

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

Star Petroleum Refining Public Company Limited
For Quarter 1/2023

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## 1. Company's Operating Result

| (US\$ Million) | Q1/23 | Q4/22 | +/(-) |
| :---: | :---: | :---: | :---: |
| Total Revenue | 1,736 | 1,793 | (57) |
| EBITDA | 67 | 15 | 52 |
| Adjusted EBITDA ${ }^{(1)}$ | 62 | 71 | (9) |
| (Loss) gain on foreign exchange | (0) | 34 | (34) |
| Net income | 37 | (6) | 43 |
| Net income (US\$ per share) | 0.01 | (0.00) | 0.01 |
| Accounting gross refining margin (US\$/barrel) ${ }^{(2)}$ | 6.90 | 1.77 | 5.13 |
| Market gross refining margin (US\$/barrel) ${ }^{(3)}$ | 6.36 | 5.39 | 0.97 |
| Crude intake (thousand barrels/day) | 162.2 | 163.2 | (1.0) |
| Crude intake Utilization | 93\% | 93\% | -1\% |


| Q1/22 | $+/(-)$ |
| ---: | ---: |
| 1,967 | $(231)$ |
| 218 | $(151)$ |
| 96 | $(33)$ |
| 159 | $(122)$ |
| 0.04 | $(0.03)$ |
| 20.61 | $(13.71)$ |
| 8.46 | $(2.10)$ |
| 150.2 | 12.0 |
| $86 \%$ | $7 \%$ |


| (Baht Million) | Q1/23 | Q4/22 |  |
| :--- | ---: | ---: | ---: |
| Total Revenue | 59,130 | 65,706 | $(6,577)$ |
| EBITDA | 2,242 | 1,151 | 1,090 |
| Adjusted EBITDA ${ }^{(1)}$ | 2,082 | 3,208 | $(1,126)$ |
| (Loss) gain on foreign exchange | $(18)$ | 1,225 | $(1,242)$ |
| Net income | 1,219 | 260 | 959 |
| Net income | 0.28 | 0.06 | 0.22 |
| Baht per share) |  |  |  |


| Q1/22 | $+/(-)$ |
| ---: | ---: |
| 65,404 | $(6,275)$ |
| 7,262 | $(5,021)$ |
| 3,200 | $(1,109)$ |
| 242 | $(260)$ |
| 5,284 | $(4,065)$ |
| 1.22 | $(0.94)$ |
|  |  |

${ }^{(1)}$ Adjusted EBITDA refers EBITDA excluding Stock gain/loss, net NRV and Extra item
${ }^{(2)}$ margin includes inventory gain/loss based on weighted average inventory cost.
${ }^{(3)}$ margin is calculated based on current replacement cost.

| Exchange rate (Baht/US\$) | Q1/23 | Q4/22 | $+/(-)$ | Q1/22 | $+/(-)$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Average FX | 34.08 | 36.50 | $(2.41)$ | 33.23 | 0.85 |
| Closing FX | 34.26 | 34.73 | $(0.47)$ | 33.46 | 0.81 |

Oil prices fluctuated this quarter due to the World Bank's cut of the global economic growth forecast for 2023, many central banks hiked interest rates to curb inflation and there was additional pressure from the concerns over the banking crisis in the United States and Europe. Moreover, the high inventory in the United States also led to a drop in oil prices. On the other hand, positive market sentiments in anticipation of mainland China's economic recovery after the relaxation of the "zero-COVID" policy, strong travel demand, limited Chinese gasoline exports, and supply tightness following the OPEC+ group and Russia's decision on output production reduction have contributed to rising oil prices. In $\mathrm{Q} 1 / 23$, the utilization rate for the crude intake was 162 thousand barrels per day, or equivalent to $93 \%$ of its refining capacity, similar to the prior quarter. In this quarter, SPRC has good margin captured from our Bottom Line Improvement Program (BLIP) from refinery optimization across all the areas (Crude, Process, Product and Synergy).

The net income was US\$ 37 million in Q1/23 compared to the net loss of US\$ 6 million in the prior quarter. The accounting refining margin in Q1/23 was US $\$ 6.90 / \mathrm{bbl}$ higher than US $\$ 1.77 / \mathrm{bbl}$ in Q4/22 owing to oil prices rising from the end of the prior year, leading to small stock gain in this quarter while there was stock loss in Q4/22 from oil price declining. Excluding stock gain (loss), the market refining margin improved from US $\$ 5.39 / \mathrm{bbl}$ in $Q 4 / 22$ to US $\$ 6.36 / \mathrm{bbl}$ in $\mathrm{Q} 1 / 23$, as a result of the decline in crude premium together with the increase in gasoline cracks, which was primarily caused by limited gasoline exports from mainland China, strong domestic demand during the travel season, an outage at an RFCC unit in Vietnam, stockpiling for Ramadan, and an Indonesian fuel terminal fire. Additionally, total operational expenses this quarter were almost the same as in the prior quarter.

Compared Q1/23 with Q1/22, sales revenue decreased $12 \%$ mainly from a decrease in product prices, partially offset by higher in sales volume due to strong demand from China's reopening, and limited Chinese gasoline exports compared to previous year quarter. EBITDA, EBIT and net profit in Q1/23 show a significant drop due to the lower refining margin in Q1/23 of US\$6.36/bbl compared to US\$8.46/bbl in Q1/22 and a large stock gain in Q1/22 from a significant increase in oil price from Russian-Ukraine conflict, partly offset by the expenses and provision relating to oil spill incident in previous year quarter.

## 2. Market Condition

| Pricing | Q1/23 | Q4/22 | +/(-) | Q1/22 | +/(-) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Dubai crude oil | 80.23 | 84.77 | -4.54 | 96.21 | -15.98 |
| Light Naphtha (MOPJ) | 76.48 | 74.78 | 1.70 | 98.05 | -21.57 |
| Gasoline (premium) | 98.94 | 94.30 | 4.64 | 114.03 | -15.09 |
| Jet Fuel | 106.26 | 118.28 | -12.02 | 112.74 | -6.48 |
| Diesel | 105.04 | 124.06 | -19.02 | 116.08 | -11.04 |
| Fuel Oil | 64.22 | 62.44 | 1.78 | 87.96 | -23.73 |
|  |  |  |  |  |  |
| Spread over Dubai | Q1/23 | Q4/22 | +/(-) | Q1/22 | +/(-) |
| Light Naphtha (MOPJ) | -3.75 | -9.99 | 6.24 | 1.83 | -5.58 |
| Gasoline (premium) | 18.71 | 9.53 | 9.18 | 17.82 | 0.89 |
| Jet Fuel | 26.03 | 33.51 | -7.48 | 16.53 | 9.50 |
| Diesel | 24.81 | -39.29 | 64.10 | 19.87 | 4.94 |
| Fuel Oil | -16.01 | -22.33 | 6.32 | -8.26 | -7.75 |

Average Dubai price for Q1/23 was US $\$ 80.23 / \mathrm{bbl}$ decreased from US $\$ 84.77 / \mathrm{bbl}$ in Q4/22. Event Chinese crude purchases and a pick-up in road traffic fueled confidence in a demand recovery in the world's second-largest economy following the reopening of its borders and easing of COVID-19 curbs after protests last year. But banking crisis adds a new risk to world oil demand gains. Repercussions from the March 10, 2023, failure of the Silicon Valley Bank (the largest US failure since 2008) has injected greater uncertainty about the future path of inflation, interest rates, and economic activity. The banking failure has not suddenly altered oil demand and supply fundamentals, but an ongoing crisis could ultimately impact consumption and investment.

Naphtha spread over Dubai in Q1/23 increased to US\$-3.75/bbl owing to positive market sentiments in anticipation of mainland China's economic recovery after the market lifted its "zero-COVID" policy and stiff competition for non-Russian naphtha cargos while crude prices remained below the $\$ 90 / \mathrm{bbl}$ level. Demand improvement is gradual; olefins margins improved but remain below break-even levels amid positive market sentiments in anticipation of mainland China's economic recovery.

Gasoline spread over Dubai in Q1/23 increased to US\$18.71/bbl due to strong domestic demand in mainland China owing to festive travels resulting in lower gasoline exports from mainland China. Additionally, a RFCC unit outage in Vietnam, a reliability issue at the RFCC unit in the Pengerang refinery in Malaysia, stockpiling for Ramadan, fuel terminal fire in Indonesia, and lower US refinery utilization owing to the December winter storm amid low inventory have further boosted the cracks.
Jet and diesel crack spreads over Dubai decreased from the previous quarter to be US\$26.03/bbl and US\$24.81/bbl respectively. The warmer-than-usual temperatures toward the end of winter season have reduced the need for kerosene heating oil, counter seasonal diesel stock builds in the United States, high diesel inventory in Europe, and higher exports from the Middle East to Asia have weighed on the jet/kerosene cracks. In addition, weak $\mathrm{PMI}^{\text {m }}$ readings in major manufacturing hubs indicate lackluster manufacturing activities in several key Asian markets have curbed demand.

Fuel oil spread over Dubai in Q1/23 increased from previous quarter to be US\$-16.01/bbl. Higher import requirements from the utility sector in the Middle East, lower flows from the Middle East to Asia, strong demand for heavy feedstocks due to tighter heavy crudes supply, and the commencement of stockpiling for Ramadan for Saudi Arabia have pushed up HSFO cracks.

SPRC's average market refining margin in Q1/23 was US\$6.36/bbl, which is higher than US\$5.39/bbl in Q4/22. In Q1/23, SPRC has slightly increased domestic supply volume vs. Q4/22 particularly in gasoline and asphalt. SPRC also continued to optimize feedstocks by processing new crudes and Atmospheric residue.

## 3. Financial Performance

Financial Results

|  | US\$ Million |  |  |
| :--- | ---: | ---: | ---: |
| Total Revenue | Q1/23 | Q4/22 | $+/(-)$ |
| Cost of sales | 1,736 | 1,793 | $(57)$ |
| Gross profit /(Loss) | $(1,676)$ | $(1,819)$ | 143 |
| Other income | 60 | $(25)$ | 86 |
| Loss)/gain on exchange rate | 1 | 0 | 1 |
| Administrative expenses | $(0)$ | 17 | $(18)$ |
| Finance costs | $(12)$ | $(13)$ | 0 |
| Fair value gain/(loss) on | $(3)$ | $(4)$ | 1 |
| derivatives | 0 | 17 | $(17)$ |
| Income tax | (9) | 1 | $(10)$ |
| Net income /(loss) | 37 | $(6)$ | 43 |


| US\$ Million |  |
| ---: | ---: |
| Q1/22 | $+/(-)$ |
| 1,967 | $(231)$ |
| $(1,725)$ | 49 |
| 242 | $(182)$ |
| 0 | 1 |
| 14 | $(15)$ |
| $(51)$ | 38 |
| $(1)$ | $(2)$ |
| $(7)$ | 7 |
| 150$)$ | 30 |
| 120 |  |


|  | Qaht Million |  |  |
| :--- | ---: | ---: | ---: |
| Total Revenue | Q1/23 | Q4/22 | $+/(-)$ |
| Cost of sales | $(59,130$ | 65,706 | $(6,577)$ |
| Gross profit /(Loss) | $\mathbf{2 , 0 2 2}$ | $(66,015)$ | 8,907 |
| Other income | 47 | $(309)$ | 2,331 |
| Loss) gain on exchange rate | $(19)$ | 642 | $(661)$ |
| Administrative expenses | $(425)$ | $(457)$ | 32 |
| Finance costs | $(94)$ | $(141)$ | 48 |
| Fair value gain/(loss) on | 1 | 583 | $(581)$ |
| derivatives | $(305)$ | $(75)$ | $(230)$ |
| Income tax | $\mathbf{1 , 2 1 9}$ | $\mathbf{2 6 0}$ | $\mathbf{9 5 9}$ |
| Net income /(loss) |  |  |  |


| Baht Million |  |
| ---: | ---: |
| Q1/22 | $+/(-)$ |
| 65,404 | $(6,275)$ |
| $(57,333)$ | 225 |
| 8,071 | $(6,049)$ |
| 16 | 32 |
| 470 | $(489)$ |
| $(1,683)$ | 1,257 |
| $(41)$ | $(53)$ |
| $(228)$ | 229 |
| $(1,321)$ | 1,016 |
| 5,284 | $(4,065)$ |

## Production Volumes

Thousands barrels

| Petroleum products | Q1/23 | Q4/22 | Q1/22 |
| :--- | ---: | ---: | ---: |
| Polymer Grade Propylene | 340 | 347 | 380 |
| Liquefied Petroleum Gas | 620 | 652 | 628 |
| Light Naphtha | 766, | 738 | 904 |
| Gasoline | 4,044 | 3,803 | 4,119 |
| Jet Fuel | 1,675 | 1,404 | 466 |
| Diesel | 5,932 | 6,318 | 5,816 |
| Fuel Oil | 552 | 712 | 750 |
| Asphalt | 431 | 354 | 237 |
| Mix C4 | 493 | 416 | 520 |
| Other |  |  |  |
| Ti) | 1,337 | 434 | 1,315 |
| Total production | 16,191 | 15,178 | 15,134 |

(1) Includes sulfur and reformate and products sold pursuant to our cracker feed exchange.

## Total Sale Revenue

| US\$ Million |  |  |  |
| :---: | :---: | :---: | :---: |
| Petroleum products ${ }^{(1)}$ | Q1/23 | Q4/22 | Q1/22 |
| Polymer Grade Propylene | 25 | 23 | 35 |
| Liquefied Petroleum Gas | 37 | 34 | 44 |
| Light Naphtha | 55 | 52 | 88 |
| Gasoline | 519 | 476 | 611 |
| Jet Fuel | 172 | 187 | 40 |
| Diesel | 706 | 852 | 834 |
| Fuel Oil | 32 | 61 | 67 |
| Asphalt | 35 | 28 | 25 |
| Mix C4 | 47 | 42 | 61 |
| Crude | - | 0 | 29 |
| Others ${ }^{(2)}$ | 108 | 37 | 134 |
| Total Revenue | 1,736 | 1,793 | 1,967 |

(1) Includes Government LPG and oil subsidies.
${ }^{(2)}$ Includes sulfur, reformate and products sold pursuant to our cracker feed exchange.
Sales revenue in Q1/23 slightly decreased 3\% from Q4/22 mainly from the decrease in average oil prices while sales volume went from 16.4 million barrels in Q4/22 to 16.8 million barrels in Q1/23 due to a stronger demand, particularly Gasoline and Jet from travel activities that have largely resumed as China reopened, and there were lower gasoline exports from mainland China.

Comparing Q1/23 with Q1/22, sales revenue decreased $12 \%$, which was impacted by lower oil prices but partially offset by an increase in sales volume which increased from 15.8 million barrels in Q1/22 to 16.8 million barrels in Q1/23.

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

| Customer | Q1/23 | Q4/22 | Q1/22 |
| :--- | ---: | ---: | ---: |
| Chevron | $42 \%$ | $42 \%$ | $40 \%$ |
| PTT \& PTTOR | $45 \%$ | $50 \%$ | $45 \%$ |
| Other oil and petrochemical companies | $13 \%$ | $8 \%$ | $15 \%$ |
| Total | $100 \%$ | $100 \%$ | $100 \%$ |

## Cost of Sales

Comparing cost of sales for Q1/23 with Q4/22, there was a decrease of $8 \%$. The decrease was due to lower weighted average cost of sales in relation to the oil price movement, and a reversal loss (net) from inventory write-down to net realizable value of US\$41 million in Q1/23.

Comparing Q1/23 to Q1/22, cost of sales in Q1/23 decreased 3\% which was reflected from the oil price drop this quarter partly offset by higher sales volume compared with the same quarter in prior year.

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

Comparing Q1/23 with Q4/22, SPRC had a net foreign exchange loss of US\$ 0.4 million in Q1/23 compared to an exchange gain (including derivatives) of US\$34 million in Q4/22 owing to the Thai Baht appreciating from the optimistic of Thailand economy recovery in Q4/22. Baht strengthening resulted in an increase in the value of Baht denominated receivables when converted to US\$ equivalent.

Comparing Q1/23 to Q1/22, SPRC had a little exchange loss of US\$ 0.4 million in Q1/23 while exchange gain of US\$ 7.4 million in Q1/22 due to Thai Baht appreciated in Q1/22.

## Administrative Expenses

Comparing Q1/23 with Q4/22, administrative expenses were approximately the same as the prior quarter.
Comparing Q1/23 with Q1/22, administrative expenses significantly decreased from US\$ 50.7 million in Q1/22 to US\$ 12.4 million in Q1/23 due to the expenses and the provision related to the oil spill incident of US\$42 million incurred in Q1/22.

## Income tax

Operating profit in Q1/23 resulted in income tax in this period of US\$9 million.

## Analysis of Financial Position

## Asset Breakdown



## Liabilities \& Equity



## Assets

Total assets as of 31 March 23 increased by US\$79 million (Baht 1,862 million) from 31 December 22.
Total current assets increased by US\$93 million (Baht 2,669 million) mainly due to:
a) an increase in inventory of US\$25 million (Baht 535 million) mainly from higher inventory volume at end of March 23 compared to December 22; and
b) an increase in trade and other receivables of US\$64 million (Baht 1,984 million) due to higher sales volume in March 23 from higher domestic demand compared to December 22

On the contrary, non-current assets decreased US\$14 million (Baht 791 million) mainly due to a decrease in property, plant and equipment of US\$17 million (Baht 907 million) due to depreciation expenses in Q1/23.

## Liabilities

Total liabilities as of 31 March 23 increased by US\$42 million (Baht 1,097 million) from 31 December 22. The increment was mainly from:
a) an increase in trade and other account payables of US\$91 million (Baht 2,951 million) from timing of crude payment in December 22 to be paid before year end which resulted to low trade payable at end 2022; and
b) an increase in corporate income tax payable of US\$9 million (Baht 290 million) from net profit in this quarter and an increase in excise tax payable of US\$3 million (Baht 103 million) due to higher sale volume and oil fuel fund rate for diesel increased in March 23 compared to December 22; but partly offset by
c) a decrease in S-T and L-T borrowing of US\$61 million (Baht 2,225 million). The decrease was in relation to working capital movement in Q1/23.

## Shareholders' Equity

Shareholders' equity as of 31 March 23 increased US\$37 million (Baht 765 million) from 31 December 22 resulted from the net profit in Q1/23.

## Statement of Cash Flow

| Q1/2023 | US\$ Million |
| :--- | ---: |
| Net cash generated from operating activities | 68 |
| Net cash used in investing activities | $(1)$ |
| Net cash used in financing activities | $(68)$ |
| Net decrease in cash and cash equivalents | $\mathbf{( 1 )}$ |
| Cash and cash equivalents at the beginning of the period | $\mathbf{2}$ |
| Adjustments from foreign exchange translation | $\mathbf{1}$ |
| Cash and cash equivalents at the end of the period | $\mathbf{2}$ |


| Baht Million |
| ---: |
| $2,2,300$ |
| $(2,314)$ |
| $(43)$ |
| 76 |

SPRC cash and cash equivalents were US\$2 million at the end of March 2023, compared with US\$2 million at the end of December 2022.

Details of cash flow activities in Q1/23 are as follow:
a) Net cash generated from operating activities was US $\$ 68$ million (Baht 2,300 million) was primarily due to:
a. Q1/23 net profit was US\$37 million (Baht 1,219 million) and deduct non-cash items of US\$2 million (Baht 55 million); and
b. Cash generated from operating liabilities was US $\$ 90$ million (Baht 3,069 million) mainly from an increase in trade and other payables US\$91 million (Baht 3,116 million) due to timing of crude payment, and an increase in other current liabilities of US\$3 million (Baht 109 million) mainly from higher Excise tax in March 23 comparing to December 22, but partly offset by a decrease in short-term provision paid of US\$4 million (Baht 157 million) relating to the oil spill incident; Cash generated was partly offset by
c. Cash used in operating assets was US\$57 million (Baht 1,932 million). An increase in trade and other receivables of US\$65 million (Baht 2,202 million) from higher sales volume, partially offset by a decrease in inventory of US\$16 million (Baht 551 million) excluding the reversal from the
write-down of inventory to net realizable value.
b) Net cash used in investing activities was US\$1 million (Baht 29 million) for miscellaneous capital expenditure in small projects.
c) Net cash used in financing activities was US\$68 million (Baht 2,314 million) from the operating profit generated during the quarter and working capital movement.

## Financial Ratios

|  |  | Q1/23 | Q4/22 | Q1/22 |
| :---: | :---: | :---: | :---: | :---: |
| Current Ratio | (Time) | 1.6 | 1.6 | 1.6 |
| Gross Profit Margin | (\%) | 3.5 | (1.4) | 12.3 |
| Net Profit Margin | (\%) | 2.1 | (0.3) | 8.1 |
| Debt to Equity ratio | (Time) | 0.7 | 0.6 | 0.9 |
| Net Interest-Bearing Debt to Equity ratio | (Time) | 0.2 | 0.3 | 0.2 |
| Interest Coverage ratio | (Time) | 17.7 | (0.9) | 163.5 |

## Note:

| Current Ratio | $=$ Current Assets / Current Liabilities |  |
| :--- | :--- | :--- |
| Gross Profit Margin | $=$ Gross Profit (Loss) / Sales Revenue | (Time) |
| Net Profit Margin | $=$ Quarter (Net Profit (Loss) / Total Revenue) |  |
| Debt to Equity Ratio | $=$ Total Liabilities / Total Shareholders' Equity |  |
| 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 |  |

## 4. Market Outlook

The reopening of mainland China has brightened Asia's refining outlook, the emerging banking crisis in the US and Europe has added more macroeconomic risks that may cloud the outlook. Overall, Asian refined product consumption is forecast to grow by about 2.2 million b/d year on year in the second quarter of 2023. Refinery runs in Asia are expected to rebound strongly owing to the absence of lockdowns in mainland China. On the other hand, Middle Eastern refinery throughput growth is forecast to slow despite new capacity additions owing to slower economic growth. Turnaround activities are projected to hover around five-year lows as refiners gear up to meet the strong demand in the second quarter. Asian refinery runs are estimated to improve by about 1.6 million b/d year on year in the second quarter of 2023, while Middle Eastern refinery throughputs are expected to grow by about 0.6 million $\mathrm{b} / \mathrm{d}$ over the same period. The biggest downside risks to demand are concerns over a potential global recession and the strengthening of the USD.

Asian gasoline consumption is expected to remain robust in second quarter 2023 as markets have removed all movement restrictions. In particular, a strong year-on-year rebound in demand in mainland China is expected as the market recovers from the impact of the lockdown in Shanghai in second quarter 2022. Expected gasoline cracks will remain firm owing to limited exports from mainland China and reduced production capacity as refiners move into spring maintenance season. Spring travel activity in Northeast Asia will pick up as weather turns warmer while Ramadan in April will boost demand. Overall, Asian gasoline demand is estimated to increase by about 11\% year on year in second quarter 2023. In addition, US stocks level have remained at multiyear lows going into the turnaround season, potentially creating a tight gasoline market as the US Federal Reserve gradually eases the pace of interest rate increases. The start-up of new capacity in Beaumont, Texas, will help to ease some tightness in the Atlantic Basin. The downside risk to the cracks could come from the global economic slowdown and uncertainty risk from banking crisis in developed markets.

Jet/kerosene crack spreads are expected to strengthen modestly in April and May as the market tightens. Asian jet/kerosene demand is forecast to grow more than 50\% year on year in the second quarter, largely owing to the brighter outlook for the aviation sector. A strong recovery in the international aviation sector will boost demand while the spring turnaround season will curtail production. Stronger international aviation jet demand will partially offset the decline in heating oil consumption. Downside risk to the cracks will stem from fears about the fragile economy owing to the banking crisis amid a high interest rate environment.

Gasoil crack spreads are forecast to slightly increase in April and May as Chinese exports are expected to remain limited while Europe imports demand is forecast to increase, with lower production from French refineries due to strikes and the start of spring travel amid spring turnaround season, and as inventory levels decline. But the region remains dependent on the global economic outlook, which has been weighed down by the recent banking crisis in developed markets. Rising interest rates will continue to undermine growth as consumer spending power is weakened. Asian diesel demand is expected to increase by about $0.4 \%$ year on year in the second quarter of 2023.

The residual fuel oil crack spreads are forecast to remain firm in April and May as refineries move into the spring turnaround season. In addition, the increase in manufacturing activity in mainland China and nearby markets are forecast to support stronger trade and, consequently, higher bunker demand. The global economic outlook remains uncertain and could eventually weigh on fuel oil cracks should it worsen.

## 5. Appendix



