



# Management's Discussion and Analysis of Financial Condition and Result of Operations

Star Petroleum Refining Public Company Limited  
For Quarter 2/2022 and 6 months ended June 2022

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## 1. Company's Operating Result

(US\$ Million)	Q2/22	Q1/22	+/(-)	Q2/21	+/(-)	6M/22	6M/21	+/(-)
Total Revenue	2,254	1,967	287	1,318	937	4,222	2,531	1,690
EBITDA	278	218	60	56	222	496	163	333
Adjusted EBITDA <sup>(1)</sup>	223	96	127	9	214	319	26	293
(Loss) gain on foreign exchange	(18)	7	(26)	(0)	(18)	(11)	(2)	(9)
Net income	206	159	48	25	182	365	91	275
Net income (US\$ per share)	0.05	0.04	0.01	0.01	0.04	0.08	0.02	0.06
Accounting gross refining margin (US\$/barrel) <sup>(2)</sup>	22.93	20.61	2.32	6.64	16.29	21.80	8.66	13.14
Market gross refining margin (US\$/barrel) <sup>(3)</sup>	18.92	8.46	10.46	2.65	16.27	13.82	3.09	10.72

Crude intake (thousand barrels/day)	156.0	150.2	5.8	135.3	20.7	153.1	136.2	17.0
Crude intake Utilization	89%	86%	3%	77%	12%	88%	78%	10%

(Baht Million)	Q2/22	Q1/22	+/(-)	Q2/21	+/(-)	6M/22	6M/21	+/(-)
Total Revenue	78,008	65,404	12,604	41,545	36,463	143,412	78,489	64,924
EBITDA	9,632	7,262	2,369	1,759	7,872	16,894	5,005	11,888
Adjusted EBITDA <sup>(1)</sup>	7,732	3,191	4,541	273	7,459	10,882	765	10,117
(Loss) gain on foreign exchange	(639)	242	(881)	(12)	(627)	(397)	(60)	(338)
Net income	7,156	5,284	1,872	773	6,383	12,440	2,779	9,661
Net income (Baht per share)	1.65	1.22	0.43	0.18	1.47	2.87	0.64	2.23

<sup>(1)</sup> Adjusted EBITDA refers EBITDA excluding Stock gain/loss, net NRV and Extra item

<sup>(2)</sup> margin includes inventory gain/loss based on weighted average inventory cost.

<sup>(3)</sup> margin is calculated based on current replacement cost.

Exchange rate (Baht/US\$)	Q2/22	Q1/22	+/(-)	Q2/21	+/(-)	6M/22	6M/21	+/(-)
Average FX	34.60	33.23	1.37	31.53	3.07	33.89	30.98	2.91
Closing FX	35.46	33.46	2.01	32.22	3.24	35.46	32.22	3.24

The Ukraine-Russia conflict continued to have an impact to tight supply while the growth in demand following the relaxation of travel restrictions in many countries and the start of the U.S. summer driving season caused a rise in crude oil prices and strong margin in this quarter. In Q2/22, the utilization rate for the crude intake was 156 thousand barrels per day, or equivalent to 89% of its refining capacity, increased from 150 thousand barrels per day in Q1/22 and SPRC maintained crude and product optimizations to maximize domestic demand.

The greater EBITDA and net income of US\$206 million in Q2/22 compared to US\$159 million in Q1/22, a 30% increase, was mostly due to the enhanced market refining margin and stock gain of US\$57 million in this quarter from an increase in oil price. The market refining margin improved considerably from US\$8.46/bbl in Q1/22 to US\$18.92/bbl in Q2/22, owing to extremely strong product cracks, particularly in middle distillate products, mainly from supply constraints as well as stronger demand. Total operating expenditures decreased from the prior quarter expenses, mainly from the expenses and provision related to the SPM incident of US\$42 million in Q1/22. A significant depreciation of Baht against US\$ during the quarter resulted in a foreign exchange loss of US\$18 million.

Compared to Q2/22 with Q2/21, sales revenue increased 71%, mainly from an increase in product prices and strong domestic demand due to the resumption of more economic activities and more travel compared to the

previous year quarter during the COVID-19 pandemic. EBITDA, EBIT and net profit in Q2/22 were higher due to the significantly high refining margin in Q2/22 of US\$18.92/bbl compared to US\$2.65/bbl in Q2/21.

Compared 6M/22 with 6M/21, sales revenue increased 67%, which was impacted by significantly higher oil prices and an increase in sales volume. A notable EBITDA, EBIT and net earnings in 6M/22 were mainly due to strong margin and high stock gain after oil prices increased in this period. NIAT in 6M/22 was US\$365 million, considerably increased over the previous period of US\$91 million in 6M/21. Excluding stock gain or loss, 6M/22 market gross refining margin improved to US\$13.82/bbl, compared to US\$3.09/bbl in 6M/21 due to a greater crack spread of main products during the first half of the year.

## 2. Market Condition

Pricing	Q2/22	Q1/22	+ / (-)	Q2/21	+ / (-)
Dubai crude oil	108.22	96.21	12.01	67.02	41.20
Light Naphtha (MOPJ)	97.03	98.05	-1.02	67.38	29.65
Gasoline (premium)	143.36	114.03	29.33	76.91	66.45
Jet Fuel	147.84	112.74	35.10	71.51	76.33
Diesel	151.83	116.08	35.75	72.26	79.57
Fuel Oil	104.67	87.96	16.72	61.21	43.46

Spread over Dubai	Q2/22	Q1/22	+ / (-)	Q2/21	+ / (-)
Light Naphtha (MOPJ)	-11.19	1.83	-13.03	0.36	-11.55
Gasoline (premium)	35.14	17.82	17.32	9.89	25.25
Jet Fuel	39.62	16.53	23.09	4.49	35.13
Diesel	43.60	19.87	23.74	5.24	38.36
Fuel Oil	-3.55	-8.26	4.71	-5.81	2.26

Average Dubai price for Q2/22 was US\$108.22/bbl increased from US\$96.21/bbl in Q1/22. Crude price spike in Q2/22 at rising refinery crude run, and the refineries get back from scheduled spring turnaround. On the supply side, imposed of the ban of Russian crude oil resulted to supply tightness has had a major impact on crude prices. However, Prices have been limited by the massive strategic stocks releases by the USA and many (non-US) IEA members and the concern on demand destruction from high oil price and economic recession.

Gasoline spread over Dubai in Q2/22 increased to US\$35.14/bbl. The gasoline cracks continuously rose largely due to recovery of demand on the easing of mobilities restriction and release of pent-up travel demand. Meanwhile, driving activity in Asia (excluding China) has surpassed pre-pandemic levels since May 2022. Robust Gasoline demand on the back of loosening mobility restrictions continues to offer broad fundamental support for the market, but high prices and inflationary prices continue to weigh on demand. Global light distillate inventory levels in 5 key areas are at their lowest below the five years average except Amsterdam-Rotterdam-Antwerp (ARA) while Singapore are at the upper end of their historic ranges.

Naphtha spread over Dubai in Q2/22 significantly decreased to US\$-11.19/bbl. The naphtha crack flipped into negative territory since the second half of March driven by weak demand from plan and unplanned cracker outages, continued to fuel the bearishness in Asian naphtha fundamentals. In addition, more competitive LPG price among Asian and European crackers added further downward pressure to regional naphtha demand.

Jet and diesel crack spreads over Dubai extremely increased from previous quarter to be US\$39.62/bbl and US\$43.60/bbl respectively. Gasoil crack continued their climb throughout Q2/22 supported by mounting of supply concern particularly in Europe led to fuel global gasoil margins and Global middle distillate stocks remain at extremely low levels. Robust manufacturing activities apart from China also supported the Asian demand recovery. Further tightening the middle distillate in Asia is about strong recovery in Jet fuel demand (excluding China) due to many countries are further easing their border control measures, including key air hub Singapore and tourist attractions such as Thailand, Indonesia, and Vietnam. Moreover, strong recovery in air travel demand in Europe was supported Jet fuel outflows from Asia. This made the arbitrage economics to ship Jet fuel from North Asia to the West. Global middle distillate inventory levels in 5 key areas were extremely low levels. Singapore middle distillate stocks increased by 11% Q-o-Q to 7.9 million barrels, but below 5 years average due to supply tightness as well as recovering manufacturing activities.

Fuel oil spread over Dubai in Q2/22 was US\$-3.55/bbl, which was higher than Q1/22. In April 2022, there was supply concern over HSFO availability due to chlorides contamination has supported the cracks. However, HSFO cracks felt further during May to June from Russia's HSFO exports to Asia and the Middle East continued to increase as Europe continued to phase out Russian imports ahead the EU sanctions deadlines. Increasing refinery run provided additional supply to the market. Singapore onshore fuel oil inventories slightly decreased by 1% Q-o-Q to 20.8 million barrels.

Extremely strong of main refined product crack supported significantly increase in Q2/22 margin. SPRC's average market refining margin in Q2/22 was US\$18.92/bbl, which is higher as compared to US\$8.46/bbl in Q1/22. The stronger demand in Thailand particularly in Diesel with continued recovery of manufacturing and industrial supported SPRC to step up refinery throughput to capture extremely high margins period.

### 3. Financial Performance

#### Financial Results

	US\$ Million			US\$ Million		US\$ Million		
	Q2/22	Q1/22	+ / (-)	Q2/21	+ / (-)	6M/22	6M/21	+ / (-)
Total Revenue	2,254	1,967	287	1,318	937	4,222	2,531	1,690
Cost of sales	(1,968)	(1,725)	(243)	(1,276)	(692)	(3,692)	(2,396)	(1,296)
<b>Gross profit</b>	<b>287</b>	<b>242</b>	<b>44</b>	<b>42</b>	<b>245</b>	<b>529</b>	<b>135</b>	<b>394</b>
Other income	0	0	(0)	0	(0)	1	1	0
(Loss) gain on exchange rate	(9)	14	(23)	(1)	(8)	6	8	(2)
Administrative expenses	(9)	(51)	42	(8)	(1)	(60)	(16)	(44)
Finance costs	(2)	(1)	(0)	(2)	0	(3)	(3)	1
Fair value (loss) gain on derivatives	(10)	(7)	(3)	1	(10)	(17)	(9)	(7)
Income tax	(51)	(40)	(12)	(7)	(44)	(91)	(24)	(67)
<b>Net income</b>	<b>206</b>	<b>159</b>	<b>48</b>	<b>25</b>	<b>182</b>	<b>365</b>	<b>91</b>	<b>275</b>

	Baht Million			Baht Million		Baht Million		
	Q2/22	Q1/22	+ / (-)	Q2/21	+ / (-)	6M/22	6M/21	+ / (-)
Total Revenue	78,008	65,404	12,604	41,545	36,463	143,412	78,489	64,924
Cost of sales	(68,069)	(57,333)	(10,736)	(40,230)	(27,839)	(125,402)	(74,342)	(51,061)
<b>Gross profit</b>	<b>9,939</b>	<b>8,071</b>	<b>1,868</b>	<b>1,315</b>	<b>8,624</b>	<b>18,010</b>	<b>4,147</b>	<b>13,863</b>
Other income	14	16	(2)	13	1	30	26	4
(Loss) gain on exchange rate	(302)	470	(772)	(29)	(273)	167	227	(59)
Administrative expenses	(318)	(1,683)	1,364	(267)	(51)	(2,001)	(505)	(1,496)
Finance costs	(58)	(41)	(17)	(53)	(5)	(98)	(106)	8
Fair value (loss) gain on derivatives	(337)	(228)	(109)	17	(354)	(565)	(286)	(279)
Income tax	(1,782)	(1,321)	(461)	(222)	(1,559)	(3,103)	(724)	(2,379)
<b>Net income</b>	<b>7,156</b>	<b>5,284</b>	<b>1,872</b>	<b>773</b>	<b>6,383</b>	<b>12,440</b>	<b>2,779</b>	<b>9,661</b>

## Production Volumes

Petroleum products	Q2/22	Q1/22	Q2/21	Thousands barrels	
				6M/22	6M/21
Polymer Grade Propylene	324	380	408	704	851
Liquefied Petroleum Gas	636	628	599	1,263	1,248
Light Naphtha	953	904	817	1,857	1,575
Gasoline	3,785	4,119	3,784	7,904	7,697
Jet Fuel	1,043	466	294	1,509	605
Diesel	6,057	5,816	5,335	11,872	10,457
Fuel Oil	822	750	526	1,572	1,003
Asphalt	188	237	237	425	381
Mix C4	465	520	506	985	1,076
Other <sup>(1)</sup>	1,343	1,315	1,022	2,658	2,107
<b>Total production</b>	<b>15,615</b>	<b>15,134</b>	<b>13,528</b>	<b>30,749</b>	<b>27,002</b>

<sup>(1)</sup> Includes sulfur and reformat and products sold pursuant to our cracker feed exchange.

## Total Sales Revenue

Petroleum products <sup>(1)</sup>	Q2/22	Q1/22	Q2/21	US\$ Million	
				6M/22	6M/21
Polymer Grade Propylene	29	35	35	64	72
Liquefied Petroleum Gas	47	44	27	91	60
Light Naphtha	85	88	55	173	102
Gasoline	669	611	442	1,280	853
Jet Fuel	146	40	23	186	36
Diesel	1,008	834	578	1,842	1,100
Fuel Oil	49	67	30	116	54
Asphalt	19	25	16	43	27
Mix C4	52	61	39	113	81
Crude	-	29	0	29	1
Others <sup>(2)</sup>	152	134	73	286	145
<b>Total Revenue</b>	<b>2,254</b>	<b>1,967</b>	<b>1,318</b>	<b>4,222</b>	<b>2,531</b>

<sup>(1)</sup> Includes Government LPG and oil subsidies.

<sup>(2)</sup> Includes sulfur, reformat and products sold pursuant to our cracker feed exchange.

Sales revenue in Q2/22 increased 15% from Q1/22 due to an increase in average oil prices but this was partially offset by a slightly lower sales volume of 15.6 million barrels in Q2/22 compared to 15.8 million barrels in Q1/22 due to a weaker gasoline demand from higher product prices. Lower gasoline demand was compensated by jet sales volume amid the recovery in international aviation demand after relaxation of Covid measures. Besides, diesel sales volume also increased, primarily from supply tightness owing to turnaround season in other refineries and the EU embargo on Russian oil products.

Comparing Q2/22 with Q2/21, sales revenue increased 71%, which was impacted by significantly higher oil prices and an increase in sales volume, which increased from 14.3 million barrels in Q2/21 to 15.6 million barrels in Q2/22.

Similarly, sales revenue for 6M/22 also significantly increased 67% compared to 6M/21 from 28.0 million barrels to 31.4 million barrels.

The table presents breakdown of revenues from sales of petroleum products to company's customers.

Customer	Q2/22	Q1/22	Q2/21	6M/22	6M/21
Chevron	40%	40%	47%	39%	46%
PTT & PTTOR	46%	45%	38%	46%	38%
Other oil and petrochemical companies	14%	15%	15%	15%	16%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

### **Cost of Sales**

As a result of higher sale volume and crude price in Q2/22, the cost of sales increased 14% compared to prior quarter. The increase in cost of sales was in line with the increase in sales revenue due to higher domestic demand from economic recovery in this quarter.

Comparing Q2/22 to Q2/21, cost of sales in Q2/22 increased 54% which reflected from oil price significantly rose in this quarter and also higher in sales volume compared with the same quarter in prior year.

Cost of sales in 6M/22 increased 54% from 6M/21. The increase in cost of crude oil on weighted average inventory and also higher in sales volume compared with the same period in prior year.

### **Gain / (loss) on Foreign Exchange and Financial Derivatives**

Thai Baht depreciated against the US dollar in line with regional currencies during Q2/22 which resulted to exchange loss (including derivatives) of US\$18 million in Q2/22 comparing to exchange gain of US\$7 million in Q1/22.

Comparing Q2/22 to Q2/21, there were exchange loss in both quarter of US\$18 million in Q2/22 and US\$0.4 million in Q2/21. Value of Baht declined in Q2/22 which resulted in exchange loss when SPRC has net Baht denominated receivables.

Comparing 6M/22 to 6M/21, Thai Baht value continued to decline due to US dollar strengthening on interest rate hike to control the inflation rate which impacted to exchange loss of US\$11 million, higher than the same period of prior year of US\$2 million.

### **Administrative Expenses**

Comparing Q2/22 with Q1/22 and Q2/21, administrative expenses was US\$9 million in Q2/22, significantly down from US\$51 million in Q1/22, and compared to US\$8 million in Q2/21. High administrative expenses in Q1/22 was a result of the expenses and its provision related to SPM incident of US\$42 million in Q1/22. There was a minor additional expense related to SPM incident of US\$2 million in Q2/22.

Comparing 6M/22 with 6M/21, administrative expense significantly increased from US\$16 million in 6M/21 to US\$60 million in 6M/22 due to the expenses related to SPM incident.

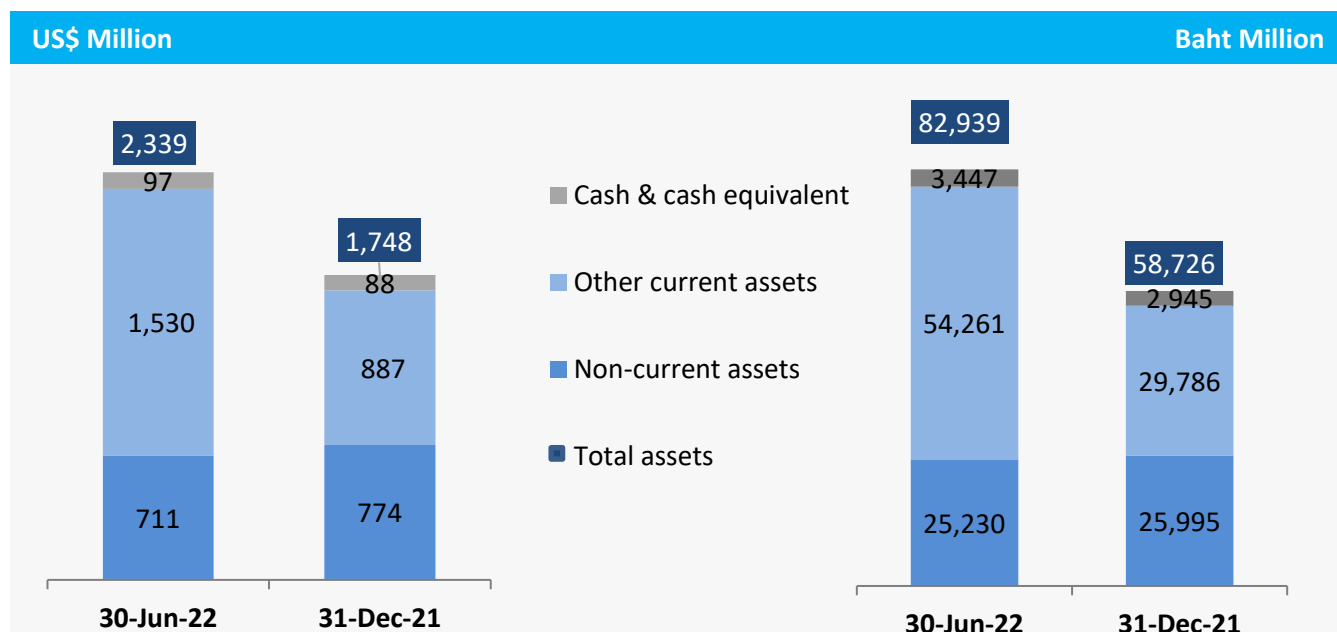
### **Income tax**

Operating profit in 6M/22 resulted in income tax in this period which offset with the deferred income tax on operating loss carry forward.

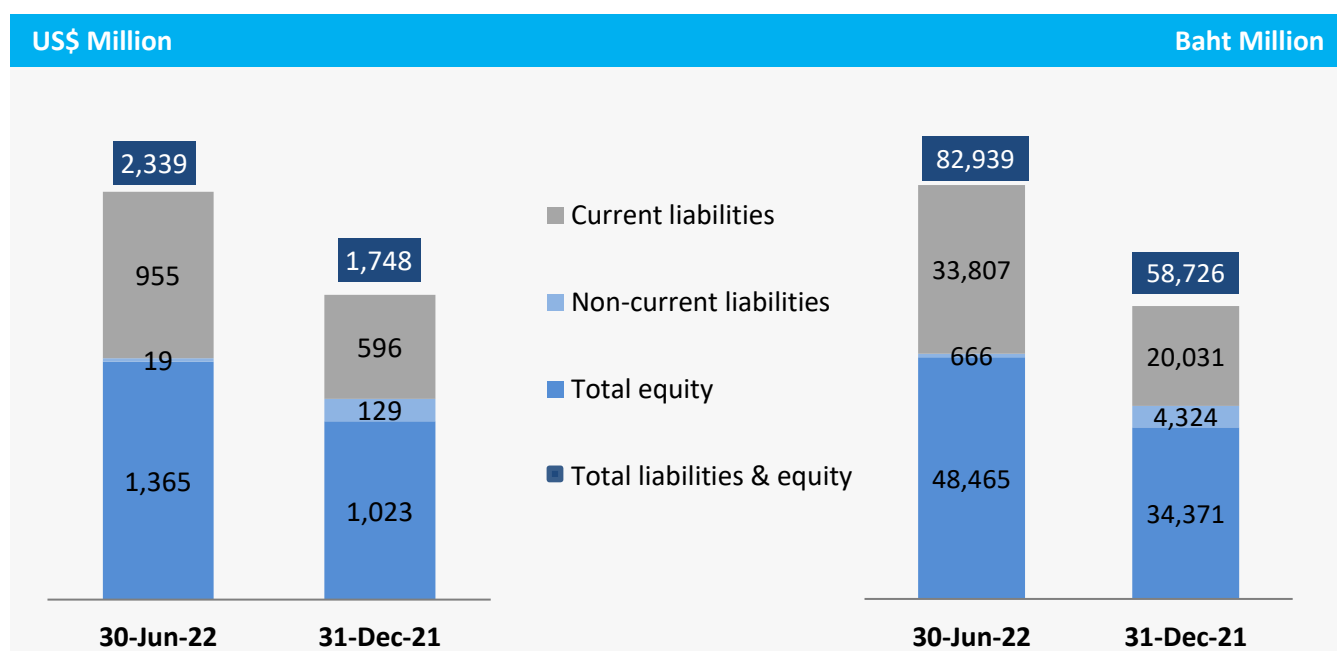


## Analysis of Financial Position

### Asset Breakdown



### Liabilities & Equity



### Assets

Total assets as of 30 June 22 increased by US\$590 million (Baht 24,213 million) from 31 December 21.

Total current assets significantly increased US\$653 million (Baht 24,978 million) mainly due to:

- an increase in inventory of US\$367 million (Baht 13,921 million) mainly from higher inventory price due to increasing in oil price and increasing of inventory volume to support higher crude run;
- an increase in trade and other receivables of US\$275 million (Baht 10,500 million) due to higher product selling price in June 22 and also higher domestic demand comparing to December 21; and
- an slightly increase in cash and cash equivalent of US\$10 million (Baht 503 million) due to net cash generated from operating activities which offset by repayment of long-term borrowings of US\$38 million (Baht 1,304 million) and dividend payment to shareholders of US\$22 million (Baht 774 million).



On the contrary, non-current assets decreased US\$62 million (Baht 765 million) mainly due to a decrease in property, plant and equipment of US\$35 million (but increase Baht 118 million from currency translation) due to depreciation expenses in 6M/22, and a decrease in deferred tax asset of US\$26 million (Baht 842 million) from the utilization of operating loss carryforward from high profit in 6M/22.

### Liabilities

Total liabilities as of 30 June 22 increased US\$249 million (Baht 10,119 million) from 31 December 21. The increment was mainly from:

- a) an increase in trade and other account payables of US\$239 million (Baht 9,250 million) from an increase in crude oil price in June 22 and higher crude purchase volume comparing to December 21; and
- b) an increase in other current liabilities from short-term provision relating to oil spill incident of US\$7 million (Baht 251 million) and income tax payable of US\$64 million (Baht 2,226 million); but partly offset by
- c) a decrease in L-T borrowing of US\$55 million (Baht 1,490 million). The decrease was from loan repayment of US\$38million, and exchange rate impact on non-US\$ borrowing, and
- d) a decrease in Excise tax payable of US\$20 million (Baht 631 million) from government reduction in excise tax rate of diesel since Feb 22 to control the selling price.

### Shareholders' Equity

Shareholders' equity as of 30 June 22 increased US\$342 million (Baht 14,094 million) from 31 December 21 resulted from the net profit in 6M/22 offset by dividend payment.

### Statement of Cash Flow

6M/2022	US\$ Million	Baht Million
Net cash generated from operating activities	71	2,503
Net cash used in investing activities	(2)	(70)
Net cash used in financing activities	(60)	(2,078)
<b>Net increase in cash and cash equivalents</b>	<b>9</b>	<b>355</b>
<b>Cash and cash equivalents at the beginning of the period</b>	<b>88</b>	<b>2,945</b>
Adjustments from foreign exchange translation	1	147
<b>Cash and cash equivalents at the end of the period</b>	<b>97</b>	<b>3,447</b>

SPRC cash and cash equivalents was US\$97 million at the end of June 2022, increased from US\$88 million at the end of December 2021.

Details of cash flow activities in 6M/22 are as follow.

- a) Net cash generated from operating activities of US\$71 million (Baht 2,503 million) which was primarily due to:
  - a. Cash generated from 6M/22 net profit of US\$365 million (Baht 12,440 million) and non-cash items of US\$138 million (Baht 4,706 million);
  - b. Cash generated from operating liabilities of US\$217 million (Baht 7,341 million) mainly from an increase in trade and other payables US\$239 million (Baht 8,113 million) due to the increase in the price of crude oil purchase and higher purchase volume in June 22 but partly offset by a decrease in other current liabilities of US\$23 million (Baht 772 million) mainly from lower Excise tax in June 22 comparing to December 21. Cash generated was offset by
  - c. Cash used in operating assets of US\$649 million (Baht 21,983 million). The increase both in oil price and volume also gave rise to an increase in inventory US\$367 million (Baht 12,450 million)

and an increase in trade and other receivables of US\$281 million (Baht 9,520 million) from higher selling price.

- b) Net cash used in investing activities of US\$2 million (Baht 70 million).
- c) Net cash used in financing activities of US\$60 million (Baht 2,078 million) for the principal repayment of long-term borrowings in 1H/22 US\$38 million (Baht 1,304 million) and dividend payment of US\$22 million (Baht 774 million).

## Financial Ratios

		Q2/22	Q1/22	Q2/21	6M/22	6M/21
Current Ratio	(Time)	1.7	1.6	1.9	1.7	1.9
Gross Profit Margin	(%)	12.7	12.3	3.2	12.5	5.3
Net Profit Margin	(%)	9.2	8.1	1.9	8.6	3.6
Debt to Equity ratio	(Time)	0.7	0.9	0.8	0.7	0.8
Net Interest-Bearing Debt to Equity ratio	(Time)	0.1	0.2	0.2	0.1	0.2
Interest Coverage ratio	(Time)	155.4	163.5	19.8	158.8	34.4

### Note:

Current Ratio	= Current Assets / Current Liabilities	(Time)
Gross Profit Margin	= Gross Profit (Loss) / Sales Revenue	(%)
Net Profit Margin	= Quarter (Net Profit (Loss)) / Total Revenue	(%)
Debt to Equity Ratio	= Total Liabilities / Total Shareholders' Equity	(Time)
Net Interest-Bearing Debt to Equity ratio	= Interest Bearing Debt - Cash / Total Shareholders' Equity	(Time)
Interest Coverage ratio (Accrual basis)	= Earnings before interest and taxes (EBIT) / interest expenses	(Time)

## 4. Market Outlook

Elevated refining margins driven by strong gasoil, gasoline and jet cracks will continue to appetite refineries to increase refinery throughputs. The persistence of high inflation is prompting central banks to tighten policies more aggressively to cool the inflation and demand amid ongoing supply disruptions. Meanwhile, the downward pressure on demand concern have been growing from a potential economic slowdown as an unavoidable recession. Furthermore, China's zero-COVID policy will remain in place through 2022, preventing a return to normalcy and limiting the effectiveness of economic stimulus.

Demand is expected to remain close to supply for the balance of 2022. On supply side, supply growth has fallen short of expectations as Global crude oil prospects have weakened considerably since a new US-Iran nuclear deal unlikely to be appear. Moreover, spare crude oil production capacity from OPEC+ such as Saudi Arabia and the United Arab Emirates is expected falling below 2 MMb/d. Meanwhile, the EU ban will eliminate close to 80% Russian oil imports or about 2.7 MMb/d toward early 2023 while some volume will be redirected elsewhere. On the demand side, strong demand recovered post COVID19 pandemic offsets with the perspective of weakening oil demand from high oil prices which dampened demand growth. However, more government in many countries intentionally to cool down the price by conventional responses such as lower taxes and more subsidies.

Light distillates demand is expected to decline in the second quarter of 2022. The lower demand outlook is largely due to strictly movement restriction in China and high pump prices amid rising inflationary pressure across all markets. However, the gasoline will remain tight through early September amid peak summer driving season in the US. Moving into Q4/22, by the end of the US summer driving season and the start-up of new capacity will pressure the crack further. High light distillate inventory in Singapore will push pressure on Light Distillate crack in this region.

Middle distillates crack, which includes Jet and diesel, were expected to remain high driven by supply concerns and extremely low levels of inventory. Rising demand for air travel in Europe is supporting more open economic of jet fuel outflows from Asia to the West. Further supported from the international aviation, multiple folds year-over-year increasing in passenger traffic in key aviation hubs (Singapore, Thailand) have offset some of lower demand from China. Moreover, there is an upside trend from stronger pull of gasoil from Europe as the deadline for EU's embargo on Russian oil imports in early 2023.

The residual fuel oil crack forecast to be strengthen supported by rising temperature will support power generation requirement and expect to see further rising. Strong refined margins are incentivizing simpler refineries to increase utilization which will add more supply availability into the market.

Looking ahead for refinery margins, projected margins remained strong, but soften from an extremely high in Q2/22. The refined product crack will continue to see upside driven by the strength in gasoil and jet/kero cracks due to supply tightness. In addition, refinery run rates are set to see uptick due to high crude runs particularly in China and this will be offset by refinery maintenance in India, Japan, and Singapore. Furthermore, the strength in margins could incentivize opportunistic refiners to postpone their maintenance and step-up utilization rate to capture high margin. However, ample supply availability owing to increasing refinery runs and demand concern over recessionary risks as an aggressive interest rate hike in the United States could significantly slow economic growth will pressure on margins.

## 5. Appendix

