

Impact

กลับมาเปิดใช้งาน Single Point Mooring (SPM) นอกชายฝั่ง ตั้งแต่วันที่ 14 กรกฎาคม เมื่อวันที่ 15 กรกฎาคม SPRC แจ้ง SET ว่าบริษัทได้รับการอนุมัติอย่างเป็นทางการเป็นหนังสือจากหน่วยงานกำกับดูแลหลักทรัพย์เปิดใช้งาน SPM ได้ โดย SPRC ต้องร่วมมือกับจังหวัดระยองในคณะกรรมการไตรภาคีเพื่ออำนวยความสะดวกให้คณะกรรมการดูแล ติดตาม และตรวจสอบ SPM เป็นเวลาอย่างน้อยหกเดือน เรามองบวกกับการที่บริษัทกลับมาเปิดใช้งาน SPM ตั้งแต่วันที่ 14 กรกฎาคม โดยเราคาดว่าค่าการกลั่นของ SPRC จะเพิ่มขึ้นเพราะบริษัทไม่ต้องมีค่าใช้จ่ายพิเศษจากการรับน้ำมันดิบแบบ ship-to-ship ประมาณ US\$1.5/bbl (คิดเป็น 21%-30% ของช่วง GRM ปกติที่ US\$5-7/bbl ของบริษัท) อีกต่อไป นอกจากนี้ PTT Global Chemical (PTTGC.BK/PTTGC TB)* ยังน่าจะไดอานิสต์จากการกลับมาเปิดใช้งาน SPM ด้วย เพราะ SPRC และ PTTGC ถือหุ้นใน SPM คนละ 50%

คาดว่าจะมีกำไรเล็กน้อยใน 2Q67F ซึ่งดีกว่าที่คาดเอาไว้ก่อนหน้านี้

เราคาดว่ากำไรสุทธิของ SPRC ใน 2Q67F จะอยู่ที่ 59 ล้านบาท (ดีขึ้นจากที่ขาดทุนสุทธิ 2.1 พันล้านบาทใน 2Q66 แต่จะแยกลงจากที่มีกำไรสุทธิ 3.9 พันล้านบาทใน 1Q67) โดยกำไรที่ฟื้นตัวขึ้น YoY จะมาจากกำไรจากสต็อกน้ำมันซึ่งคาดว่าจะอยู่ที่ 611 ล้านบาทใน 2Q67F ดีขึ้นจากที่มีผลขาดทุนจากสต็อกน้ำมัน 1.4 พันล้านบาทใน 2Q66 หลังจากที่เราคำนวณต้นทุนดิบไปเพิ่มขึ้น 5% QoQ เป็น US\$85/bbl ใน 2Q67 ส่วนกำไรที่ลดลงอย่างมาก QoQ จะเป็นเพราะค่าการกลั่นลดลงอย่างมีนัยสำคัญ โดยเราคาดว่า market GRM ของ SPRC จะลดลงถึง 72% QoQ เหลือ US\$2.3/bbl เนื่องจาก spread ของน้ำมันเบนซิน, น้ำมันเครื่องบิน และน้ำมันดีเซลลดลง 27% QoQ เหลือ US\$13.1/bbl, 37% QoQ เหลือ US\$13.2/bbl และ 36% QoQ เหลือ US\$14.8/bbl ตามลำดับ เนื่องจากไตรมาสที่สองเป็นช่วง low season ของตลาดโรงกลั่น นอกจากนี้เรายังคาดว่าอัตราการผลิตน้ำมันดิบของบริษัทจะลดลง 4% QoQ เหลือ 160 KBD คิดเป็นอัตราการใช้กำลังการผลิตที่ 91% เนื่องจากดำเนินการกลั่นที่ระดับ optimal ในช่วงที่ spread ของผลิตภัณฑ์น้ำมันสำเร็จรูปลดลง

Valuation & action

เรายังคงคำแนะนำซื้อ SPRC และยังคงราคาเป้าหมายปี 2567F เอาไว้ที่ 10.00 บาท (ดูบทวิเคราะห์กลุ่มพลังงานของ KGI ที่เผยแพร่เมื่อวันที่ 18 มิถุนายน) อิงจาก EV/EBITDA ที่ 5.0x ถึงแม้เราคาดว่ากำไรจะลดลง QoQ ใน 2Q67F แต่เราเชื่อว่าราคาหุ้นจะได้แรงหนุนจาก i) ข่าวดีจากการกลับมาเปิดดำเนินการ SPM ตั้งแต่วันที่ 14 กรกฎาคม ซึ่งจะทำให้ต้นทุนการกลั่นลดลงและ market GRM ของ SPRC ดีขึ้น และ ii) ค่าการกลั่นที่คาดว่าจะสูงขึ้นใน 3Q67F ดังนั้นเราจึงเพิ่ม SPRC เข้ามาในพอร์ตหุ้นเด่นของเราในกลุ่มพลังงาน

Risks

ความผันผวนของราคาน้ำมันดิบและ GRM รวมถึงการฟ้องเรียกค่าเสียหาย 7.7 พันล้านบาทจากกรณีน้ำมันรั่วของ SPM โดยโจทก์ 832 ราย

Key financials and valuations

	Dec-21A	Dec-22A	Dec-23A	Dec-24F	Dec-25F
Revenue (Bt mn)	172,484	285,264	238,284	266,965	252,836
Gross profit (Bt mn)	6,886	12,432	235	8,619	10,731
EBIT (Bt mn)	6,199	9,703	(938)	7,152	8,522
Net profit (Bt mn)	4,746	7,674	(1,230)	5,503	6,638
EPS (Bt)	1.09	1.77	(0.28)	1.27	1.53
DPS (Bt)	0.18	1.11	0.00	0.76	0.92
EPS growth (%)	N.A.	61.7	N.A.	N.A.	20.6
P/E (x)	9.0	6.0	N.A.	6.5	5.4
P/B (x)	1.2	1.2	1.0	0.9	0.9
EV/EBITDA (x)	5.4	4.6	31.4	4.5	3.2
Net debt to equity (x)	0.1	0.2	0.3	0.2	0.1
Dividend yield (%)	1.8	10.4	0.0	9.2	11.1
Return on avg. equity (%)	15.6	21.0	(3.3)	14.7	16.6

Source: Company data, KGI Securities Research

Figure 1: Expect a 2Q24F net profit of Bt59mn, improving from a net loss of Bt2.1bn in 2Q23 but plunging from a net profit of Bt3.9bn in 1Q24

Bt mn	2Q24F	2Q23	YoY (%)	1Q24	QoQ (%)	1H24F	1H23	YoY (%)
Revenue	67,794	53,883	25.8	70,625	(4.0)	138,419	113,013	22.5
Cost of goods sold	(67,050)	(55,989)	19.8	(65,914)	1.7	(132,964)	(113,096)	17.6
Gross profit	743	(2,106)	N.A.	4,711	(84.2)	5,455	(84)	N.A.
Operating expenses	(650)	(300)	116.4	(666)	(2.4)	(1,316)	(726)	81.4
Other incomes	50	15	237.3	736	(93.2)	786	53	1,377.2
Operating profit	143	(2,391)	N.A.	4,781	(97.0)	4,924	(756)	N.A.
Depreciation of fixed assets	895	634	41.3	894	0.1	1,789	1,258	42.2
Operating EBITDA	1,038	(1,758)	N.A.	5,675	(81.7)	6,713	502	1,237.9
Non-operating Income	-	499	N.A.	-	N.A.	-	501	N.A.
Non-operating Expenses	(120)	(106)	13.2	(118)	2.1	(238)	(200)	19.0
Net investment income/(loss)	50	-	N.A.	48	5.2	98	-	N.A.
Pre-tax profit	73	(1,998)	N.A.	4,711	(98.4)	4,784	(455)	N.A.
Current taxation	(15)	526	N.A.	(976)	(98.5)	(990)	222	N.A.
Minorities	-	-	N.A.	-	N.A.	-	-	N.A.
Extraordinary items	-	(633)	N.A.	208	N.A.	208	(652)	N.A.
Net profit	59	(2,105)	N.A.	3,943	(98.5)	4,002	(886)	N.A.
EPS (Bt)	0.01	(0.49)	N.A.	0.91	(98.5)	0.92	(0.20)	N.A.
Percent	2Q24F	2Q23	YoY (ppts)	1Q24	QoQ (ppts)	1H24F	1H23	YoY (ppts)
Gross profit margin	1.1	(3.9)	5.0	6.7	(5.6)	3.9	(0.1)	4.0
EBITDA margin	1.5	(3.3)	4.8	8.0	(6.5)	4.8	0.4	4.4
Net margin	0.1	(3.9)	4.0	5.6	(5.5)	2.9	(0.8)	3.7

Source: Company data, KGI Securities Research

Figure 2: Key assumptions for 2Q24F earnings

	2Q24F	2Q23	YoY (%)	1Q24	QoQ (%)
Refinery					
Dubai crude (US \$/bbl)	85	78	9.6	81	4.9
Market GRM (US \$/bbl)	2.3	1.3	75.2	8.3	(71.8)
Stock gain/(loss) (Bt mn)	611	(1,392)	N.A.	1,353	(54.9)
Crude run (KBD)	160	159	0.6	167	(4.4)

Source: Company data, KGI Securities Research

ปรับลดประมาณการกำไรลง 21%/14% ในปี 2567F/2568F

จากบทวิเคราะห์กลุ่มพลังงานของ KGI ฉบับวันที่ 18 มิถุนายน เราได้ปรับลดประมาณการกำไรของ SPRC ในปี 2567F ลง 21% เหลือ 5.5 พันล้านบาท และปี 2568F ลง 14% เหลือ 6.6 พันล้านบาท เนื่องจากค่าการกลั่นลดลง โดยเราปรับลด market GRM ของ SPRC ลง 11% เป็น US\$6.8/bbl ในปีนี้ และ 2% เป็น US\$8.0/bbl ในปีหน้า หลังจากที่เราปรับลดสมมติฐาน spread ของน้ำมันเครื่องบินและน้ำมันดีเซลในปี 2567F ลง 10-15% เหลือ US\$17.0/18.0/bbl เพราะ spread ของทั้งสองผลิตภัณฑ์ใน 2Q67 ต่ำกว่าที่เราคาดเอาไว้ก่อนหน้านี้ นอกจากนี้ เราปรับเพิ่มสมมติฐานราคาน้ำมันดิบยุโรปปี 2567F/2568F จาก US\$75/70/bbl เป็น US\$81/75/bbl เนื่องจาก OPEC+ ตกลงที่จะขยายเวลาการลดอุปทานโดยสมัครใจ i) 3.66 MBD จากเดิมถึงสิ้นปี 2567 เป็นสิ้นปี 2568 และ ii) 2.2 MBD จากเดิมสิ้นเดือนมิถุนายน 2567 เป็นสิ้นเดือนกันยายน 2567

Figure 3: Changes in key assumptions for 2024F-2025F

Our assumptions	2024F			2025F		
	Previous	Revised	Change (%)	Previous	Revised	Change (%)
Benchmark						
Dubai crude (US \$/bbl)	75	81	8.0	70	75	7.1
Gasoline spread (US \$/bbl)	13.0	14.0	7.7	13.0	13.0	0.0
Jet oil spread (US \$/bbl)	20.0	17.0	(15.0)	20.0	20.0	0.0
Diesel spread (US \$/bbl)	20.0	18.0	(10.0)	20.0	20.0	0.0
HSFO spread (US \$/bbl)	(10.0)	(7.5)	25.0	(10.0)	(10.0)	0.0
Murban crude premium (US \$/bbl)	3.0	2.0	(33.3)	3.0	3.0	0.0
Refinery						
Market GRM (US \$/bbl)	7.6	6.8	(11.2)	8.2	8.0	(2.2)
Stock gain/(loss) (Bt mn)	-	213	N.A.	-	-	N.A.
Crude run (KBD)	165	165	0.0	170	170	0.0
Income statement						
Earnings (Bt mn)	6,972	5,503	(21.1)	7,726	6,638	(14.1)

Source: Company data, KGI Securities Research

Figure 4: Key assumptions for SPRC

	2021	2022	2023	2024F	2025F
Benchmark					
Dubai crude (US \$/bbl)	69	96	82	81	75
Gasoline spread (US \$/bbl)	11.1	18.8	16.7	14.0	13.0
Jet oil spread (US \$/bbl)	5.8	30.3	22.5	17.0	20.0
Diesel spread (US \$/bbl)	6.7	34.3	21.9	18.0	20.0
HSFO spread (US \$/bbl)	(4.9)	(14.1)	(10.3)	(7.5)	(10.0)
Murban crude premium (US \$/bbl)	1.8	7.2	3.2	2.0	3.0
Refinery					
Market GRM (US \$/bbl)	3.7	9.6	4.4	6.8	8.0
Crude run (KBD)	135	156	153	165	170

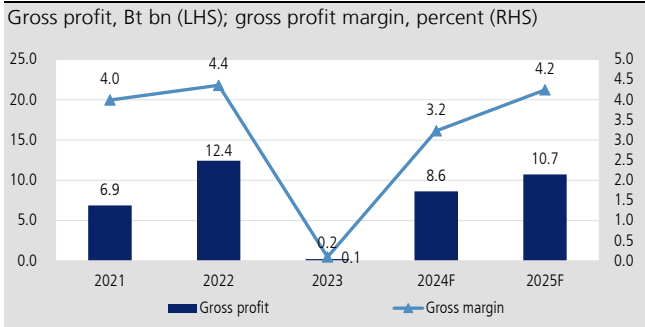
Source: Company data, KGI Securities Research

Figure 5: Company profile

Star Petroleum Refining (SPRC)'s refinery, which has capacity of 165KBD, produces all petroleum products without petrochemical products. Its own refinery is designed to maximize gas oil at about 35% product yield. In addition, the company could be Thailand's largest gasoline producer (around 23% product yield) and domestic gasoline supply from the company accounts for a third of gasoline consumption in the country.

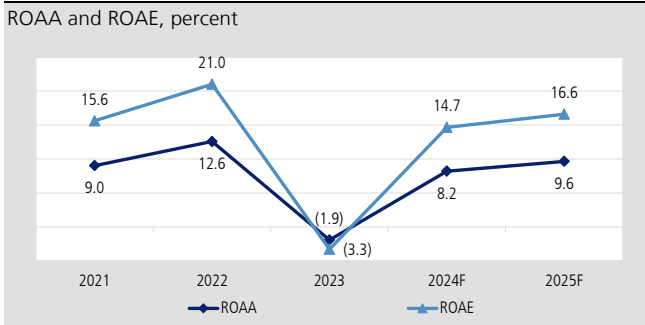
Source: Company data, KGI Securities Research

Figure 7: Gross profit



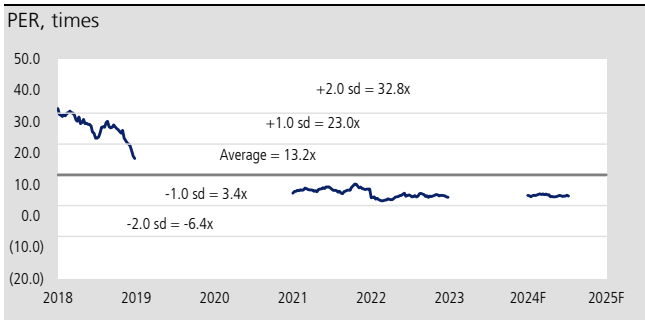
Source: Company data, KGI Securities Research

Figure 9: Company ROAA and ROAE



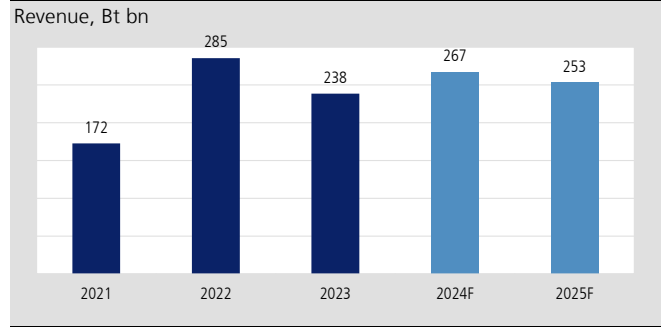
Source: Company data, KGI Securities Research

Figure 11: Company trading PER



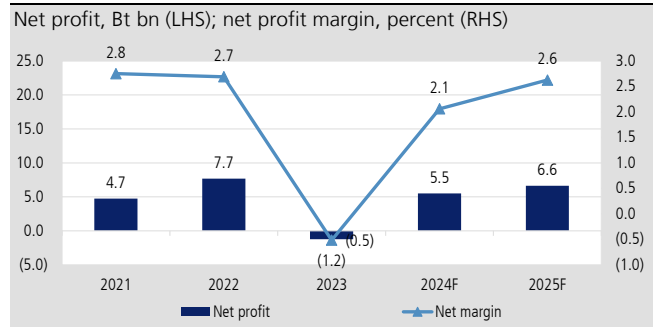
Source: KGI Securities Research

Figure 6: Revenue



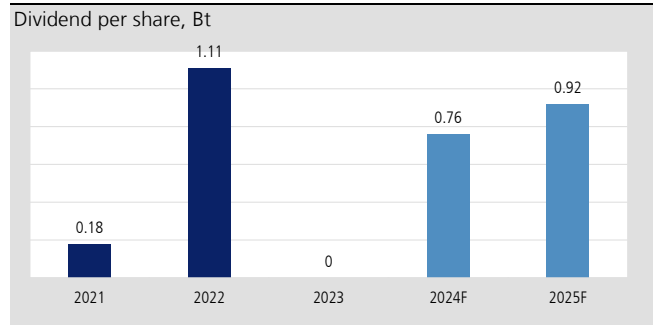
Source: Company data, KGI Securities Research

Figure 8: Net profit



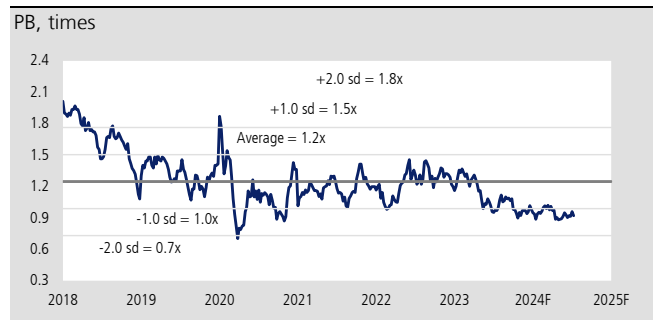
Source: Company data, KGI Securities Research

Figure 10: Dividend



Source: Company data, KGI Securities Research

Figure 12: Company trading PB



Source: KGI Securities Research

Quarterly Income Statement

(Bt mn)	Mar-22A	Jun-22A	Sep-22A	Dec-22A	Mar-23A	Jun-23A	Sep-23A	Dec-23A	Mar-24A	Jun-24F
Income Statement (Bt mn)										
Revenue	65,404	78,008	76,146	65,706	59,130	53,883	61,107	64,164	70,625	67,794
Cost of Goods Sold	(57,333)	(68,069)	(81,416)	(66,015)	(57,108)	(55,989)	(55,368)	(69,584)	(65,914)	(67,050)
Gross Profit	8,071	9,939	(5,270)	(309)	2,022	(2,106)	5,739	(5,420)	4,711	743
Operating Expenses	(1,683)	(318)	(333)	(457)	(425)	(300)	(259)	(328)	(666)	(650)
Other incomes	16	14	16	17	38	15	40	46	736	50
Operating Profit	6,404	9,635	(5,587)	(749)	1,635	(2,391)	5,520	(5,702)	4,781	143
Depreciation of fixed assets	616	636	674	676	624	634	635	706	894	895
Operating EBITDA	7,020	10,271	(4,913)	(72)	2,259	(1,758)	6,155	(4,997)	5,675	1,038
Non-Operating Income	0	0	0	583	1	499	0	0	0	0
Interest Income	0	0	0	0	0	0	0	0	0	0
Other Non-op Income	0	0	0	583	1	499	0	0	0	0
Non-Operating Expenses	(268)	(395)	(264)	(141)	(94)	(106)	(56)	(112)	(118)	(120)
Interest Expenses	(41)	(58)	(77)	(141)	(94)	(106)	(56)	(112)	(118)	(120)
Other Non-op Expenses	(228)	(337)	(187)	0	0	0	0	0	0	0
Net Investment Income/(Loss)	0	0	0	0	0	0	0	0	48	50
Pre-tax Profit	6,136	9,240	(5,850)	(307)	1,543	(1,998)	5,464	(5,814)	4,711	73
Current Taxation	(1,321)	(1,782)	1,257	(75)	(305)	526	(1,056)	1,129	(976)	(15)
Minorities	0	0	0	0	0	0	0	0	0	0
Extraordinary items	470	(302)	(433)	642	(19)	(633)	(163)	96	208	0
Net Profit	5,284	7,156	(5,027)	260	1,219	(2,105)	4,245	(4,589)	3,943	59
EPS (Bt)	1.22	1.65	(1.16)	0.06	0.28	(0.49)	0.98	(1.06)	0.91	0.01
Margins										
Gross profit margin	12.3	12.7	(6.9)	(0.5)	3.4	(3.9)	9.4	(8.4)	6.7	1.1
Operating EBIT margin	9.8	12.4	(7.3)	(1.1)	2.8	(4.4)	9.0	(8.9)	6.8	0.2
Operating EBITDA margin	10.7	13.2	(6.5)	(0.1)	3.8	(3.3)	10.1	(7.8)	8.0	1.5
Net profit margin	8.1	9.2	(6.6)	0.4	2.1	(3.9)	6.9	(7.2)	5.6	0.1
Growth										
Revenue growth	77.0	87.8	84.9	24.4	(9.6)	(30.9)	(19.7)	(2.3)	19.4	25.8
Operating EBIT growth	145.6	808.2	N.A.	N.A.	(74.5)	N.A.	N.A.	(661.6)	192.4	N.A.
Operating EBITDA growth	113.1	479.9	N.A.	N.A.	(67.8)	N.A.	N.A.	(6,808)	151	N.A.
Net profit growth	163.5	825.3	N.A.	(86.0)	(76.9)	N.A.	N.A.	N.A.	223.5	N.A.

Source: Company data, KGI Securities Research

Balance Sheet

As of 31 Dec (Bt mn)	2021	2022	2023	2024F	2025F
Total Assets	58,726	63,288	65,660	68,502	69,134
Current Assets	32,731	38,258	41,699	41,891	45,478
Cash & ST Investments	2,945	76	471	1,481	7,421
Inventories	16,486	23,762	23,736	22,650	21,226
Accounts Receivable	13,219	14,328	17,286	17,554	16,625
Others	81	92	207	207	207
Non-current Assets	25,995	25,030	23,961	26,610	23,656
LT Investments	0	0	0	0	0
Net fixed Assets	24,219	22,735	21,241	23,890	20,936
Others	1,776	2,295	2,720	2,720	2,720
Total Liabilities	24,355	24,581	29,198	29,839	27,815
Current Liabilities	20,031	23,904	27,971	18,612	16,588
Accounts Payable	13,961	12,780	14,156	16,279	15,256
ST Borrowings	4,680	9,731	12,483	1,000	0
Others	1,390	1,393	1,332	1,332	1,332
Long-term Liabilities	4,324	677	1,227	11,227	11,227
Long-term Debts	3,374	0	0	10,000	10,000
Others	950	677	1,227	1,227	1,227
Shareholders' Equity	34,371	38,707	36,462	38,663	41,318
Common Stock	30,004	30,004	30,004	30,004	30,004
Capital Surplus	(3,230)	(1,631)	(1,996)	(1,996)	(1,996)
Retained Earnings	7,596	10,333	8,453	10,654	13,310
Preferred Stock	0	0	0	0	0

Source: KGI Securities Research

Key Ratios

Year to 31 Dec (Bt mn)	2021	2022	2023	2024F	2025F
Forecast Drivers					
Growth (% YoY)					
Sales	32.5	65.4	(16.5)	12.0	(5.3)
OP	N.A.	56.5	N.A.	N.A.	19.2
EBITDA	N.A.	39.4	(87.6)	557.6	20.8
NP	N.A.	61.7	N.A.	N.A.	20.6
EPS	N.A.	61.7	N.A.	N.A.	20.6
Profitability (%)					
Gross Margin	4.0	4.4	0.1	3.2	4.2
Operating Margin	3.6	3.4	(0.4)	2.7	3.4
EBITDA Margin	5.1	4.3	0.6	3.7	4.8
Net Profit Margin	2.8	2.7	(0.5)	2.1	2.6
ROAA	9.0	12.6	(1.9)	8.2	9.6
ROAE	15.6	21.0	(3.3)	14.7	16.6
Stability					
Gross Debt/Equity (%)	23.4	25.1	34.2	28.5	24.2
Net Debt/Equity (%)	14.9	24.9	32.9	24.6	6.2
Interest Coverage (x)	28.9	31.3	(3.2)	15.5	20.3
Interest & ST Debt Coverage (x)	1.3	1.0	(0.1)	5.0	20.3
Cash Flow Interest Coverage (x)	17.9	0.5	0.4	25.5	27.0
Cash Flow/Interest & ST Debt (x)	0.8	0.0	0.0	8.2	27.0
Current Ratio (x)	1.6	1.6	1.5	2.3	2.7
Quick Ratio (x)	0.8	0.6	0.6	1.0	1.5
Net Debt (Bt mn)	5,109	9,655	12,012	9,519	2,579
Per Share Data (Bt)					
EPS	1.1	1.8	(0.3)	1.3	1.5
CFPS	0.9	0.0	0.0	2.8	2.7
BVPS	7.9	8.9	8.4	8.9	9.5
SPS	--	--	--	--	--
EBITDA/Share	2.0	2.8	0.4	2.3	2.8
DPS	0.2	1.1	0.0	0.8	0.9
Activity					
Asset Turnover (x)	3.3	4.7	3.7	4.0	3.7
Days Receivables	28.0	18.3	26.5	24.0	24.0
Days Inventory	36.3	31.8	36.4	32.0	32.0
Days Payable	8.4	4.7	5.9	6.3	6.3
Cash Cycle	55.9	45.4	56.9	49.7	49.7

Source: KGI Securities Research

Profit & Loss

Year to 31 Dec (Bt mn)	2021	2022	2023	2024F	2025F
Revenue	172,484	285,264	238,284	266,965	252,836
Cost of Goods Sold	(165,598)	(272,833)	(238,049)	(258,346)	(242,105)
Gross Profit	6,886	12,432	235	8,619	10,731
Operating Expenses	(749)	(2,791)	(1,312)	(2,212)	(2,278)
Other incomes	62	63	139	745	69
Operating Profit	6,199	9,703	(938)	7,152	8,522
Depreciation of fixed assets	2,644	2,603	2,599	3,599	3,635
Operating EBITDA	8,843	12,306	1,660	10,751	12,157
Non-Operating Income	0	0	501	0	0
Interest Income	0	0	0	0	0
Other Non-op Income	0	0	501	0	0
Non-Operating Expenses	(645)	(485)	(367)	(473)	(430)
Interest Expenses	(212)	(316)	(367)	(473)	(430)
Other Non-op Expenses	(433)	(169)	0	0	0
Net Investment Income/(Loss)	0	0	0	200	206
Pre-tax Profit	5,554	9,218	(805)	6,879	8,298
Current Taxation	(1,166)	(1,921)	294	(1,376)	(1,660)
Minorities	0	0	0	0	0
Extraordinary items	359	376	(719)	0	0
Net Profit	4,746	7,674	(1,230)	5,503	6,638
EPS (Bt)	1.09	1.77	(0.28)	1.27	1.53

Source: KGI Securities Research

Cash Flow

Year to 31 Dec (Bt mn)	2021	2022	2023	2024F	2025F
Operating Cash Flow	3,782	156	132	12,044	11,603
Net Profit	4,746	7,674	(1,230)	5,503	6,638
Depreciation & Amortization	2,644	2,603	2,599	3,599	3,635
Change in Working Capital	(5,999)	(9,565)	(1,556)	2,942	1,330
Others	2,390	(555)	320	0	0
Investment Cash Flow	(103)	(278)	(776)	(6,248)	(680)
Net CAPEX	(103)	(278)	(784)	(6,248)	(680)
Change in LT Investment	0	0	0	0	0
Change in Other Assets	0	0	8	0	0
Free Cash Flow	3,679	(123)	(651)	5,796	10,923
Financing Cash Flow	(2,369)	(2,747)	1,038	(4,785)	(4,983)
Change in Share Capital	3,240	1,599	(365)	0	0
Net Change in Debt	(2,183)	1,677	2,753	(1,483)	(1,000)
Change in Other LT Liab.	(3,425)	(6,022)	(1,349)	(3,302)	(3,983)
Net Cash Flow	1,310	(2,869)	395	1,011	5,939

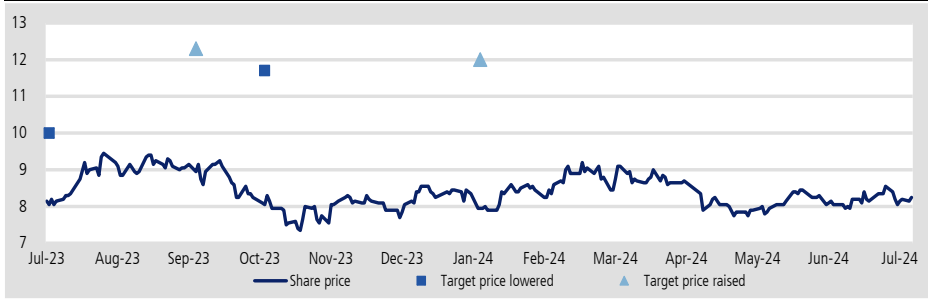
Source: KGI Securities Research

Rates of Return on Invested Capital

Year	1- $\frac{\text{COGS}}{\text{Revenue}}$	+ $\frac{\text{Depreciation}}{\text{Revenue}}$	+ $\frac{\text{Operating Exp.}}{\text{Revenue}}$	= Operating Margin
2021	94.5%	1.5%	0.4%	3.6%
2022	94.7%	0.9%	1.0%	3.4%
2023	98.8%	1.1%	0.6%	-0.5%
2024F	95.4%	1.3%	0.8%	2.4%
2025F	94.3%	1.4%	0.9%	3.3%
Year	1/ $\frac{\text{Working Capital}}{\text{Revenue}}$	+ $\frac{\text{Net PPE}}{\text{Revenue}}$	+ $\frac{\text{Other Assets}}{\text{Revenue}}$	= Capital Turnover
2021	0.07	0.14	0.01	4.46
2022	0.05	0.08	0.01	7.24
2023	0.06	0.09	0.01	6.32
2024F	0.09	0.09	0.01	5.35
2025F	0.11	0.08	0.01	4.81
Year	Operating Margin	x Capital Turnover	x Cash Tax Rate	= After-tax Return on Inv. Capital
2021	3.6%	4.5	80.3	12.7
2022	3.4%	7.2	80.0	19.6
2023	-0.5%	6.3	80.7	-2.3
2024F	2.4%	5.4	80.0	10.3
2025F	3.3%	4.8	80.0	12.9

Source: KGI Securities Research

Star Petroleum Refining - Recommendation & target price history



Source: KGI Securities Research

Company's ESG details

Environment

- SPRC has set long-term goals for sustainable water management by setting goals to reduce the amount of crude water from external sources per total crude oil consumption by 5% by 2025, using the data of 2020 as the basic value. The company has established a water management plan each year using the 3Rs (Reduce, Reuse and Recycle) technique to reduce water consumption, increasing reused and recycled water by brainstorming ideas from technical groups, process group and the office to find ways to reduce water consumption continuously.
- SPRC emphasizes appropriate waste management with a key focus on managing waste in accordance with the 3Rs principle, including aiming to minimize waste to be disposed at landfills with a goal of "Zero Waste to Landfill". This involves considerations from the process of raw materials selection, production processes, and supporting processes that generate waste, as well as consideration of the disposing management. Effective waste management from the source ensures that the waste is treated with suitable methods, leading to maximum benefits in various forms. This approach helps prevent potential adverse environmental and community-related consequences, which the company categorizes as a top priority. Additionally, appropriate waste management contributes to reducing waste disposal costs of the company as well.
- In 2022, there were two recordable spills that are reviewed to improve the company's ability to reach its target. Environmental regulations were not breached, prompt responses were carried out, and lessons learnt were applied to prevent reoccurrence. *Recordable spill definition is any oil spill on water or greater than 1 barrel (bbl) spill on land or water.

Social

- The company is committed to respecting human rights and freedom for all employees. Starting from the beginning, talent sourcing process, hiring of forced labor and child labor are strictly banned as referred to in recruitment guidelines. The company prohibits discrimination against hiring, reward, promotion, and access training based on gender, race, religion, or political opinion. They treat all employees fairly in terms of wages and working hours to ensure that they have the right to an adequate standard of living.
- Attracting, developing, and retaining the best talent is vital to the company's long-term success. It develops employee capability to grow in their career path by providing equal access to skills development, broaden experiences in various forms of job assignment including succession planning and secondment opportunities with major shareholder, Chevron. In 2023, a total number of 32 employees were hired and developed to prepare for the retirement pipeline according to succession planning.
- SPRC allocates a scholarship fund totaling Bt0.46mn to students in 38 communities and in 17 fishery groups. This initiative aims to support and enhance educational opportunities for children continuously, and importantly, alleviate the financial burden on families in need. Additionally, SPRC provides support for equipment and tools for educational purposes, including various educational activities in schools and educational institutions in Rayong province. These efforts aim to encourage students from communities to pursue learning opportunities and foster closer relationships between the community and schools.

Governance

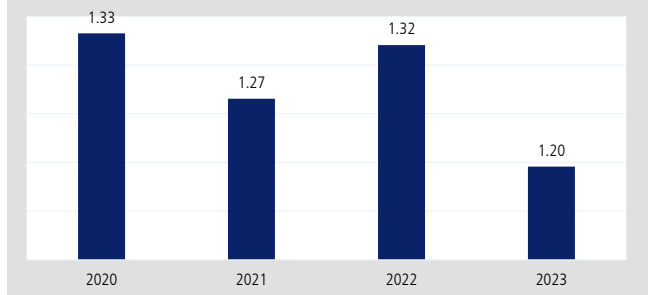
- SPRC maintains annual "Excellent" CG scoring From Thai Institute of Directors Association (IOD).

Climate Management (Subset of Environment)

- As a leading refiner and producer of petroleum in Thailand. SPRC aims to participate in combating climate change under the slogan "One Caring Family Energizing Our Future". The following are the main contributions: distribute petroleum products in a safe and reliable manner to support the moving forward and growth of the country's economy and become a part of reducing the impact of climate change.
- SPRC cooperated with Chevron, a world-leading refiner, to study and establish continuous improvements to improve energy efficiency and reduce greenhouse gas emissions. Including new projects about renewable energy/clean energy, carbon capture and storage, etc. SPRC had monitored energy usage and report the performance regularly to SPRC management.
- SPRC released direct greenhouse gas (GHG) emissions (Scope 1 & 2) of 1.20mn tons of CO₂ equivalent in 2023, dropping YoY from 1.32mn tons of CO₂ equivalent in 2022.

Source: Company data, KGI Securities Research

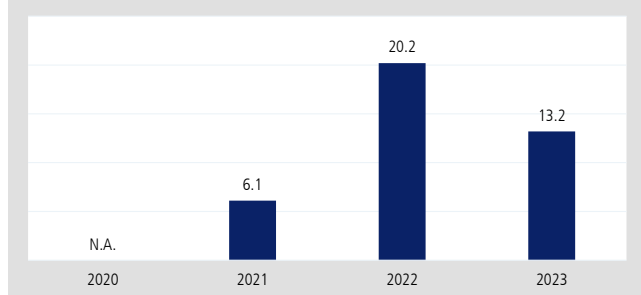
Total GHG emissions

 GHG emissions, mn tons of CO₂e


Source: Company data, SETSMART, KGI Securities Research

Total electricity consumption

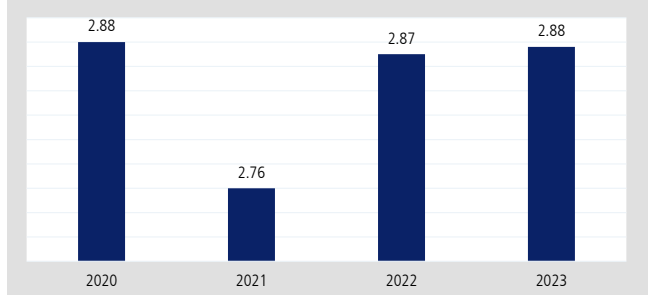
Electricity consumption, MWh



Source: Company data, SETSMART, KGI Securities Research

Total water consumption

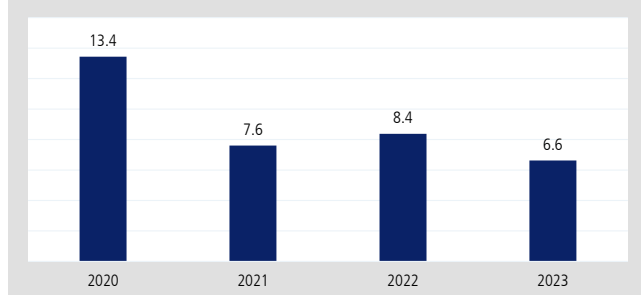
Water consumption, mn cubic meters



Source: Company data, SETSMART, KGI Securities Research

Total waste

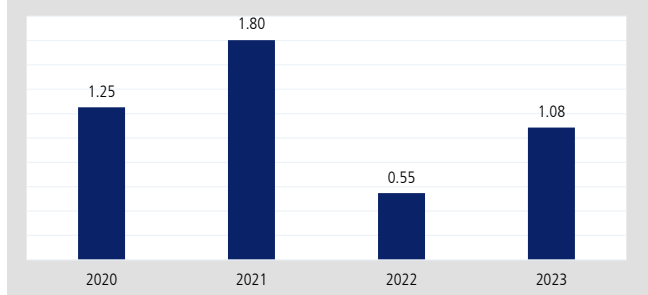
Waste generated, k tons



Source: Company data, SETSMART, KGI Securities Research

Employee turnover

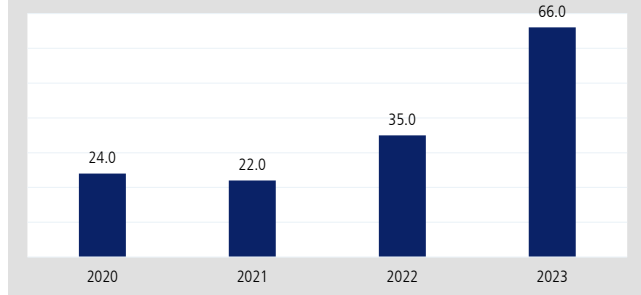
Employee turnover, percent



Source: Company data, SETSMART, KGI Securities Research

Average employee training hour

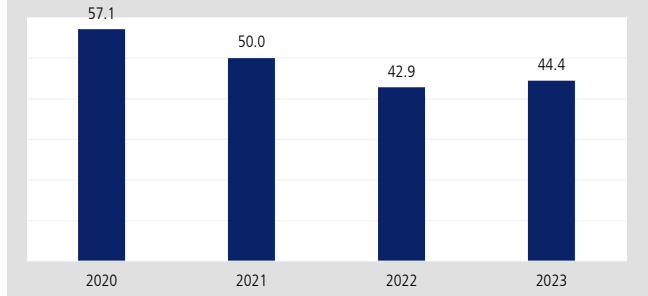
Average employee training hour, hours per person per year



Source: Company data, SETSMART, KGI Securities Research

Proportion of independent directors

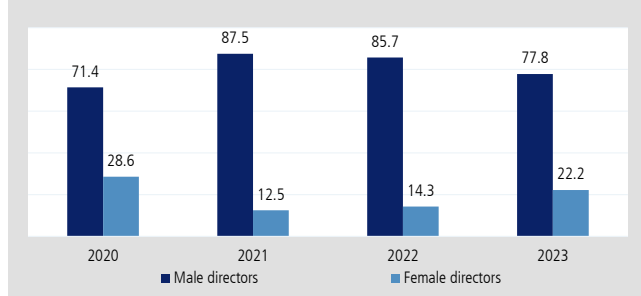
Independent directors, percent



Source: Company data, SETSMART, KGI Securities Research

Gender diversification of directors

Gender diversification, percent



Source: Company data, SETSMART, KGI Securities Research

SET ESG Ratings

Stock	Company name	SET ESG Ratings	Stock	Company name	SET ESG Ratings
ADVANC	ADVANCED INFO SERVICE	AAA	KTC	KRUNGTHAI CARD	AAA
AMATA	AMATA CORPORATION	AAA	LH	LAND AND HOUSES	A
AOT	AIRPORTS OF THAILAND	A	MAJOR	MAJOR CINEPLEX GROUP	AA
AP	AP (THAILAND)	AA	MEGA	MEGA LIFESCIENCES	A
BAFS	BANGKOK AVIATION FUEL SERVICES PCL.	AA	MINT	MINOR INTERNATIONAL	AA
BAM	BANGKOK COMMERCIAL ASSET MANAGEMEN	AA	MTC	MUANGTHAI CAPITAL	A
BANPU	BANPU	AAA	OR	PTT OIL AND RETAIL BUSINESS	AAA
BBGI	BBGI	AA	ORI	ORIGIN PROPERTY	AA
BBL	BANGKOK BANK	AA	OSP	OSOTSPA	AA
BCH	BANGKOK CHAIN HOSPITAL	AA	PLANB	PLAN B MEDIA	AA
BCP	BANGCHAK CORPORATION	AAA	PSH	PRUKSA HOLDING	BBB
BCPG	BCPG	AA	PTT	PTT	AAA
BDMS	BANGKOK DUSIT MEDICAL SERVICES	AA	PTTEP	PTT EXPLORATION AND PRODUCTION	AAA
BEM	BANGKOK EXPRESSWAY AND METRO	AA	PTTGC	PTT GLOBAL CHEMICAL	AAA
BGRIM	B.GRIMM POWER	AAA	RATCH	RATCH GROUP	AA
BPP	BANPU POWER	AAA	RBF	R&B FOOD SUPPLY	BBB
BTS	BTS GROUP HOLDINGS	AA	SAK	SAKSIAM LEASING	A
CBG	CARABAO GROUP	A	SAPPE	SAPPE	BBB
CENTEL	CENTRAL PLAZA HOTEL	A	SAT	SOMBOON ADVANCE TECHNOLOGY	AA
CK	CH. KARNCHANG	A	SAWAD	SRISAWAD CORPORATION	BBB
CKP	CK POWER	AAA	SCB	SCB X	AA
COM7	COM7	A	SCC	THE SIAM CEMENT	AAA
CPALL	CP ALL	AAA	SCCC	SIAM CITY CEMENT	AA
CPAXT	CP AXTRA	AAA	SCGP	SCG PACKAGING	AAA
CPF	CHAROEN POKPHAND FOODS	AAA	SHR	S HOTELS AND RESORTS	A
CPN	CENTRAL PATTANA	AA	SICT	SILICON CRAFT TECHNOLOGY	A
EGCO	ELECTRICITY GENERATING	AA	SMPC	SAHAMITR PRESSURE CONTAINER	AA
ERW	THE ERWAN GROUP	A	SNC	SNC FORMER	A
GFPT	GFPT	BBB	SPALAI	SUPALAI	AA
GLOBAL	SIAM GLOBAL HOUSE	AA	STEC	SINO-THAI ENGINEERING AND CONSTRUCTION	A
GPSC	GLOBAL POWER SYNERGY	AA	STGT	SRI TRANG GLOVES (THAILAND)	AAA
GULF	GULF ENERGY DEVELOPMENT	AA	TCAP	THANACHART CAPITAL	A
HANA	HANA MICROELECTRONICS	AA	TFG	THAIFOODS GROUP	A
HENG	HENG LEASING AND CAPITAL	A	THCOM	THAICOM	AAA
HMPRO	HOME PRODUCT CENTER	AA	TISCO	TISCO FINANCIAL GROUP	AAA
INTUCH	INTOUCH HOLDINGS	AA	TOP	THAI OIL	AAA
IRPC	IRPC	AA	TTB	TMBTHANACHART BANK	AA
IVL	INDORAMA VENTURES	AA	UBE	UBON BIO ETHANOL	A
KBANK	KASIKORNBANK	AAA	VGI	VGI	AA
KEX	KERRY EXPRESS (THAILAND)	BBB	WHA	WHA CORPORATION	AAA
KKP	KIATNAKIN PHATRA BANK	BBB	WHAUP	WHA UTILITIES AND POWER	AAA
KTB	KRUNG THAI BANK	AAA	ZEN	ZEN CORPORATION GROUP	AA

Source: www.setsustainability.com

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

Corporate Governance Report of Thai Listed Companies



Companies with Excellent CG Scoring

Stock	Company name	Stock	Company name	Stock	Company name
AAV	ASIA AVIATION	GFPT	GFPT	SAK	SAKSIAM LEASING
ADVANC	ADVANCED INFO SERVICE	GGC	GLOBAL GREEN CHEMICALS	SAPPE	SAPPE
AEONTS	AEON THANA SINSAP (THAILAND)	GLOBAL	SIAM GLOBAL HOUSE	SAT	SOMBOON ADVANCE TECHNOLOGY
AMA	AMA MARINE	GPSC	GLOBAL POWER SYNERGY	SCB	SCB X
AMATA	AMATA CORPORATION	GULF	GULF ENERGY DEVELOPMENT	SCC	THE SIAM CEMENT
ANAN	ANANDA DEVELOPMENT	HANA	HANA MICROELECTRONICS	SCCC	SIAM CITY CEMENT
AOT	AIRPORTS OF THAILAND	HENG	HENG LEASING AND CAPITAL	SCGP	SCG PACKAGING
AP	AP (THAILAND)	HMPRO	HOME PRODUCT CENTER	SEAFKO	SEAFKO
BAFS	BANGKOK AVIATION FUEL SERVICES PCL.	INTUCH	INTOUCH HOLDINGS	SFT	SHRINKFLEX (THAILAND)
BAM	BANGKOK COMMERCIAL ASSET MANAGEMENT	IRPC	IRPC	SHR	S HOTELS AND RESORTS
BANPU	BANPU	ITC	i-Tail Corporation	SICT	SILICON CRAFT TECHNOLOGY
BBGI	BBGI	IVL	INDORAMA VENTURES	SMPC	SAHAMITR PRESSURE CONTAINER
BBL	BANGKOK BANK	KBANK	KASIKORNBANK	SNC	SNC FORMER
BCH	BANGKOK CHAIN HOSPITAL	KCE	KCE ELECTRONICS	SNNP	SRINANAPORN MARKETING
BCP	BANGCHAK CORPORATION	KEX	KERRY EXPRESS (THAILAND)	SPALI	SUPALAI
BCPG	BCPG	KKP	KIATNAKIN PHATRA BANK	SPRC	STAR PETROLEUM REFINING
BDMS	BANGKOK DUSIT MEDICAL SERVICES	KTB	KRUNG THAI BANK	STEC	SINO-THAI ENGINEERING AND CONSTRUCTION
BEC	BEC WORLD	KTC	KRUNGTHAI CARD	STGT	SRI TRANG GLOVES (THAILAND)
BEM	BANGKOK EXPRESSWAY AND METRO	LH	LAND AND HOUSES	SUN	SUNSWEEP
BGRIM	B.GRIMM POWER	LPN	L.P.N. DEVELOPMENT	SVI	SVI
BH	BUMRUNGRAD HOSPITAL	M	MK RESTAURANT GROUP	TACC	T.A.C. CONSUMER
BPP	BANPU POWER	MAJOR	MAJOR CINEPLEX GROUP	TCAP	THANACHART CAPITAL
BTS	BTS GROUP HOLDINGS	MBK	MBK	TFG	THAIFOODS GROUP
CBG	CARABAO GROUP	MEGA	MEGA LIFESCIENCES	THCOM	THAICOM
CENTEL	CENTRAL PLAZA HOTEL	MINT	MINOR INTERNATIONAL	TIDLOR	NGERN TID LOR
CK	CH. KARNCHANG	MTC	MUANGTHAI CAPITAL	TISCO	TISCO FINANCIAL GROUP
CKP	CK POWER	OR	PTT OIL AND RETAIL BUSINESS	TKN	TAOKAENOI FOOD & MARKETING
COM7	COM7	ORI	ORIGIN PROPERTY	TOP	THAI OIL
CPALL	CP ALL	OSP	OSOTSPA	TTB	TMBTHANACHART BANK
CPAXT	CP AXTRA	PLANB	PLAN B MEDIA	UBE	UBON BIO ETHANOL
CPF	CHAROEN POKPHAND FOODS	PSH	PRUKSA HOLDING	VGI	VGI
CPN	CENTRAL PATTANA	PTT	PTT	WHA	WHA CORPORATION
DELTA	DELTA ELECTRONICS (THAILAND)	PTTEP	PTT EXPLORATION AND PRODUCTION	WHAUP	WHA UTILITIES AND POWER
DOHOM	DOHOME	PTTGC	PTT GLOBAL CHEMICAL	ZEN	ZEN CORPORATION GROUP
EGCO	ELECTRICITY GENERATING	QH	QUALITY HOUSES		
ERW	THE ERAWAN GROUP	RATCH	RATCH GROUP		



Companies with Very Good CG Scoring

Stock	Company name	Stock	Company name	Stock	Company name
BSRC	BANGCHAK SRIRACHA	JMART	JAYMART GROUP HOLDINGS	SINGER	SINGER THAILAND
BTG	BETAGRO	NTSC	Nutrition SC	TNP	THANAPIRIYA
EKH	EKACHAI MEDICAL CARE	POS	Premier Quality Starch	XO	EXOTIC FOOD
HUMAN	HUMANICA	PYLON	PYLON		



Companies with Good CG Scoring

Stock	Company name	Stock	Company name	Stock	Company name
IIG	I&I GROUP	SAWAD	SRISAWAD CORPORATION	SPA	SIAM WELLNESS GROUP
JMT	JMT NETWORK SERVICES	SMD	SAINTMED		

Companies classified Not in the three highest score groups

Stock	Company name	Stock	Company name	Stock	Company name
AU	AFTER YOU	PJW	PANJAWATTANA PLASTIC	TGE	THACHANG GREEN ENERGY
CHG	CHULARAT HOSPITAL	PLT	Pilatus Marine	TPCH	TPC POWER HOLDING
LPH	LADPRAO GENERAL HOSPITAL	PTG	PTG ENERGY	TU	THAI UNION GROUP
MENA	MENA TRANSPORT	SFLEX	STARFLEX		
NETBAY	NETBAY	SISB	SISB		

Source: www.thai-iod.com

Disclaimer: The disclosure of the survey result of the Thai Institute of Directors Association ("IOD") regarding corporate governance is made pursuant to the policy of the Office of the Securities and Exchange Commission. The survey of the IOD is based on the information of a company listed on the Stock Exchange of Thailand and the Market for Alternative Investment disclosed to the public and able to be accessed by a general public investor. The result, therefore, is from the perspective of a third party. It is not an assessment of operation and is not based on inside information. The survey result is as of the date appearing in the Corporate Governance Report of Thai Listed Companies. As a result, the survey result may be changed after that date or when there is any change to the relevant information. Nevertheless, KGI Securities (Thailand) Public Company Limited (KGI) does not confirm, verify, or certify the accuracy and completeness of such survey result.

Anti-corruption Progress Indicator

Level 5: Extended

Stock	Company name	Stock	Company name	Stock	Company name
ADVANC	ADVANCED INFO SERVICE	GLOBAL	SIAM GLOBAL HOUSE	QH	QUALITY HOUSES
ANAN	ANANDA DEVELOPMENT	GPSC	GLOBAL POWER SYNERGY	RATCH	RATCHABURI ELECTRICITY GENERATING HOLDING
BBL	BANGKOK BANK	HMPRO	HOME PRODUCT CENTER	ROBINS	ROBINSON DEPARTMENT STORE
BCH	BANGKOK CHAIN HOSPITAL	IRPC	IRPC	SCC	THE SIAM CEMENT
BDMS	BANGKOK DUSIT MEDICAL SERVICES	KBANK	KASIKORN BANK	SIRI	SANSIRI
BIGC	BIG C SUPERCENTER	KCE	KCE ELECTRONICS	SPALI	SUPALAI
CK	CH. KARNCHANG	KKP	KIATNAKIN BANK	STEC	SINO-THAI ENGINEERING AND CONSTRUCTION
DCC	DYNASTY CERAMIC	KTB	KRUNG THAI BANK	TCAP	THANACHART CAPITAL
DELTA	DELTA ELECTRONICS (THAILAND)	LPH	LADPRAO GENERAL HOSPITAL	TISCO	TISCO FINANCIAL GROUP
DRT	DIAMOND ROOFING TILES	PACE	PACE DEVELOPMENT CORPORATION	TMT	THAI METAL TRADE
EGCO	ELECTRICITY GENERATING	PTT	PTT	TOP	THAI OIL
GFPT	GFPT	PTTGC	PTT GLOBAL CHEMICAL		

Level 4: Certified

Stock	Company name	Stock	Company name	Stock	Company name
AAV	ASIA AVIATION	ERW	THE ERAWAN GROUP	SAPPE	SAPPE
AP	ASIAN PROPERTY DEVELOPMENT	GLOW	GLOW ENERGY	SAWAD	SRISAWAD POWER 1979
BA	BANGKOK AIRWAYS	GUNKUL	GUNKUL ENGINEERING	SCB	THE SIAM COMMERCIAL BANK
BANPU	BANPU	ILINK	INTERLINK COMMUNICATION	SCN	SCAN INTER
BCP	THE BANGCHAK PETROLEUM	KTC	KRUNGTHAI CARD	SEAFSCO	SEAFSCO
BH	BUMRUNGRAD HOSPITAL	LH	LAND AND HOUSES	SVI	SVI
BJCHI	BJC HEAVY INDUSTRIES	LPN	L.P.N. DEVELOPMENT	TASCO	TIPCO ASPHALT
CBG	CARABAO GROUP	MAKRO	SIAM MAKRO	TKN	TAOKAENOI FOOD & MARKETING
CENTEL	CENTRAL PLAZA HOTEL	MALEE	MALEE SAMPRAN	TMB	TMB BANK
CHG	CHULARAT HOSPITAL	MINT	MINOR INTERNATIONAL	TRT	TIRATHAI
CKP	CK POWER	MODERN	MODERNFORM GROUP	TRUE	TRUE CORPORATION
CPF	CHAROEN POKPHAND FOODS	NOK	NOK AIRLINES	TVO	THAI VEGETABLE OIL
CPN	CENTRAL PATTANA	PTTEP	PTT EXPLORATION AND PRODUCTION		
DTAC	TOTAL ACCESS COMMUNICATION	PYLON	PYLON		

Level 3: Established

Stock	Company name	Stock	Company name	Stock	Company name
BEM	BANGKOK EXPRESSWAY AND METRO	MTLS	MUANGTHAI LEASING	SPRC	STAR PETROLEUM REFINING
CPALL	CP ALL	SCI	SCI ELECTRIC		

No progress

Stock	Company name	Stock	Company name	Stock	Company name
AOT	AIRPORTS OF THAILAND	BPP	BANPU POWER	FN	FN FACTORY OUTLET
BPCG	BPCG	BTS	BTS GROUP HOLDINGS	TPCH	TPC POWER HOLDING

Source: www.cgthailand.org

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

KGI Locations

China	Shanghai	Room 2703B-2704, Tower A , Shanghai Dawning Centre,500 Hongbaoshi Road Shanghai, PRC 201103
	Shenzhen	Room 24D1, 24/F, A Unit, Zhen Ye Building, 2014 Bao'annan Road, Shenzhen, PRC 518008
Taiwan	Taipei	700 Mingshui Road, Taipei, Taiwan Telephone 886.2.2181.8888 • Facsimile 886.2.8501.1691
Hong Kong		41/F Central Plaza, 18 Harbour Road, Wanchai, Hong Kong Telephone 852.2878.6888 Facsimile 852.2878.6800
Thailand	Bangkok	195 One Bangkok Tower 4 18th - 19th floors Witthayu Road Lumpini, Pathumwan, Bangkok 10330, Thailand Telephone 66.2658.8888 Facsimile 66.2658.8014
Singapore		4 Shenton Way #13-01 SGX Centre 2 Singapore 068807 Telephone 65.6202.1188 Facsimile 65.6534.4826

KGI's Ratings

Rating	Definition
Outperform (OP)	The stock's excess return over the next twelve months is ranked in the top 40% of KGI's coverage universe in the related market (e.g. Taiwan)..
Neutral (N)	The stock's excess return over the next twelve months is ranked in the range between the top 40% and the bottom 40% of KGI's coverage universe in the related market (e.g. Taiwan)
Under perform (U)	The stock's excess return over the next twelve months is ranked in the bottom 40% of KGI's coverage universe in the related market (e.g. Taiwan).
Not Rated (NR)	The stock is not rated by KGI.
Restricted (R)	KGI policy and/or applicable law regulations preclude certain types of communications, including an investment recommendation, during the course of KGI's engagement in an investment banking transaction and in certain other circumstances. Excess return = 12M target price/current price-
Note	When an analyst publishes a new report on a covered stock, we rank the stock's excess return with those of other stocks in KGI's coverage universe in the related market. We will assign a rating based on its ranking. If an analyst does not publish a new report on a covered stock, its rating will not be changed automatically.

Disclaimer

KGI Securities (Thailand) Plc. ("The Company") disclaims all warranties with regards to all information contained herein. In no event shall the Company be liable for any direct, indirect or any damages whatsoever resulting from loss of income or profits, arising by utilization and reliance on the information herein. All information hereunder does not constitute a solicitation to buy or sell any securities but constitutes our sole judgment as of this date and are subject to change without notice.