

**Management's Discussion and Analysis (MD&A)**  
**Thai Oil Public Company Limited**

**For The First Quarter of 2024**

## Table of Contents

1. Company and its Subsidiaries' Operating Results.....	2
2. Summary of Financial Result by Business .....	4
2.1 Market Condition and Financial Result of Refinery Business .....	5
2.2 Market Condition and Financial Result of Aromatics Business.....	7
2.3 Market Condition and Financial Result of an Intermediate for the Production of Surfactants Business.....	9
2.4 Market Condition and Financial Result of Lube Base Oil Business.....	10
2.5 Financial Result of Power Generation Business .....	11
2.6 Financial Result of Solvent and Chemicals Business.....	12
2.7 Financial Result of Olefin Business .....	13
2.8 Financial Result of Ethanol Business.....	13
3. Analysis of Consolidated Financial Statement.....	15
3.1 Statement of Financial Position.....	15
3.2 Statement of Cash Flows.....	17
3.3 Financial Ratios.....	18
4. Industry Outlook for the Second Quarter of Year 2024, and the Second Half of Year 2024.....	19
5.1 Summary of Approved Investment Plan.....	21
5.2 Summary of Key Project Investment: Clean Fuel Project (CFP) .....	21
5.3 Plan of Scheduled Turnaround Maintenance in 2024.....	23

**Management's Discussion and Analysis (MD&A)**  
**Thai Oil Public Company Limited and Subsidiaries**  
**For the First Quarter of 2024**

**1. Company and its Subsidiaries' Operating Results**

Table 1: Summary of Consolidated Financial

(Million Baht)	Q1/24	Q4/23	+/( -)	Q1/23	+/( -)
Integrated Intake (kbd)	291	309	(18)	312	(21)
Gross Integrated Margin (GIM) <sup>(1)</sup> (US\$/bbl)					
: <u>excluding</u> Stock Gain/(Loss)	10.4	8.6	1.8	11.8	(1.4)
: <u>including</u> Stock Gain/(Loss)	10.5	3.6	6.9	8.3	2.2

(Million Baht)	Q1/23	Q4/22	+/( -)	Q1/22	+/( -)
Sales Revenue	114,239	115,336	(1,097)	115,943	(1,704)
Net Realized Gain/(Loss) on Financial Instruments <sup>(2)</sup>	37	(781)	818	329	(292)
<b>EBITDA</b>	<b>10,949</b>	<b>3,681</b>	<b>7,268</b>	<b>8,182</b>	<b>2,767</b>
Net Gain/(Loss) on Fair Value Measurement of Financial Instruments	(147)	1,700	(1,847)	158	(305)
Net Foreign Exchange Gain/(Loss) <sup>(3)</sup>	(871)	1,175	(2,046)	571	(1,442)
Net Gain/(Loss) on Repurchase of Debentures	232	-	232	-	232
Finance Costs	(1,047)	(1,053)	6	(922)	(125)
Reversal of Income Tax (Expense)	(1,464)	(710)	(754)	(1,805)	341
<b>Net Profit/(Loss)</b>	<b>5,863</b>	<b>2,944</b>	<b>2,919</b>	<b>4,554</b>	<b>1,309</b>
<b>Basic Earnings/(Loss) per Share (Baht)</b>	<b>2.62</b>	<b>1.32</b>	<b>1.30</b>	<b>2.04</b>	<b>0.58</b>
Stock Gain/(Loss)	82	(5,178)	5,260	(3,339)	3,421
Reversal/ (Write-Down) on Crude and Petroleum Product Inventory <sup>(4)</sup>	(824)	1,841	(2,665)	(207)	(617)

Exchange Rate (Baht: 1 US\$)	Q1/24	Q4/23	+/( -)	Q1/23	+/( -)
Average FX	35.81	35.83	(0.02)	34.08	1.73
Ending FX	36.63	34.39	2.24	34.26	2.37

**Remark** (1) Gross integrated margin is the integrated gross margin among Thaioil refinery, Thai Paraxylene Co., Ltd., LABIX Co., Ltd. and Thai Lube Base Plc.

(2) Including net realized gain/ (loss) on commodity hedging

(3) Including net foreign exchange gain / (loss) on foreign currency assets and liabilities in Q1/24, Q4/23, and Q1/23 of Baht (619) million, Baht 844 million, and Baht 763 million, respectively.

(4) Including reversal / (write-down) of allowance for decline in value of crude and petroleum product inventories adjusted to net realizable value and reversal / (write-down) of petroleum product at cost.

In Q1/24, compared with Q4/23, Thaioil and subsidiaries reported a decrease in integrated intake due to an unplanned shutdown of Crude Distillation Unit 3 (CDU-3) for 13 days. Sale revenue was reported at Baht 114,239 million, lower by Baht 1,097 million following the reduced selling prices of petroleum products as well as a decrease in sales volume. We reported GIM excluding stock gain / (loss) of 10.4 US\$/bbl or an increase of 1.8 US\$/bbl from the previous quarter, mainly from improving GRM as higher gasoline spread over Dubai which has been supported by the Cold Snap in the US, resulting in tight gasoline supply. In addition, crude premium has

decreased as China and India have reduced their purchases of crude oil from the Middle East and increased to import Russian crude oil after Russia imposed restrictions on exports to Europe. Meanwhile, supply from the Middle East has increased due to refinery maintenance in the region. Moreover, the contribution from the aromatics business has also improved mainly from increasing BZ spread over ULG95 due to cold weather in the US, resulting in tight BZ supply. Although PX spread over ULG95 has decreased due to concerns over global economic slowdown, particularly in China. However, the contribution from LAB has decreased due to lower domestic demand and supply pressures in the market. Similarly, the contribution from lube base oil and bitumen also decreased mainly from lower bitumen spread over fuel oil as the market has been pressured by weaker regional demand compared to the previous quarter. Although base oil spread over fuel oil slightly increased, supported by limited supply due to reduced exports from Japan and lube base plant maintenance in the region. In terms of crude oil prices in Q1/24, we recorded an inventory gain of Baht 82 million, or 0.1 US\$/bbl, as Dubai price in March 2024 was slightly higher than Dubai price in December 2023. Although the average Dubai price in Q1/24 slightly decreased from the previous quarter due to economic concerns, as the US Federal Reserve and the European Central Bank maintained high interest rates while Chinese economy continued to be pressured by the real estate crisis. We reported GIM including stock gain / (loss) of 10.5 US\$/bbl or an increase of 6.9 US\$/bbl from the previous quarter, while we booked write-down on crude and petroleum product inventory of Baht 824 million and net realized gain from financial instrument including only commodity hedging of Baht 37 million, we reported higher EBITDA of Baht 10,949 million. Furthermore, we booked a loss on financial instruments of Baht 147 million in Q1/24, net loss on foreign exchange of Baht 871 million (including net foreign exchange loss on foreign currency assets and liabilities of Baht 619 million). In addition, Thai Oil Treasury Center (TTC) have repurchased debentures USD currency, resulting in an extra gain from the repurchase of Baht 232 million, which was booked in Q1/24. Offsetting with depreciation, finance cost and tax expense, we reported a higher net profit of Baht 5,863 million, or earning per share 2.62 Baht per share, increased by of Baht 2,919 million from Q4/23.

In comparison to Q1/23, we reported a decrease in integrated intake due to an unplanned shutdown of Crude Distillation Unit 3 (CDU-3) for 13 days. Sale revenue was lower by Baht 1,704 million following the reduced selling prices of petroleum products as well as a decrease in sales volume. We reported lower GIM excluding stock gain / (loss) by a 1.4 US\$/bbl from the previous quarter, mainly from softening GRM as lower jet/kerosene and gasoil spreads over Dubai as supply increased because arbitrated flow from Asia to Europe became more difficult due to attacks on vessels in the Red Sea. In addition, demand for heating oil decreased as Europe turned to cheaper gas. Similarly, the contribution from lube base oil and bitumen business decreased compared to Q1/23, as lube base spread over fuel oil decreased due to increased supply from lube base Group II and III while the demand in the region not recovering significantly. In addition, the contribution from LAB business also decreased due to lower domestic demand and higher supply in the market. In contrast, contribution from aromatics improved compared to Q1/23, as BZ spread over ULG95 increased due to tight global BZ supply. In term of crude oil prices, the increase in the average Dubai crude oil price resulted in inventory gain increased by Baht 3,421 million, compared to an inventory loss in Q1/23, while we booked write-down on crude and petroleum product inventory decreased by Baht 617 million, and booked net realized gain from financial instrument including only commodity hedging, we reported higher EBITDA increased by Baht 2,767 million. Furthermore, we booked net loss on financial instruments of Baht 147 million in Q1/24, compared to net gain on financial instruments of Baht 158 million in Q1/23, and net loss on foreign exchange of Baht 871 million compared to net gain on foreign exchange of Baht 571 million in Q1/23. Offsetting with depreciation, finance cost and tax expense, we reported net profit increased by Baht 1,309 million from the same quarter of the previous year.

## 2. Summary of Financial Result by Business

Table 2: Financial Result by Business

(Million Baht)

Sales Revenue	Q1/24	Q4/23	+/(-)	Q1/23	+/(-)
<b>Consolidated</b>	<b>114,239</b>	<b>115,336</b>	<b>(1,097)</b>	<b>115,943</b>	<b>(1,704)</b>
Refinery	122,033	124,795	(2,762)	123,767	(1,734)
Aromatics and LAB <sup>(1)</sup>	20,098	20,848	(750)	19,002	1,096
Lube Base Oil	5,380	6,061	(681)	6,268	(888)
Power Generation	3,314	3,364	(50)	2,859	455
Solvent and Chemicals <sup>(2)</sup>	5,083	5,309	(226)	4,758	325
Ethanol <sup>(3)</sup>	415	569	(154)	470	(55)
Others <sup>(4)</sup>	1,739	2,184	(445)	1,557	182

EBITDA	Q1/24	Q4/23	+/(-)	Q1/23	+/(-)
<b>Consolidated</b>	<b>10,949</b>	<b>3,681</b>	<b>7,268</b>	<b>8,182</b>	<b>2,767</b>
Refinery	8,603	1,449	7,154	5,555	3,048
Aromatics and LAB	962	895	67	780	182
Lube Base Oil	322	398	(76)	1,141	(819)
Power Generation	822	836	(14)	584	238
Solvent and Chemicals	285	194	91	232	53
Olefins	(2)	2	(4)	(3)	1
Ethanol	54	10	44	44	10
Others	66	52	14	50	16

Net Profit / (Loss)	Q1/24	Q4/23	+/(-)	Q1/23	+/(-)
<b>Consolidated</b>	<b>5,863</b>	<b>2,944</b>	<b>2,919</b>	<b>4,554</b>	<b>1,309</b>
Refinery	4,293	2,030	2,263	2,942	1,351
Aromatics and LAB	561	227	334	181	380
Lube Base Oil	225	268	(43)	886	(661)
Power Generation <sup>(5)</sup>	474	519	(45)	473	1
Solvent and Chemicals	236	(29)	265	135	101
Olefins <sup>(6)</sup>	(199)	(68)	(131)	32	(231)
Ethanol	1	(24)	25	(15)	16
Others <sup>(7)</sup>	347	132	215	92	255

### Remark

- (1) Thai Paraxylene Co., Ltd. invested 75% of total investment in LABIX Co., Ltd. which produces an intermediate for the production of surfactants (LAB).
- (2) Including Thaioil Solvent Co., Ltd., having respective interests in TopNEXT international Co., Ltd. (Former name: TOP Solvent Co., Ltd.), Sak Chaisidhi Co., Ltd., TOP Solvent (Vietnam) LLC., PT Tirta Surya Raya, and JSKEM Private Limited
- (3) Including Thaioil Ethanol Co., Ltd., having respective interests in Sapthip Co., Ltd. (Investment in subsidiary), and Ubon Bio Ethanol Plc (Financial asset measured at fair value through other comprehensive income).
- (4) Including Thaioil Energy Services Co., Ltd. (TOP holds 99.99% shares) which provides human resources management service and Thaioil Treasury Center Co., Ltd. (TOP holds 99.99% shares) which conducts the business in the area of International Business Center (IBC) and Treasury Center (TC) for Thaioil and Subsidiaries.
- (5) Since 7 June 2022, Thaioil and Subsidiaries reduced share proportions in the investments in Global Power Synergy Plc. (GPSC) to 10.0% and reclassified the remaining investment as Financial assets measured at fair value through other comprehensive income. During the annual general meeting of GPSC on March 31, 2566, a resolution was passed to approve the distribution of dividends for the fiscal year based on GPSC's 2022 performance. This resulted in receiving dividends of 85 million baht in 1Q/23.
- (6) PT TOP Investment Indonesia holds 15% shares in PT Chandra Asri Petrochemical Tbk, which is the major integrated petrochemical company in Indonesia.
- (7) Including net profit / (loss) from Thaioil Energy Services Co., Ltd. and Thaioil Treasury Center Co., Ltd. and share of profits / (loss) from the investments in PTT Digital Solutions Co., Ltd., PTT Energy Solutions Co., Ltd. and Thai Petroleum Pipeline Co., Ltd. On 29 August 2022, The Extraordinary General Meeting of PTT Energy Solutions Co., Ltd shareholders No.1/2022 pass a resolution to liquidate the company, the process was completed on 29 December 2022.

## 2.1 Market Condition and Financial Result of Refinery Business

Table 3: Average Crude Oil Price, Petroleum Product Prices, Crude Premiums, and Crack Spreads

Average Prices (US\$/bbl)	Q1/24	Q4/23	+/(-)	Q1/23	+/(-)
Dubai Crude Oil <sup>(1)</sup>	81.2	83.8	(2.5)	80.2	1.0
Unleaded Gasoline (ULG95)	99.1	96.2	2.9	98.9	0.2
Jet/Kero	102.4	107.4	(5.0)	106.3	(3.9)
Gasoil (GO)	104.4	108.2	(3.9)	108.5	(4.1)
Fuel Oil (HSFO)	71.5	72.6	(1.1)	64.2	7.3
Crude Premiums (US\$/bbl)	Q1/24	Q4/23	+/(-)	Q1/23	+/(-)
Murban <sup>(2)</sup>	1.1	3.3	(2.2)	5.0	(3.9)
Arab Light <sup>(3)</sup>	2.2	3.9	(1.7)	2.4	(0.2)
Spreads over Dubai (US\$/bbl)	Q1/24	Q4/23	+/(-)	Q1/23	+/(-)
Unleaded Gasoline (ULG95)	17.9	12.5	5.4	18.7	(0.8)
Jet/Kero	21.2	23.6	(2.5)	26.0	(4.8)
Gasoil (GO)	23.1	24.5	(1.3)	28.2	(5.1)
Fuel Oil (HSFO)	(9.7)	(11.1)	1.4	(16.0)	6.3
Very Low Sulfur Fuel Oil (VLSFO)	6.0	6.3	(0.3)	4.8	1.2

**Remark** (1) Closing Dubai crude oil price at the end of Q1/24, Q4/23, and Q1/23 were calculated from average Dubai prices in the last month in the respective period. The prices were 84.2 US\$/bbl, 77.3 US\$/bbl, and 78.5 US\$/bbl, respectively.

(2) Murban crude premium (compared with market price) since June 2021 was calculated from the difference between average Murban price for loading month (month "M") and Dubai forward price for month "M" which was announced daily in two months before. The formula is based on ADNOC's new pricing structure.

(3) Arab Light crude premium is announced by the producer and is priced as a differential to the Oman/Dubai average

Graph 1: Prices of Crude Oil and Petroleum Product



Crude oil prices in Q1/24 slightly declined compared to Q4/23 due to concerns over the economy, as the Fed and ECB maintained their interest rates at elevated levels. This was coupled with a real estate crisis in China, putting pressure on the economy. Additionally, supply increased from non-OPEC+ countries such as the U.S., Canada, and Guyana. However, crude oil prices in Q1/24 rose compared to Q1/23, supported by OPEC+ implementing oil production cuts totaling 2.2 million barrels per day to balance the market. Furthermore, unrest in

the Middle East and tensions between Russia and Ukraine contributed to crude price volatility.

In Q1/24, Murban spread over Dubai and Arab Light spread over Dubai and Oman dropped from Q4/24, as China and India have reduced their purchases of crude oil from the Middle East and increased to import Russian crude oil after Russia imposed restrictions on exports to Europe. Meanwhile, supply from the Middle East has increased due to refinery maintenance in the region.

Gasoline spread over Dubai in Q1/24 rose compared to Q4/23, supported by a coal snap in the U.S. that caused unplanned outages in refineries, resulting in a tight supply in gasoline. Additionally, gasoline was also supported by Indonesia's election on February 14, 2024, and higher imports before the Ramadan festival season, leading to increased demand for gasoline within the country. However,

gasoline spread over Dubai softened from Q1/23 due to new refineries in the Middle East such as Al-Zour and Duqm starting to run at full capacity. Meanwhile, jet/kero and gasoil spreads over Dubai went down compared with Q4/23 and Q1/23 because shipments were rerouted from the Red Sea to the Good Hopes due to the attacks, resulting in a rise in freight costs that limited the export flow from Asia to Europe. This led to ample supply in the region. In addition to reduced heating demand as Europe shifted to cheaper gas prices, the slow economic recovery in the U.S., China, and Europe was also reflected in the purchasing managers' index (PMI), which remained below 50 throughout the quarter. High sulfur fuel oil spread over Dubai in Q1/24 increased from Q4/23 and Q1/23 resulted from higher demand for bunker and increased raw material imports from China. Furthermore, OPEC+ maintained its oil production cut, resulting in tight supply for high sulfur fuel oil. Low sulfur fuel oil over Dubai in Q1/24 dropped marginally from Q4/23. This was due to increased supply from new refinery in Kuwait (Al-Zour 0.61 million barrel per year). While low sulfur fuel oil over Dubai in Q1/24 rose compared with Q1/23 after the unrest in the Red Sea resulted in reduced exports from the West to Asia. Meanwhile, the demand for bunker fuel increased.

Table 4: Financial Result of Refinery Business

	Q1/24	Q4/23	+/(-)	Q1/23	+/(-)
Throughput <sup>(1)</sup> (%)	105%	111%	(6%)	112%	(7%)
Intake (kbd)	288	306	(18)	308	(20)
Gross Refining Margin (GRM) (US\$/bbl)					
: <u>excluding</u> Stock Gain/(Loss)	9.0	7.2	1.8	10.0	(1.0)
: <u>including</u> Stock Gain/(Loss)	9.1	2.1	7.0	6.4	2.7

**Remark** (1) Throughput (%) calculated based on 275,000 barrels per day

*In Q1/24, Thaioil refinery reported hikes in EBITDA and net profit from the prior quarter. This was because of a rise in GRM excluding stock gain/loss tracking higher ULG95 spread and lower crude premiums despite CDU-3 unplanned shutdown for 13 days.*

In Q4/23, Thai Oil Refinery reported utilization rate of 105% which decreased from Q4/23 due to CDU-3 unplanned shutdown for 13 days. The refinery booked sales revenue of Baht 122,033 million, or a decrease of Baht 2,762 million following lower selling prices of several products following lower crude oil prices and weakened demand as well as a slight drop in sales volume. Sales volume comprised of 87% domestic, 10% Indochina, and 3% export. The company reported GRM excluding stock gain/loss of 9.0 US\$/bbl, an increase of 1.8 US\$/bbl from the previous quarter mainly due to a rise in ULG95 spread over Dubai supported by 1) tight supply from the cold snap in the U.S., and 2) drops in crude premiums because China and India snapped Russian crude oil up and reduced crude imports from the Middle East where oil supply increased after maintenance shutdowns in the region. Moreover, the refinery reported stock gain of 0.1 \$/bbl or Baht 82 million, compared with stock loss of Baht 5,178 million in Q4/23. However, there was a write-down on crude and product inventory of Baht 824 million, compared to a reversal of of this transaction of Baht 1,841 million in the previous quarter. Altogether with net realized gain on financial instruments of Baht 5 million, compared with net realized loss of Baht 822 million in Q1/24, the company booked EBITDA of Baht 8,603 million, an increase of Baht 7,154 million from the previous quarter. Nevertheless, there was a loss from fair value measurement on financial instruments of Baht 124 million, compared with a gain of Baht 1,606 million in Q4/23. Furthermore, net foreign exchange loss of Baht 1,153 million was also booked during the period (mainly from foreign currency denominated assets and liabilities worth Baht 1,308 million),

compared with net foreign exchange gain of Baht 1,524 million in the prior quarter. Offsetting with depreciation, finance cost, and tax expenses, net profit of Baht 4,293 million was posted, a rise of Baht 2,263 million from Q4/23 (net profit with dividend income in Q1/24 was Baht 4,299 million).

Compared Q1/24 with Q1/23, the refinery posted increases in EBITDA and net profit since stock gain was realized while there was stock loss in Q1/23.

Compared to Q1/23, the company reported a decrease in utilization rate by 7% because of CDU-3 unplanned shutdowns for 13 days. The refinery booked a drop in sales revenue of Baht 1,734 million following lower selling prices of some products and slightly lower sales volume. However, GRM excluding stock gain/loss went down by 1.0 US\$/bbl from drops in almost all petroleum product spreads over Dubai. Moreover, the refinery recorded small stock gain, compared to stock loss of Baht 3,339 million in Q1/23. However, the refinery had greater write-down on crude and product inventory by Baht 617 million. Altogether with lower net realized gain on financial instruments of Baht 321 million, EBITDA was increased by Baht 3,048 million. Nevertheless, the refinery reported a loss from fair value measurement on financial instruments of Baht 124 million, compared with a gain of Baht 296 million in Q1/23. Furthermore, net foreign exchange loss of Baht 1,153 million was also booked during the period, compared with net foreign exchange gain of Baht 535 million in the same period last year. Offsetting with depreciation, finance cost and tax expenses, greater net profit of Baht 1,351 million was reported.

## 2.2 Market Condition and Financial Result of Aromatics Business

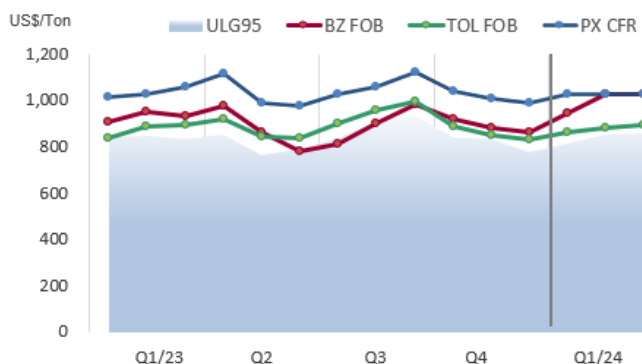
Table 5: Average Prices and Spreads of Aromatics Products

Average Prices (US\$/Ton)	Q1/24	Q4/23	+/(-)	Q1/23	+/(-)
Paraxylene (PX) <sup>(1)</sup>	1,027	1,014	13	1,034	(7)
Benzene (BZ) <sup>(2)</sup>	1,000	888	112	930	70
Toluene (TL) <sup>(2)</sup>	881	857	24	874	7
Spreads over ULG95 (US\$/Ton)	Q1/24	Q4/23	+/(-)	Q1/23	+/(-)
Paraxylene (PX)	184	198	(14)	193	(9)
Benzene (BZ)	157	71	86	89	68
Toluene (TL)	38	40	(2)	33	5

**Remark** (1) Based on CFR Taiwan price

(2) Based on FOB Korea price

Graph 2: Prices of Aromatics Products and ULG95



In Q1/24, PX price went up from Q4/23, supported by increased demand after the Chinese New Year, coupled with higher demand for PET bottles in late Q1/24 to support regional consumption during the summer. However, PX price in Q1/24 slightly decreased from Q1/23, coupled with a decrease in PX spread over ULG 95 in Q1/24 compared to Q4/23 and Q1/23 due to concerns over a global economic slowdown, ongoing economic challenges in China, and thin profit margins in downstream production, such as PTA, resulting in a limited recovery in the PX market.



In Q1/24, BZ price and its spread over ULG 95 increased from Q4/23, following a tightening of global BZ supply. Some BZ producers in the U.S. experienced cold weather, resulting in temporary production halts. Additionally, there was an increase in the import of BZ from Asia. Furthermore, BZ supply from the olefins industry was constrained due to low operating rates, along with low BZ inventories in China. This resulted in a tight BZ supply. However, the economic risks in China continued to limit BZ downstream demand in electronics sector.

In Q1/24, TL price increased from Q4/23 and Q1/23, while TL spread over ULG 95 remained stable from Q4/23 and Q1/23. This was attributed to an increased demand for TL in producing PX and BZ, which began to recover after the Chinese New Year. Additionally, there was a growing demand for TL to be used as an octane booster in ULG 95.

Table 6: Financial Result of TPX

	Q1/24	Q4/23	+ / (-)	Q1/23	+ / (-)
Aromatics Production Rate <sup>(1)</sup> (%)	76%	79%	(3%)	67%	9%
Aromatics Production (kTon)	158	167	(9)	138	20
Product-to-feed Margin <sup>(2)</sup> (US\$/Ton)	67	55	12	65	2

**Remark** (1) Based on a nameplate capacity of 838,000 Tons/year (527,000 tons of paraxylene per year, 259,000 tons of benzene per year and 52,000 tons of mixed xylene per year)

(2) Calculated from gross margin divided by feedstock volume (Ton)

*In Q1/24, TPX had better product-to-feed margin mainly due to a significant improved BZ spread from tighter supply. Thus, TPX had a better performance than the previous quarter. Compared to Q1'23, TPX had a slightly higher product-to-feed margin from better BZ and TL spreads although PX spread was lower. Therefore, TPX performance was better.*

In Q1/24, compared with Q4/23, Thai Paraxylene Co., Ltd. (TPX) had an aromatics production rate of 76%. TPX had sales revenue of Baht 13,966 million, decreased by Baht 145 million due to lower sales volume. However, BZ spread over ULG95 increased considerably owing to the cold snap in the U.S. resulted in tighter supply. Despite a slightly lower PX spread over ULG95, product-to-feed was higher by 12 US\$/ton from the previous quarter. In addition, TPX had a net realized gain on financial instruments of Baht 27 million, decreased by Baht 13 million from Q4/23. Thus, TPX recorded an EBITDA of Baht 671 million, higher EBITDA by Baht 240 million. Moreover, in this quarter, net gain on fair value measurement of financial instruments of Baht 53 million was recorded compared with loss on fair value measurement of financial instruments of Baht 0.5 million in the previous quarter. TPX also had a net foreign exchange gain of Baht 57 million, compared with a net foreign exchange loss of Baht 63 million in the previous quarter. Offsetting with depreciation, finance costs and plus income tax, In Q1/24, TPX posted a net profit of Baht 477 million, higher net profit by Baht 334 million from the former period.

Compared with Q1/23, TPX aromatics production rate increased by 9% and sales revenue rose by Baht 1,176 million due to an increased sales volume. TPX reported a higher in product-to-feed margin by 2 US\$/ton since BZ and TL spreads over ULG95 were widened. Combining with net realized gain on financial instruments, TPX had an EBITDA Baht 671 million, compared with an EBITDA of Baht 419 million in Q1/23. In addition, TPX had a gain on fair value measurement of financial instruments of Baht 53 million, compared with net loss on fair value measurement of financial instruments of Baht 112 million, and had a net foreign exchange gain of Baht 57million compared with a net foreign exchange loss of Baht 14 million. Therefore, TPX posted a net profit of Baht 477 million, higher net profit by Baht 395 million from the same period last year.

In Q1/24, aromatics group (TPX holds 75% shares of LABIX) had consolidated sales revenue of Baht 20,098 million, consolidated EBITDA of Baht 962 million and consolidated net gain of Baht 561 million.

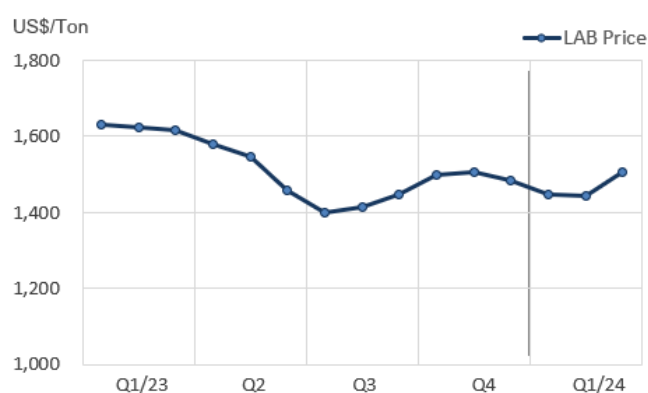
### 2.3 Market Condition and Financial Result of an Intermediate for the Production of Surfactants Business

Table 7: Average Price of LAB

Average Price (US\$/Ton)	Q1/24	Q4/23	+/(-)	Q1/23	+/(-)
Linear Alkylbenzene (LAB) <sup>(1)</sup>	1,466	1,497	(31)	1,624	(158)

Remark (1) Based on ICIS price

Graph 3: Price of LAB



In Q1/24, LAB price and its spread over jet and benzene declined from Q4/23 and Q1/23 due to concerns over slower economic growth, particularly in China, which was pressured by vulnerabilities in the real estate sector. Moreover, higher supply came from India starting in early Jan'24 after a turnaround in the previous quarter, resulting in increased supply in the region. Additionally, dropped demand during the Chinese New Year and increased benzene price due to tight supply from the cold snap in the U.S. put pressure on LAB spreads. (Source : ICIS 2024)

Table 8: LAB Production

	Q1/24	Q4/23	+/(-)	Q1/23	+/(-)
LAB Production Rate <sup>(1)</sup> (%)	120%	123%	(3%)	121%	(1%)
LAB Production (kTon)	36	37	(2)	36	-

Remark (1) Based on nameplate capacity of 120,000 Tons/year

*In Q1/24, LABIX had a drop on gross margin leading to lower performance.*

*Compared with Q1/23, LABIX had a dropped on gross margin following lower domestic demand and higher pressure from supply in the market.*

*LABIX then had a lower performance.*

In Q1/24, LABIX Co., Ltd. (LABIX) had LAB production rate at 120% and LAB sales volume was quite similar to Q4/23. However, a decrease in LAB price tracking feedstock prices resulted in sales revenue was Baht 6,539 million, a decreased by Baht 668 million. While LABIX had a lower gross margin due to a drop in domestic demand coupled with pressure from higher supply in the LAB market, LABIX then reported EBITDA of Baht 292 million, a decrease of Baht 173 million. However, LABIX had a net foreign exchange gain of Baht 57 million, compared to a net foreign exchange loss of Baht 81 million in Q4/23. After offsetting with depreciation, finance costs and income tax expenses, LABIX posted net profit of Baht 112 million, unchanged from the prior quarter.

Compared with Q1/23, LABIX had quite the same production rate and sales volume. However, a decrease in LAB price tracking feedstock prices, resulted in sales revenue decreased by Baht 307 million. While LABIX had a lower gross margin due to a drop in domestic demand coupled with the pressure from increased supply in the LAB market, LABIX then had a lower EBITDA by Baht 70 million. However, In Q1/24 LABIX had a higher net foreign exchange gain of Baht 57 million,

compared to a net foreign exchange loss of Baht 8 million in Q1/23. After offsetting with depreciation, finance costs and income tax expenses, LABIX reported a lower net profit by Baht 20 million compared to the same period of the previous year.

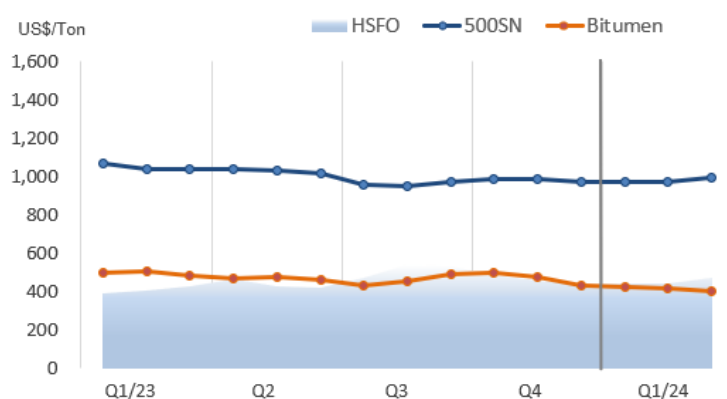
## 2.4 Market Condition and Financial Result of Lube Base Oil Business

Table 9: Average Prices and Spreads of Key Lube Base Oil Products

Average Prices (US\$/Ton)	Q1/24	Q4/23	+/(-)	Q1/23	+/(-)
500SN <sup>(1)</sup>	981	982	(1)	1,047	(66)
Bitumen <sup>(2)</sup>	413	470	(57)	495	(82)
Spreads over HSFO (US\$/Ton)	Q1/24	Q4/23	+/(-)	Q1/23	+/(-)
500SN	527	521	6	640	(113)
Bitumen	(41)	9	(50)	89	(130)

**Remark** (1) Based on Ex-tank Singapore price  
(2) Based on FOB Singapore price

Graph 4: Prices of Lube Base Oil (500SN), Bitumen and Fuel Oil



While lube base oil price in 1Q/24 remained stable compared to Q4/23, its spread over fuel oil increased, supported by limited supply resulting from reduced exports from Japan and plant maintenance in the region. However, base oil price and its spread over fuel oil in Q1/24 dropped compared to the same period of prior year, since higher supply from capacity expansion in Groups 2 and 3 put pressure on the market. This decrease was coupled with the demand for base oil in the region not having recovered.

Additionally, market conditions slowed down during the New Year and the Chinese New Year.

Bitumen and its spread over fuel oil in Q1/24 softened from Q4/23 and Q1/23, pressured by weakened bitumen demand in the region compared to the previous quarter, especially in China. Furthermore, road repair and infrastructure improvement activities continued to be delayed due to limited budgets in the region and low market prices in the Middle East, putting pressure on the Singapore market.

Table 10: Financial Result of TLB

	Q1/24	Q4/23	+/(-)	Q1/23	+/(-)
Base Oil Production Rate <sup>(1)</sup> (%)	70%	76%	(6%)	79%	(9%)
Base Oil Production (kTon)	52	51	1	52	-
Product-to-feed Margin <sup>(2)</sup> (US\$/Ton)	90	97	(7)	167	(77)

**Remark** (1) Based on nameplate capacity of 267,015 Tons/year  
(2) Calculated from gross margin divided by feedstock volume (Ton)

*In Q1/24, TLB had lower base oil production rate from Q4/23 and Q1/23 due to CDU3 unplanned shutdown sending down sales volume. Moreover, spreads shrank following higher supply for base oil and lower demand for bitumen. Thus, TLB had lower P2F and net profit.*

In Q1/24, Thai Lube Base Plc (TLB) reported utilization rate of 70% which was significantly lower from the last quarter due to unplanned shutdown of Crude Distillation Unit 3 (CDU: 3) in early Q1/24. Thus, sales revenue of Baht 5,380 million was booked, which was Baht 681 million lower from Q4/23. Meanwhile, spreads were on a declining trend especially that of bitumen as the fiscal budget approval was delayed leading to slowdown in demands for bitumen. Hence, Product-to-feed Margin went down by 7 US\$/tons to 90 US\$/tons and EBITDA went down by Baht 76 million to Baht 322 million. Offsetting with depreciation, finance cost and taxes, TLB reported lower net profit of Baht 42 million totaling to Baht 225 million.

Compared to Q1/23, TLB had lower sales revenue of Baht 888 million following lower feedstock intakes from CDU3 unplanned shutdown. Additionally, spreads also declined owing to the fact that in 2023, COVID-19 pandemic had begun to subside and caused spread price to widen following the disequilibrium between demand and supply. Thus, TLB reported a lower Product-to-feed Margin of 77 US\$/ton and EBITDA of Baht 819 million. Therefore, TLB showed lower net profit of Baht 661 million compared to the same period last year.

## 2.5 Financial Result of Power Generation Business

Table 11: Sales Volume from Power Generation Business

TOP SPP	Q1/24	Q4/23	+/(-)	Q1/23	+/(-)
Electricity Dispatched (GWh)	553	553	-	379	174
Steam Exported (kTon)	889	853	36	579	310

*In Q1/24, TOP SPP had a drop in sales revenue from lower average selling prices and higher tax expenses leading to TOP SPP posted lower net profit.*

*Compared with Q1/23, TOP SPP had an increase in net profit from TOP SPP expansion after commercial operation (COD) in Q2/23 leading to higher net profit.*

Compared Q1/24 with Q4/23, TOP SPP Co., Ltd. (TOP SPP) had sales revenue of Baht 3,314 million, which decreased by Baht 50 million due to a decrease in average selling natural gas prices while TOP SPP had lower operating expenses. As a result, TOP SPP reported EBITDA of Baht 822 million, decreased by Baht 14 million. In addition, there were higher income tax expenses by Baht 37 million due to expired BOI tax exemption of existing power plant Block 1 and 2 offsetting depreciation and finance costs, TOP SPP recorded a net profit of Baht 474 million, decreased by Baht 45 million from the prior quarter.

Compared Q1/24 with Q1/23, TOP SPP sales revenue increased by Baht 455 million mainly from a rise in sales volume of electricity and steam from commercial operation of TOP Expansion since 1<sup>st</sup> April 2023 resulting in enhanced electricity efficiency while there was a decrease in average selling prices following lower natural gas price. This led to a rise in EBITDA of Baht 238 million. However, there were higher income tax expenses by Baht 74 million because of expired BOI tax exemption for existing power plant block 1 and 2 offsetting depreciation and finance costs, TOP SPP net profit increased by Baht 86 million from the same period of last year.

## 2.6 Financial Result of Solvent and Chemicals Business

Table 12: Financial Result of Thaioil Solvent

	Q1/24	Q4/23	+ / (-)	Q1/23	+ / (-)
Solvent Utilization Rate <sup>(1)</sup> (%)	93%	65%	28%	82%	12%
Solvent Production <sup>(1)</sup> (kTon)	46	35	11	44	2
Solvent and Chemical Sales Volume (kTon)	145	152	(7)	144	1

**Remark** (1) Produced solvent by Sak Chaisidhi Co., Ltd. (TopNEXT International Company Limited (Former name: TOP Solvent Co., Ltd.) holds 80.52% shares)

*In Q1/24, business group reported lower sales revenue from decreased sales volume following a decline in demand.*

*However, EBITDA and net profit increased following the higher gross profit margin.*

*Compared with Q1/23, sales revenue increased due to a rise in selling prices tracking crude oil prices. This led to higher EBITDA and net profit compared to the same period of the previous year.*

In Q1/24 compared with Q4/23, Solvent and Chemicals Product Business reported 93% solvent utilization rate, increased by 28%. Solvent and chemicals sales volume decreased by approximately 7 kTon from the prior quarter. This led the business group to record sales revenue of Baht 5,083 million, decreased by Baht 226 million following demand of solvent and chemical. However, the business group reported EBITDA of Baht 285 million, increased by Baht 91 million because of the higher gross profit margin. Moreover, the business group recorded net foreign exchange gain and derivative of Baht 101 million compared to net foreign exchange loss and derivative of Baht 125 million in the previous quarter. Offsetting with depreciation of Baht 61 million, finance costs of Baht 43 million, income tax expense of Baht 61 million, and non-controlling interests. In Q1/24, the business group posted net profit of Baht 236 million, compared to net loss of Baht 29 million in the prior quarter.

Compared Q1/24 with Q1/23, the business group's utilization rate increased by 12% from the same period of prior year, sales volume increased by approximately 1 kTon. However, the average solvent and chemicals selling price per unit increased tracking crude oil price. As a result, the business group had sales revenue increase by Baht 325 million, and the business group posted an increase in EBITDA of Baht 53 million due to higher gross profit margin. The business group recorded higher net foreign exchange loss and derivative by Baht 53 million than Q1/23. Offsetting with depreciation, finance costs, income tax expense and non-controlling interests, Business group, in Q1/24, recorded an increase in net profit of Baht 101 million from the same period last year.

## 2.7 Financial Result of Olefin Business

Table 13: Spread of Olefin Products

หน่วย: US\$/Ton	Q1/24	Q4/23	+/(-)	Q1/23	+/(-)
HDPE – Naphtha MOPJ <sup>(1)</sup>	354	363	(9)	396	(42)
LLDPE – Naphtha MOPJ <sup>(1)</sup>	343	316	27	385	(42)
PP – Naphtha MOPJ <sup>(1)</sup>	326	291	35	380	(54)

Remark: (1) Based on ICIS price

*In Q1/24, TII had an increase in net loss from Q4/23 due to CAP reducing its operating rate for maintenance shutdowns and lower sales volume as converters stocked product in the previous quarter.*

In Q1/24, there were positive and negative factors affecting the petrochemical market in Asia. The Chinese Spring Festival was a key factor to drive the demand for food and beverage packaging in China. More activities in Vietnam supported some converters began to restock. However, concerns about the economic slowdown caused consumers to be more cautious about overspending and postponed purchases of non-essential items. From the mentioned situation, in Q1/24 high-density polyethylene (HDPE) spread over naphtha decreased to 354 \$/ton, while linear low-density polyethylene (LLDPE) spread over naphtha and the polypropylene (PP) spread over naphtha increased to 343 \$/ton and 326 \$/ton respectively. However, in Q1/24 CAP had a reduction in operating rate due to maintenance shutdowns and lower sales volume as converters kept a high inventory level from anticipation of olefin import restrictions according to the new regulations. As a result, in this quarter TII realized an increased share of loss in CAP and when combined with TII's operating expenses, TII reported a net loss of Baht 199 million, a loss increased by Baht 131 million from the previous quarter.

As CAP reduced its operating rate and had a lower sales volume in Q1/24, TII realized a share of loss in CAP. As a result, in Q1/24 TII reported a net loss of Baht 199 million compared to a net profit of Baht 32 million in Q1/23.

## 2.8 Financial Result of Ethanol Business

Table 14: Utilization Rate of TET

	Q1/24	Q4/23	+/(-)	Q1/23	+/(-)
Ethanol Utilization Rate (%)					
- Saphthip	103%	101%	2%	107%	(4)%

*In Q1/24, TET booked lower sales revenue from decreased sales volumes while higher ethanol selling prices, lower cost of sales and operating expenses. Thus, TET posted higher EBITDA and net profit than Q4/23.*

In Q1/24, Thaioil Ethanol Co., Ltd. (TET) reported sales revenue from Saphthip Co., Ltd. (TET holds 50% shares) of Baht 415 million which decreased by Baht 154 million from the previous quarter mainly from decreased ethanol sales volumes. However, a rise in ethanol selling price, lower feedstock costs and operating expenses were higher than previous quarter led to TET had EBITDA of Baht 54 million, increased by Baht 44 million and TET recorded net profit of Baht 1 million, compared with a net loss of Baht 24 million in the prior quarter.

*Comparing with Q1/23, TET showed lower sales revenue following a decrease in sales volumes. However, a drop in feedstock costs and rising of ethanol selling prices led to an increase in EBITDA and consolidated net profit comparing with in Q1/23*

In comparison with Q1/23, TET had a decrease in sales revenue from Sapthip Co., Ltd. of Baht 55 million following lower sales volumes. However, an increase in ethanol selling prices and lower feedstock costs resulted in a rise in EBITDA of Baht 10 million and a net profit increase of Baht 16 million from the same period last year.

### 3. Analysis of Consolidated Financial Statement

#### 3.1 Statement of Financial Position

The financial position of Thaioil and Subsidiaries can be summarized as follows:

Table 15: Condensed Consolidated Statements of Financial Position

(Million Baht)	31 March 2024	31 December 2023	+ / (-)	+ / (-) %
<b>Assets</b>				
Cash, cash equivalents and short-term investments <sup>(1)</sup>	36,473	34,376	2,097	6%
Other current assets	89,676	90,995	(1,319)	(1%)
Non-current assets	302,208	294,621	7,587	3%
<b>Total assets</b>	<b>428,357</b>	<b>419,993</b>	<b>8,364</b>	<b>2%</b>
<b>Liabilities</b>				
Current liabilities <sup>(2)</sup>	61,363	63,440	(2,078)	(3%)
Long-term borrowings and debentures (including current portion) <sup>(3)</sup>	165,448	159,919	5,530	3%
Other non-current liabilities	27,989	28,322	(333)	(1%)
<b>Total liabilities</b>	<b>254,800</b>	<b>251,681</b>	<b>3,119</b>	<b>1%</b>
<b>Equity</b>				
Equity attributable to owners of the company	170,774	165,568	5,206	3%
Non-controlling interests	2,783	2,744	39	1%
<b>Total equity</b>	<b>173,557</b>	<b>168,312</b>	<b>5,245</b>	<b>3%</b>
<b>Total liabilities and equity</b>	<b>428,357</b>	<b>419,993</b>	<b>8,364</b>	<b>2%</b>

Remark (1) Including deposits at a financial institution used as collateral (2) Including short-term loan (3) Including current portion and excluding lease liabilities

#### Total Assets

As of 31 March 2024, Thaioil and Subsidiaries reported total assets of Baht 428,357 million, which increase from 31 December 2023 by Baht 8,364 million, or 2% mainly due to;

- Non-current assets increased by Baht 7,587 million mainly from higher property, plant and equipment from project investment such as CFP project, and an increase from financial assets measured at fair value through other comprehensive income increased by Baht 1,200 million according to the securities held by the company and increased from investments in joint ventures and associates by Baht 1,868 million.
- Cash, cash equivalents and short-term investments increased by Baht 2,097 million, mainly due to cash flows from operations.
- Other current assets decreased by Baht 1,319 million, mainly due to receiving VAT refunds of Baht 800 million and a decrease in inventories of Baht 668 million. However, receivables from the Oil Fuel Fund increased by 1,036 million Baht due to higher compensation claims in the period.



### Total Liabilities

As of 31 March 2024, Thaioil and Subsidiaries reported total liabilities of Baht 254,800 million, increase from 31 December 2023 by Baht 3,119 million, or 1% mainly from;

- Long-term loans and debentures (including current portion) increased by Baht 5,530 million due to long-term loans from financial institutions increasing by Baht 6,595 million. In addition, debentures net of current portion increased from foreign exchange differences by Baht 5,942 million, while the current portion of debentures decreased by Baht 7,000 million.
- Other non-current liabilities decreased by Baht 333 million, mainly due to a decrease in financial derivative liabilities of Baht 591 million, while current portion of net lease liabilities increased by Baht 180 million.
- Current liabilities decreased by Baht 2,078 million, mainly due to a decrease in trade payables following lower crude oil prices by Baht 4,129 million. Meanwhile, corporate income tax payable increased by Baht 1,821 million and short-term loans increased by Baht 342 million for subsidiaries working capital.

Table 16: Consolidated Borrowings

(Million Baht)	Thaioil	LABIX	TOP SPP	TS	TET	TTC	รวม
Debentures : US\$-denominated <sup>(1)</sup>	6,200	-	-	-	-	103,894	110,093
: Baht-denominated	29,481	-	-	-	-	-	29,481
Borrowings : Baht-denominated	22,866	2,571	-	-	52	-	25,490
: Other currencies-denominated <sup>(1)</sup>	-	-	-	384	-	-	384
<b>As of 31 March 2024</b>	<b>58,546</b>	<b>2,571</b>	<b>-</b>	<b>384</b>	<b>52</b>	<b>103,894</b>	<b>165,448</b>
As of 31 December 2023	58,504	2,651	-	372	52	98,340	159,919
<b>+ / (-)</b>	<b>43</b>	<b>(80)</b>	<b>-</b>	<b>13</b>	<b>-</b>	<b>5,554</b>	<b>5,530</b>

Remark (1) Including foreign exchange gain/loss from foreign-currency-denominated liabilities revaluation

### Total Equity

As of 31 March 2024, Thaioil and Subsidiaries reported total consolidated equity of Baht 173,557 million, an increase of Baht 5,245 million or 3% from December 31, 2023, mainly due to higher net profit of Baht 5,863 million, while other components of shareholders' equity decreased by Baht 657 million mainly from lower recognition of cash flow hedges.

### 3.2 Statement of Cash Flows

On 31 March 2024, Thaioil and Subsidiaries reported cash and cash equivalent of Baht 33,388 million, Baht 28,520 million of which belonged to Thaioil alone (separated financial statement).

Statement of cash flows for Q1/24 of Thaioil and Subsidiaries was detailed as presented below:

Table 17: Condensed Statement of Cash Flows

(Million Baht)	Consolidated	Separated
Net cash flows from / (used in) operating activities	7,672	5,596
Net cash flows from / (used in) investing activities	(1,363)	(423)
Net cash flows from / (used in) financing activities	(2,134)	(1,067)
<b>Net increase in cash and cash equivalents</b>	<b>4,175</b>	<b>4,106</b>
Cash and cash equivalents at the beginning of period	28,432	23,737
Effect of exchange rate changes on cash and cash equivalents	781	677
<b>Cash and cash equivalents at the end of period <sup>(1)</sup></b>	<b>33,388</b>	<b>28,520</b>

Remark (1) Excluding deposits at a financial institution used as collateral

In Q1/24, Thaioil and Subsidiaries reported net operating cash flow of Baht 7,672 million, mainly from operating profit before tax expenses of Baht 7,365 million, an increase of non-cash adjustment before tax expenses of Baht 3,399 million. Net decrease in operating assets and liabilities was Baht 2,991 million and net tax paid was Baht 100 million. However, Thaioil and Subsidiaries had cash used in investing activities of Baht 1,363 million, mainly from the purchases of property, plant and equipment of Baht 4,249 million, mostly for investments in Clean Fuel Project (CFP) under construction, offsetting with cash received from sale of short-term financial asset investments of Baht 2,925 million.

In addition, we had cash used in financing activities of Baht 2,134 million, mainly from debenture redemptions of Baht 7,657 million and repayment of short-term borrowings from financial institutions of Baht 1,878 million, as well as financing costs of Baht 1,176 million. Meanwhile, there were long-term loans from financial institutions of Baht 7,016 million and short-term borrowings from financial institutions of Baht 2,188 million.

According to the mentioned cash flows activities, Thaioil and Subsidiaries had a net increase in cash and cash equivalents of Baht 4,175 million. In addition, we booked an effect of exchange rate changes on cash and cash equivalents increasing by Baht 781 million. Together with beginning cash and cash equivalents of Baht 28,432 million, Thaioil and Subsidiaries had ending cash and cash equivalents of Baht 33,388 million as of March 31, 2024.

### 3.3 Financial Ratios

Table 18: Financial Ratios (Consolidated)

Profitability Ratios	Q1/24	Q4/23	+/( -)
Quality of earnings ratio (%)	10%	3%	7%
Gross profit margin ratio (%)	8%	3%	5%
Net profit margin ratio (%)	5%	2%	2%

Liquidity Ratios	Q1/24	Q4/23	+/( -)
Current ratio (times)	2.0	1.7	0.2
Quick ratio (times)	1.0	0.9	0.1

Financial Policy Ratios	Q1/24	Q4/23	+/( -)
Total liability/ Total equity (times)	1.5	1.5	-
Net debt/ Equity (times)	0.9	0.9	-
Long-term loan/ Total equity (times)	1.1	1.1	-
Interest coverage ratio (times)	10.5	3.5	7.0
Long-term loan/ Total capitalization (%)	52%	52%	-

#### Financial Ratios Calculation

Quality of Earnings ratio (%)	= EBITDA / Sales Revenue
Gross Profit Margin ratio (%)	= Gross Profit / Sales Revenue
Net Profit Margin ratio (%)	= Net Profit for the period / Total Revenue
Current ratio (times)	= Current Assets / Current Liabilities
Quick ratio (times)	= (Cash and Cash equivalent + Short-term investments + Accounts Receivable) / Current Liabilities
Total Liabilities / Total Equity (times)	= Total Liabilities / Total Equity
Net Debt/ Equity (times)	= Net Debt / Total Equity
Long term loan/ Total Equity (times)	= Long Term Loan / Total Equity
Long term loan	= Long-term borrowings from financial institutions + Debentures (includes current portion) + Lease liabilities (includes current portion)
Interest Coverage ratio (times)	= EBITDA / Interest Expenses (Finance costs)
Long term loan/ Total Capitalization (%)	= Long Term Loan / Total Capitalization
Total Capitalization	= Long Term Loan + Total Equity
Net Debt	= Interest bearing debt + Lease liabilities - Cash and cash equivalent – Short-term investments

#### **4. Industry Outlook for the Second Quarter of Year 2024, and the Second Half of Year 2024**

##### **Crude Oil & Refinery Market Outlook**

Crude oil prices in Q2/24 and 2H/24 are anticipated to rise compared to the previous quarter due to significant escalation in the tensions in the Middle East, triggered by widespread Israeli attacks and a recent airstrike targeting the leader of Hamas. Negotiations for a truce remain inconclusive, which further uplift market concerns. Additionally, the ongoing conflict between Russia and Ukraine persists, with recent airstrikes impacting over 20 percent of Russia's refinery capacity. OPEC+ is expected to continue its production cuts until Q4/24. Meanwhile, the market is closely monitoring the Federal Reserve's (FED) interest rate policy, which currently stands at 5.25-5.50 percent. According to the US inflation rate remaining above 2 percent, Fed is likely to maintain interest rates at elevated levels until the end of 2024. Furthermore, the Chinese economy tend to be vulnerable due to the crisis in the real estate sector, despite the Chinese government introducing economic stimulus package through money injection.

The refinery business in Q2/24 and 2H/24 is expected to soften compared to Q1/24, pressured by higher supply from new refineries such as Al-Zour, Duqm, and Dangote, which are operating at full capacity, coupled with a rise in freight cost putting pressure on export flow from Asia to Europe. However, the refinery business being supported by some Russian refineries are undergoing maintenance due to the attack by Ukraine, resulting in tighter supply in diesel. Meanwhile, gasoline demand is expected to grow during the U.S. driving season, amid low product inventories remaining below the 5-year average.

Refinery business in 2H/24 is likely to be balanced and slightly softer compared to 1H'24 but it is expected to remain stronger than pre COVID-19 level. This is because large-scale refineries such as Dangote (0.65 million barrels per day) are expected to operate at full capacity by this year, resulting in higher supply for gasoline and diesel. However, there will be a demand for gasoil to generate power in the Middle East amid peak maintenance season in Asian refineries during the middle of this year.

##### **Aromatics Market Outlook**

In Q2/24, the Paraxylene (PX) market is forecasted to soften compared to Q4/23 as demand in the region is likely to be pressured by downstream businesses such as PTA, which have not recovered. Despite increasing demand for PET bottles in the summer season, crude oil and gasoline 95 prices are expected to remain at elevated levels, which will put pressure on product spreads.

For 2H/24, the PX market is expected to improve compared to 1H/24 due to economic stimulus policies in China, potentially boosting consumption and domestic travel, leading to increased demand for clothing and PET bottles.

In Q2/24, the Benzene (BZ) market is expected to remain stable compared to 1Q/24 due to tight supply from yearly maintenance period of regional BZ producers, coupled with low inventory in China.

For 2H/24, BZ market is expected to improve compared to 1H/24 supported by expected growth in the consumption of electronic devices, resulting in improved BZ market.

In Q2/24, Toluene (TL) is likely to be stable compared to Q1/24 due to elevated ULG 95 price, resulting in stronger TL demand as an octane booster in gasoline blending, especially during the summer season. However, PX and BZ markets remain limited, leading to restricted demand for TL in aromatic productions.

For 2H/24, TL market is expected to improve compared to 1H/24 as the overall aromatics market begins to recover. However, there is likely to be a marginal decrease in gasoline blending. (Source: CMA Spring 2024)

### **LAB Market Outlook**

In Q2/24, LAB market is expected to improve compared to Q1/24 supported by increasing demand for LAB in cleaning products during the summer season in most Asian countries. Additionally, LAB price is likely to be supported by rising crude oil prices due to the escalation of tensions in the Middle East

In 2H/24, LAB market is expected to soften compared to 1H/24 driven by a reduction in demand during the monsoon season (June – July), which could potentially impact LAB spreads.

### **Lube Base Oil Market Outlook**

In Q2/24, 500 SN price and its spread over high sulfur fuel oil are expected to be pressured compared to Q1/24 due to an increase in high sulfur fuel oil price amid uncertainty of global economic situation. Additionally, regional demand is likely to ease during the rainy season despite limited regional supply, as plants undergo yearly maintenance.

In the second half of 2024, lube base oil market is expected to persistently soften due to increased supply from new capacities in China, alongside reduced regional demand for base oil Group 1 compared to 1H'24.

### **Bitumen Market Outlook**

Bitumen price and its spread over high sulfur fuel oil in Q2/24 and the latter half this year are expected to be softer compared to Q1/24, pressured by concerns on economy and high sulfur fuel oil price, which are likely to increase. This is coupled with the delay in road project improvements due to unfavorable weather conditions during the rainy season. However, the higher budget allocated for infrastructure improvements is likely to support bitumen demand, despite potential delays in project approvals in some countries.

## 5. Appendix

### 5.1 Summary of Approved Investment Plan

From 2024 to 2027, Thaioil and Subsidiaries have outstanding approved capital expenditure of US\$ 743 million, mainly consisting of CFP project (Clean Fuel Project) of US\$ 228 million and an investment in PT Chandra Asri Petrochemical Tbk (“CAP”) of US\$ 270 million. An estimated budget for the investment during 2024-2027 is summarized in the table below.

## TOP Group Strategic Investment Plan

### CAPEX Plan (Unit US\$ million)

Updated as of March 2024

Project	Estimated Budgeting for Investment Plan 2024 - 2027
<b>CFP project *</b>	<b>228</b>
<b>Total Ongoing CAPEX</b>	<b>245</b>
Reliability, Efficiency and Flexibility Improvement	192
Infrastructure Improvement ( i.e. RHCU Phrase 2, New Bangphra Raw Water Line, New Fuel Oil Tank )	29
Other Investments ( i.e. Corporate Venture Capital - CVC , Digital Transformation )	24
<b>Olefins Investment</b>	<b>270</b>
<b>Total CAPEX</b>	<b>743</b>

\* CAPEX of CFP Project including the disposal of asset to transfer ownership in the Energy Recovery Unit (ERU) which is a part of the CFP Project

Notes: Excluding approximately 40 M\$/year for annual maintenance

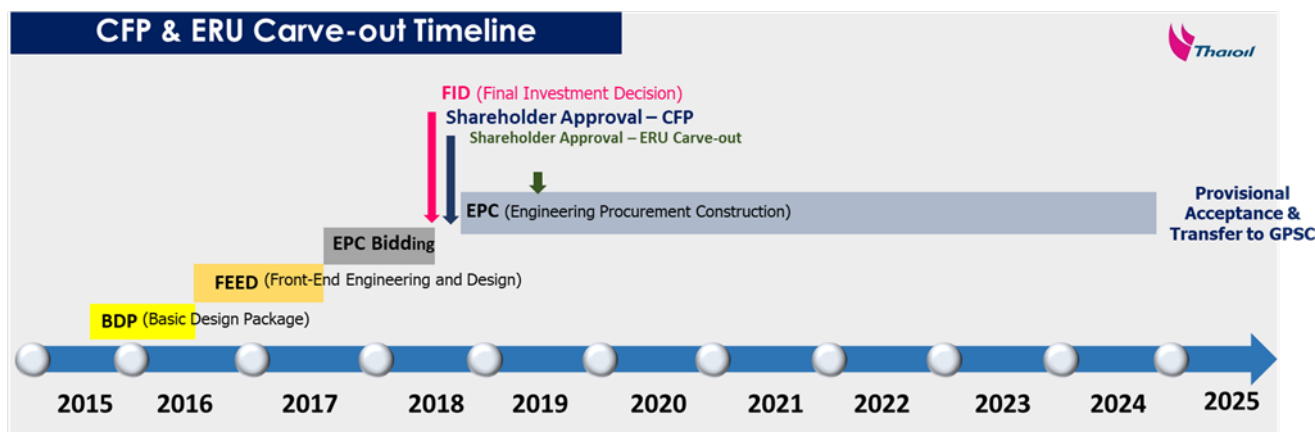
### 5.2 Summary of Key Project Investment: Clean Fuel Project (CFP)

The objective of CFP project is to enhance the competitiveness and efficiency and increase oil refining capacity to 1) upgrade low value product to higher value and more environmentally friendly products and 2) allow the refinery to handle more types and greater quantity of crude oils, which create economies of scale and a reduce raw material costs. Moreover, the project enhances the country’s long-term energy stability and economic development, with the investment project value of approximately US\$ 4,825 million. CFP was approved by the Company’s Extraordinary General Meeting of Shareholders on 27 August 2018. The CFP timeline is shown as summarized below:

# Clean Fuel Project (CFP)

## Main objectives of CFP

- Enhance **competitive advantage** of the refinery and **maintain 1<sup>st</sup> quartile performer**
- Enhance capability to **upgrade lower value product** into higher value product and ability to **process heavier (cheaper) crude oil**



On 10 April 2019, the 2019 Annual General Meeting of Shareholders resolved to approve the disposal of assets to transfer ownership in the Energy Recovery Unit (ERU), which is a part of CFP, to and the execution of the Relevant Agreements including the asset sale and purchase agreement, fuel and utilities supply agreement, power purchase agreement, operation and maintenance services agreement and land sub-lease agreement as well as the novation agreement with Global Power Synergy Public Company Limited (GPSC) or wholly owned subsidiary of GPSC (ERU Project). The ERU Project aims to reduce total investment cost of CFP, enhance liquidity and support future investment. Furthermore, the transaction will boost the return on investment of CFP while the Company can continue to manage and oversee the implementation of CFP and ERU during the construction and operation phase while maintaining safety, reliability and plant optimization of the project as originally planned.

As of 31 March 2024, the completion progress of the CFP was approximately 96%, material equipment and modules have been imported and currently being expedited installation in construction area. However, the global COVID-19 pandemic during 2020-2022 significantly impacted various projects worldwide, including equipment manufacturing, transportation, and construction. The CFP has been affected, resulting in delays from the original schedule. However, the company, along with project contractors and advisors have been working to address and modify the operation plan to minimize the project’s impact, for instance, adjusting construction plans to accelerate the progress, increasing sub-contractors to support work scopes and changing timelines under strict COVID-19 control measures, and modifying work structures to improve operational efficiency. Due to the complexity of these processes and measures, the investment expenditure has increased approximately US\$550 million and an increasing in interest during construction approximately US\$422 million, and project timeline has been extended by 2 years. Despite these challenges, the company remains committed to expediting the CFP according to the strategic plan to generate long-term growth and profitability.

Additionally, although the overall construction of the project is behind schedule, the company started commissioning of the Hydrodesulfurization unit (HDS-4) in February 2024 ahead of schedule plan to support the production of EURO-5 standard which was implemented in Thailand in 2024. As for the other units, efforts are actively underway to accelerate commissioning processes.

### 5.3 Plan of Scheduled Turnaround Maintenance in 2024

Production Unit	Reason	Period
Crude Distillation Unit 1* and other related main production units	Major Turnaround	6 - 17 May 2024 (Approximately 12 Days)

Remark \*nameplate capacity approximately 50,000 barrels per day