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S&P Global



Thai Oil Public Company Limited

Presentation to Investors

September 2021



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Presentation Agenda

TOP GROUP BUSINESS OVERVIEW

KEY FINANCIAL HIGHLIGHTS

STRATEGIC INVESTMENT PLANS

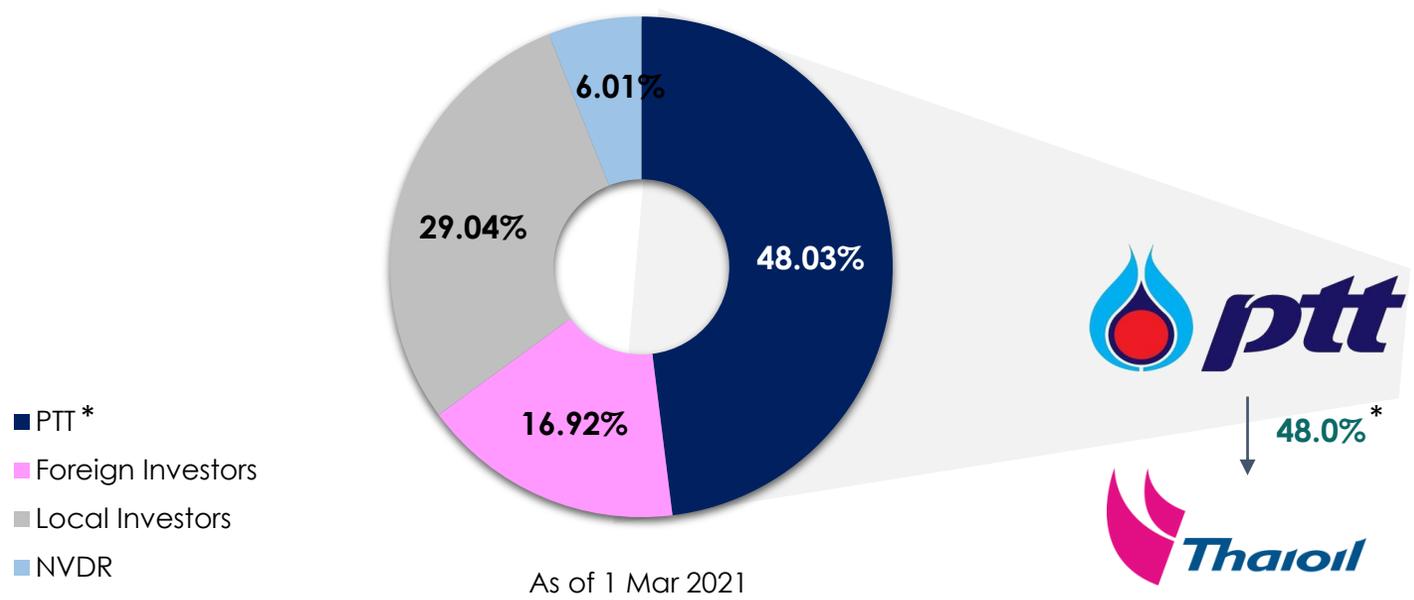
OLEFINS INVESTMENT

OUTLOOK

FINAL REMARKS

Strategic Relationship and Operational Integration with PTT

Thai Oil's strong shareholder base



- Benefits from PTT's dual role as our major shareholder and key business partner
- All transactions take place at arm's length and in adherence with strong corporate governance principles

Key strategic benefits for Thai Oil

1. Long-term strategic partnership

- Thai Oil is PTT's principal refiner
- Long-term strategic shareholder and joint investment

2. Business partnership

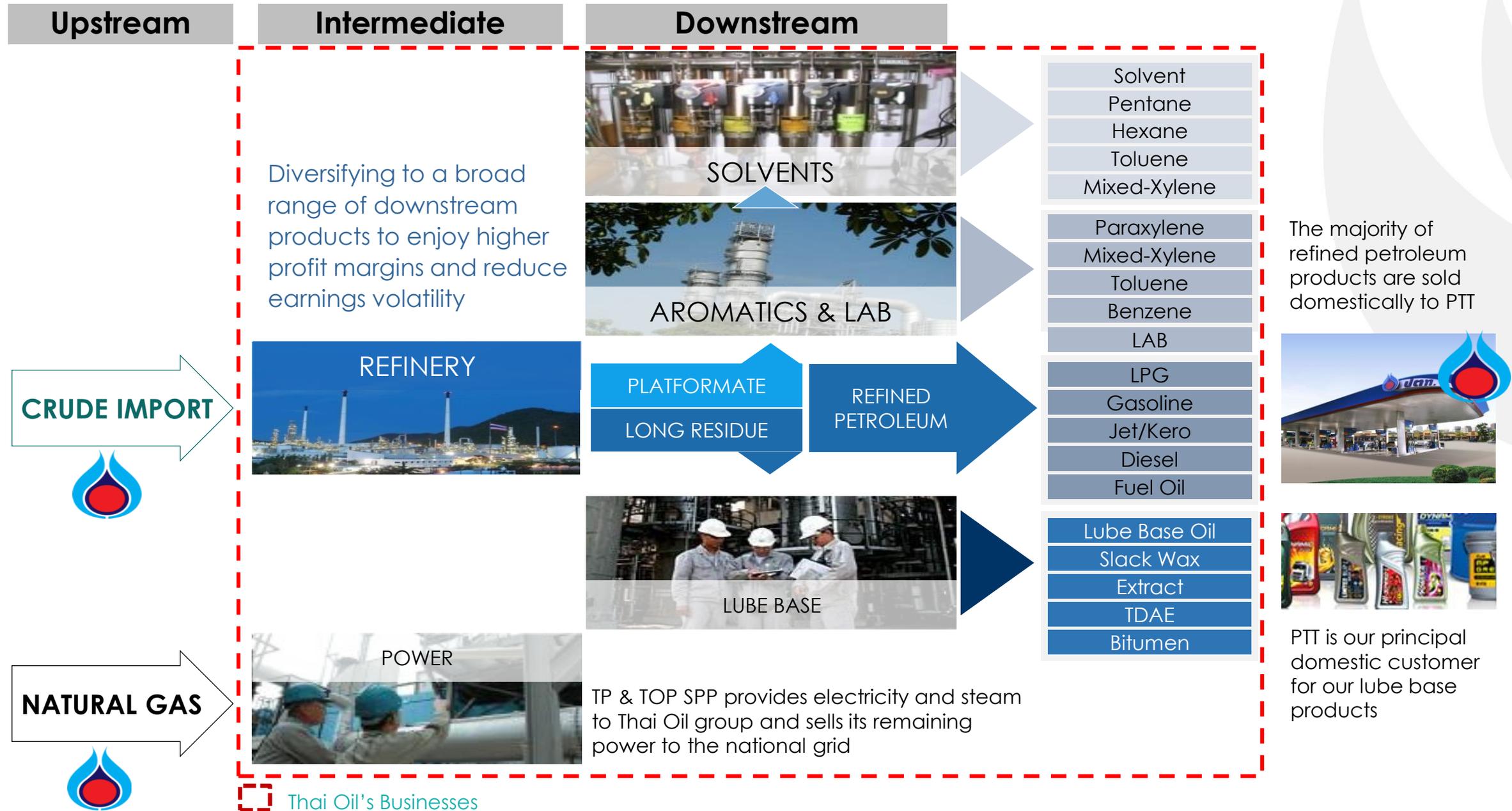
- Product offtake
- Crude procurement

3. Operational synergies

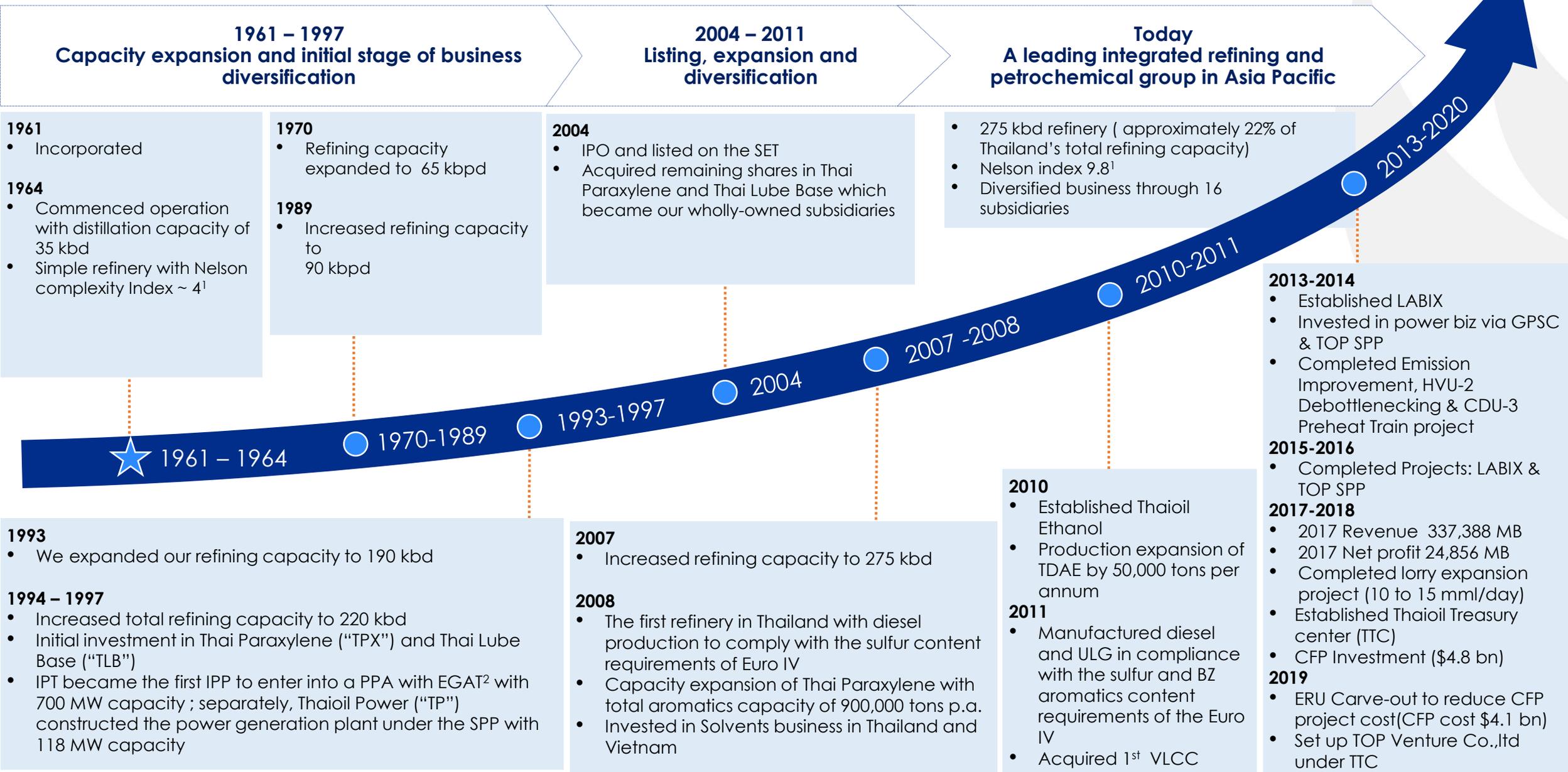
- Freight costs reduction
- Knowledge transfer and shared services
- Close management collaboration and secondment of trained staff

Remark
* PTT holds total of 48.03 % both direct and indirect

TOP Group Synergy & Strategic Role in PTT Group Value Chain



Key Milestones: 60 Years, A Long Track Record of Success



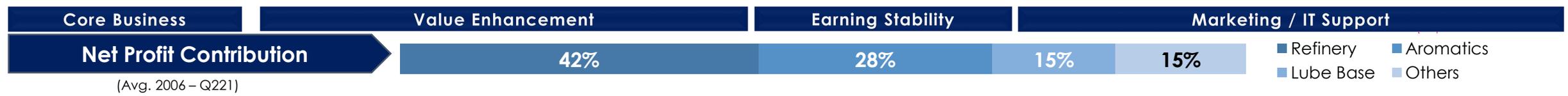
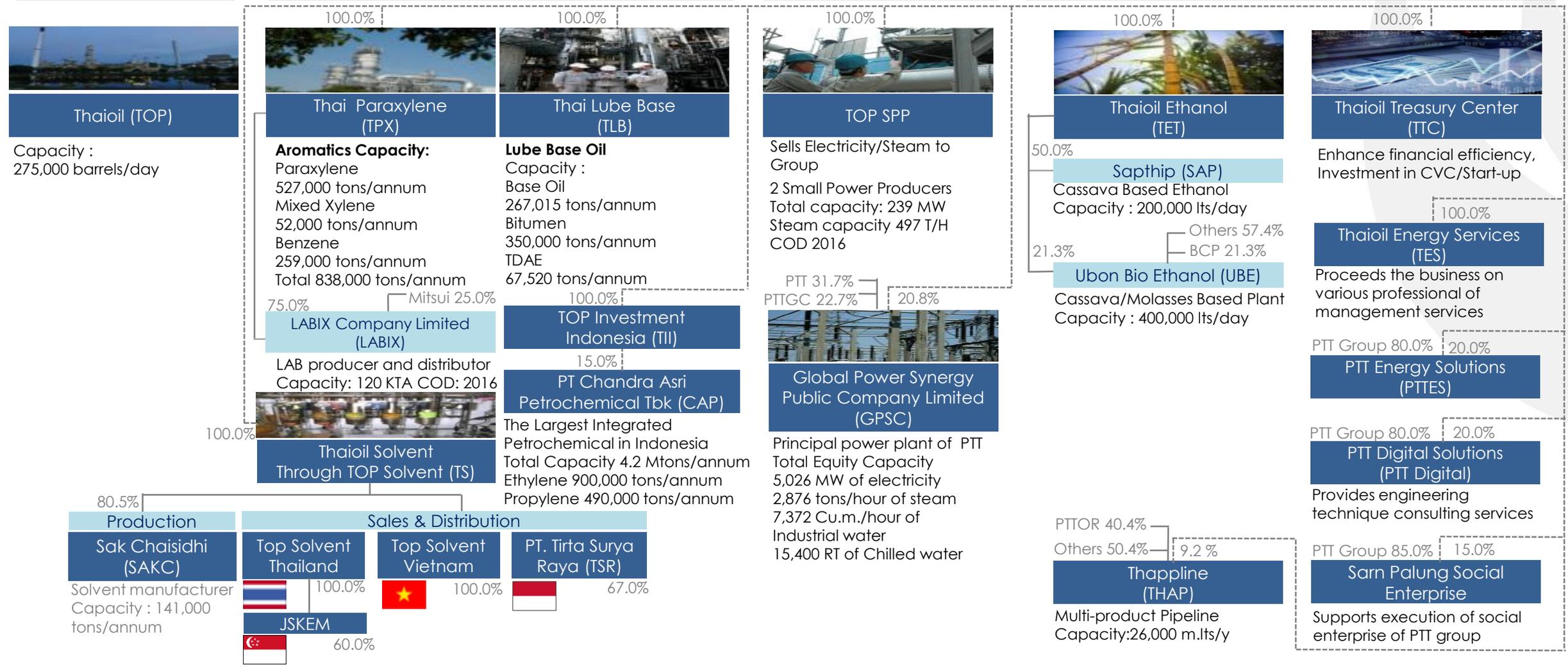
Thai Oil Group Business Structure

OIL REFINERY

PETROCHEMICAL & LUBE BASE

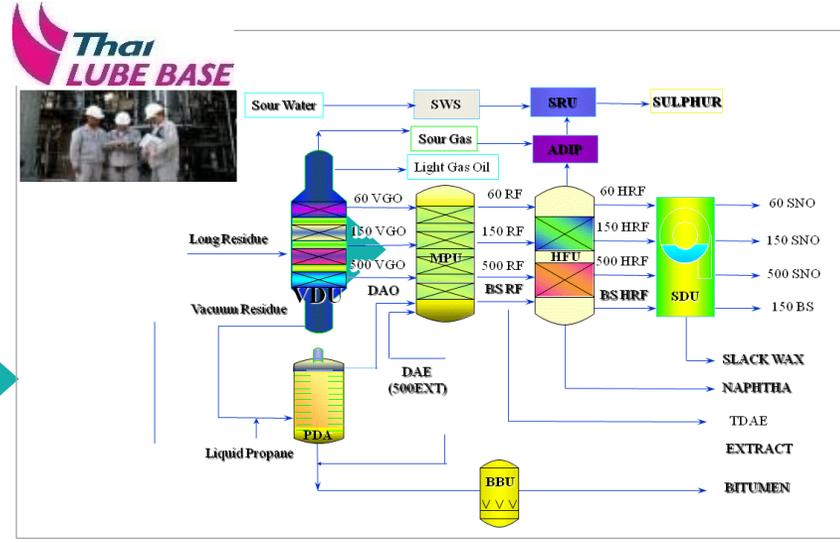
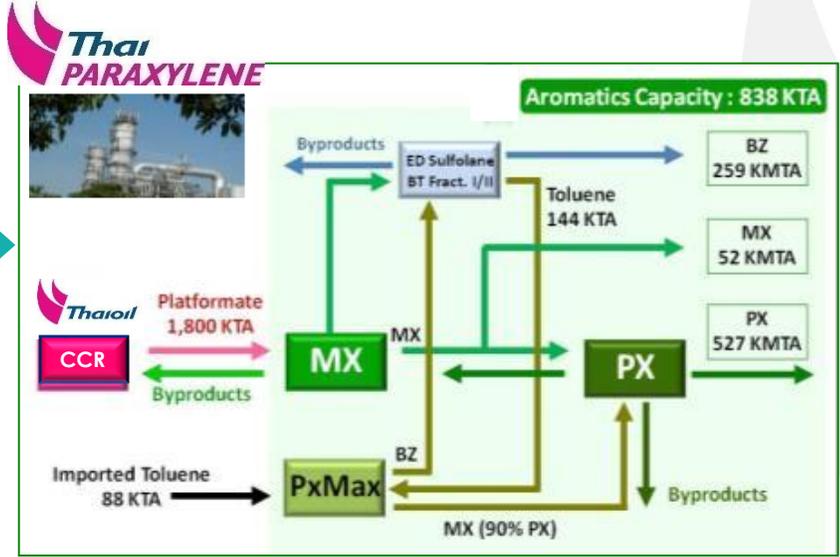
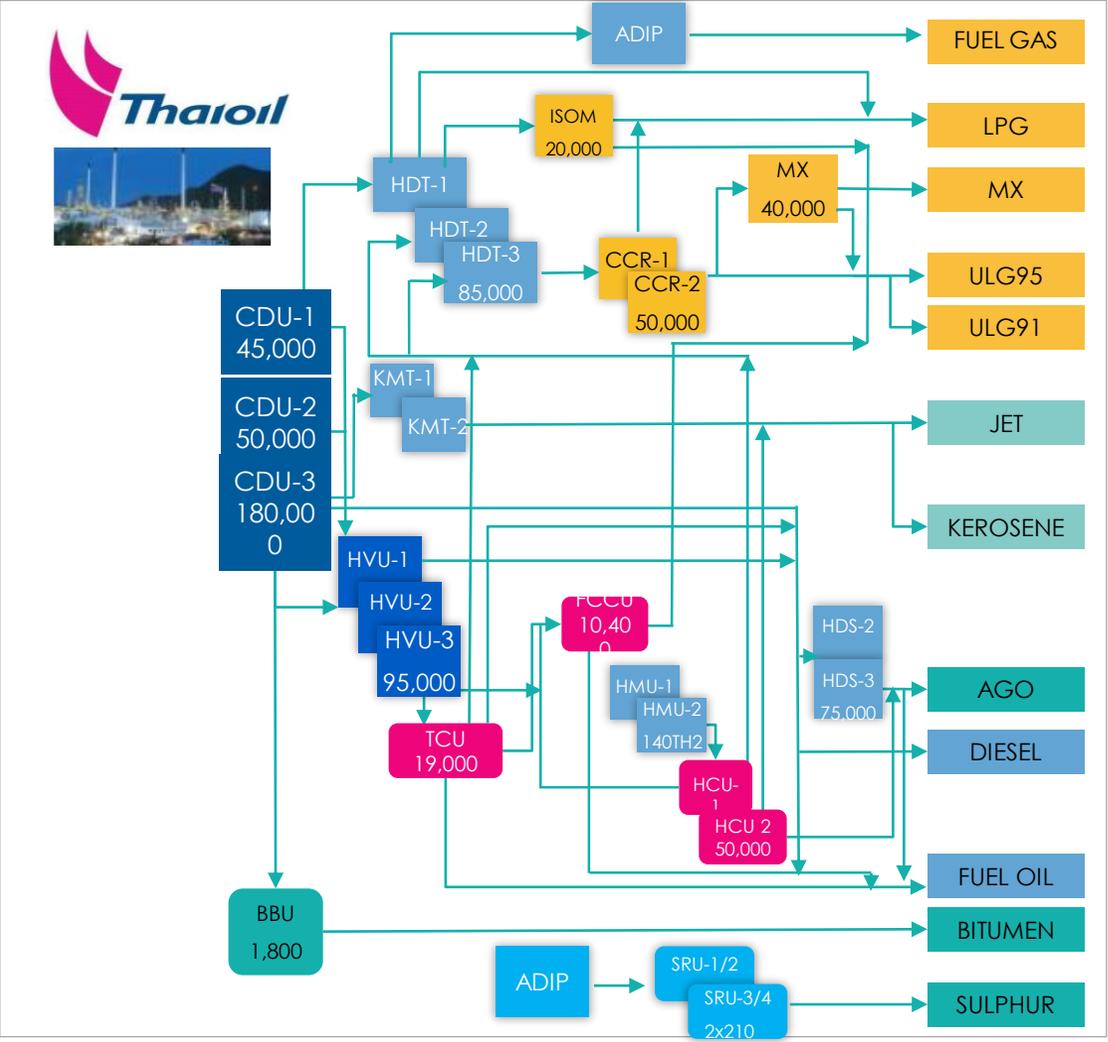
POWER GENERATION

OTHERS



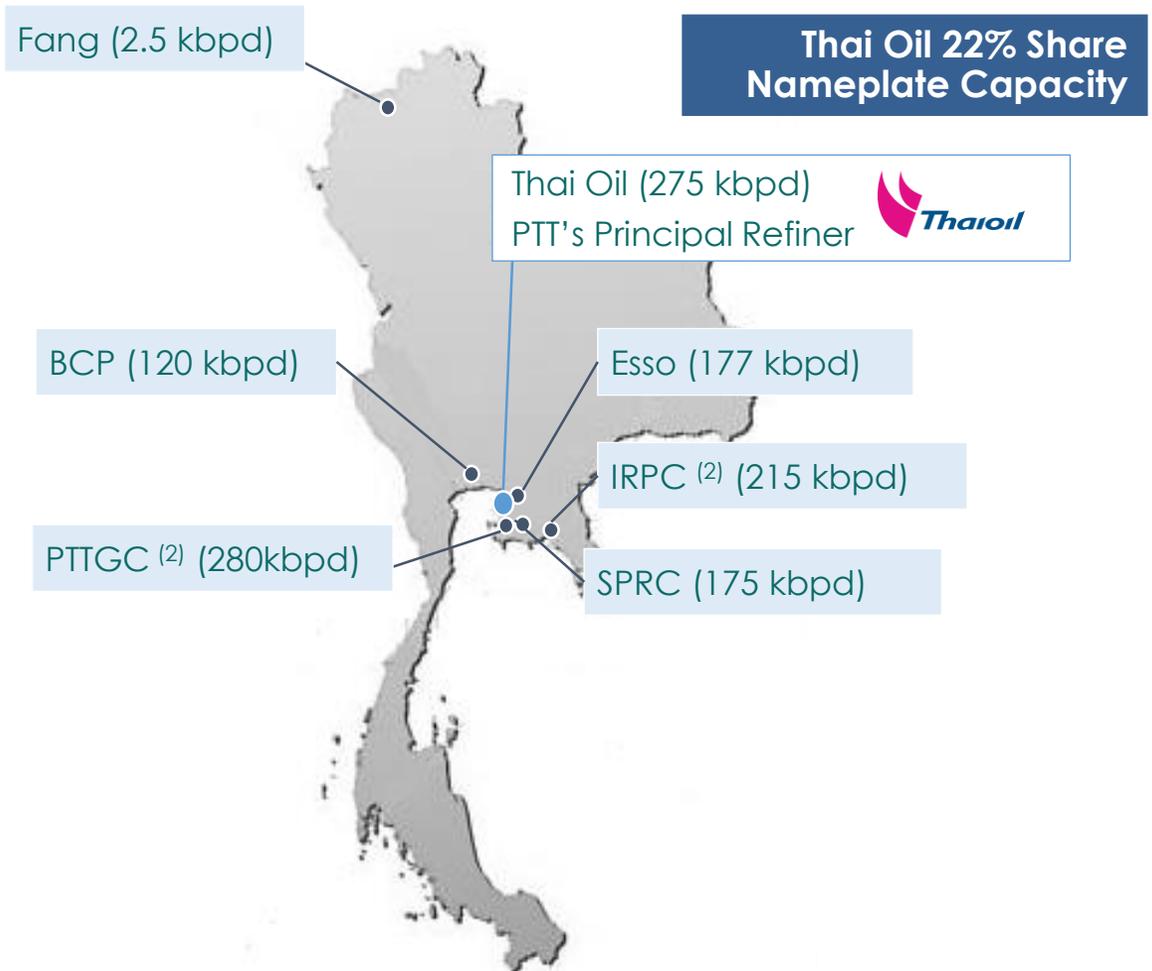
Process Linkage: Beauty of Integration

PROCESS FLOWCHART

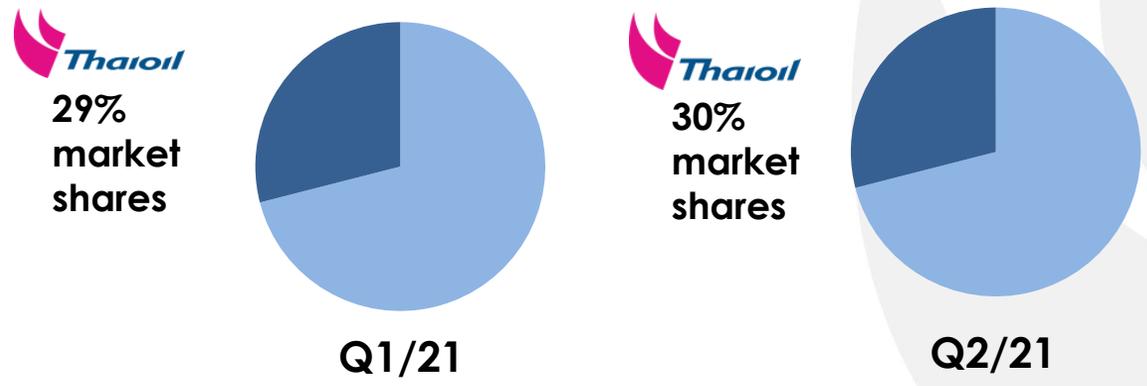


One of Region's Leading Refineries

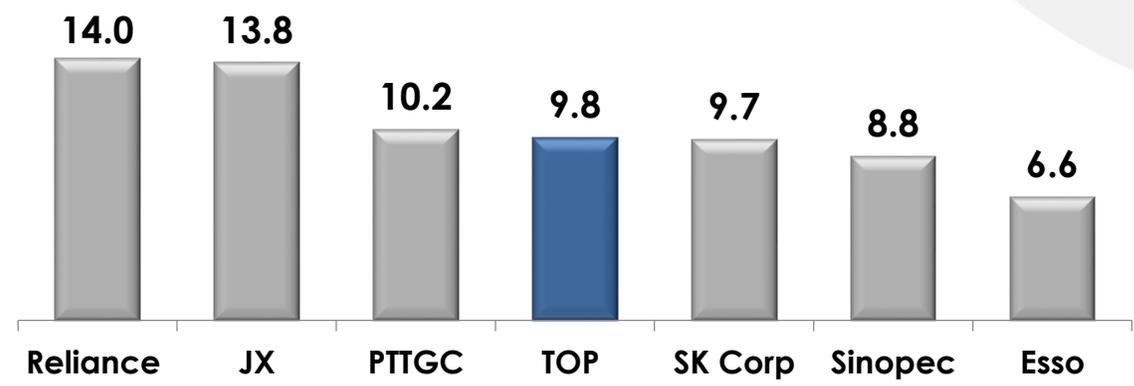
Total Thailand crude refining capacity 1,244.5 kbd ⁽¹⁾



Market shares for refined petroleum product ⁽³⁾



Nelson Index - Regional Comparison ⁽⁴⁾



- Remarks:
- Nelson Complexity Index measures refinery's upgrading capability for comparison
 - It is the ratio of complexity barrels divided by crude distillation capacity

Note: 1. Source: Energy Policy and Planning Office (EPPO), Ministry of Energy Thailand as of Jul 2020
 2. PTT holds a 47.6% interest in IRPC, a 47.7% interest in PTTGC as at 4 Aug 2020
 3. Calculate by total domestic sales of refined petroleum products (excluding by product & LPG) of Thai Oil divided by total sales of petroleum products in Thailand excl LPG. Source from EPPO
 4. Source: Worldwide Refinery Survey and Complexity Analysis 2019 from Oil & Gas Journal and company information

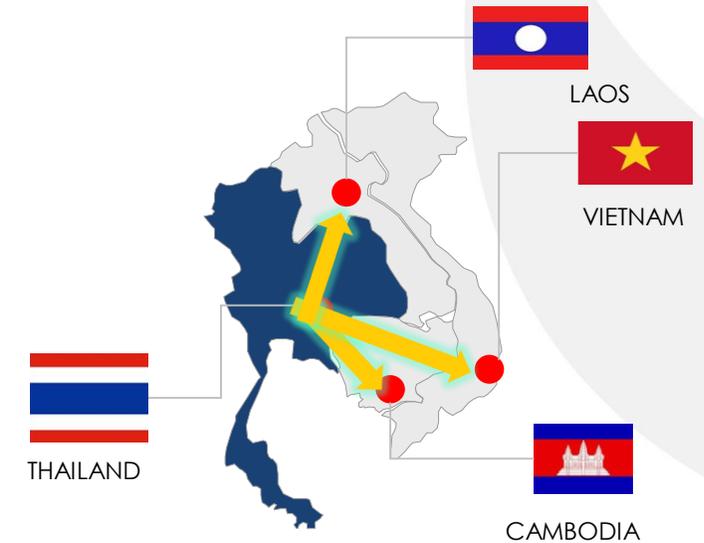
Strategic Location with Competitive Advantages in Access to Key Markets

Close proximity to the key domestic markets

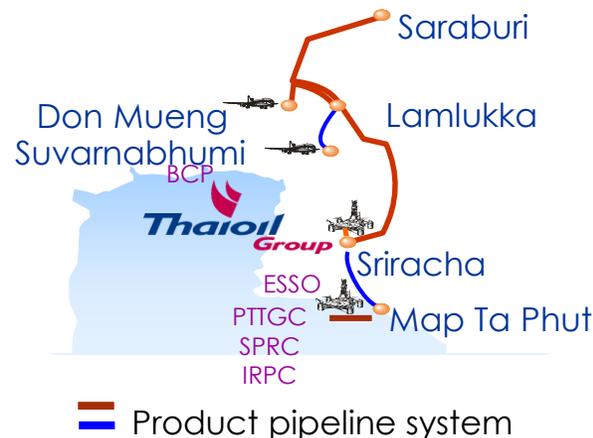
Access to Indochina markets through deep water ports and trucks

Our strategic location provide us with

1. Close proximity with the key domestic markets and Indochina
2. Direct access to deep water ports
3. Direct connection with multi-product pipelines



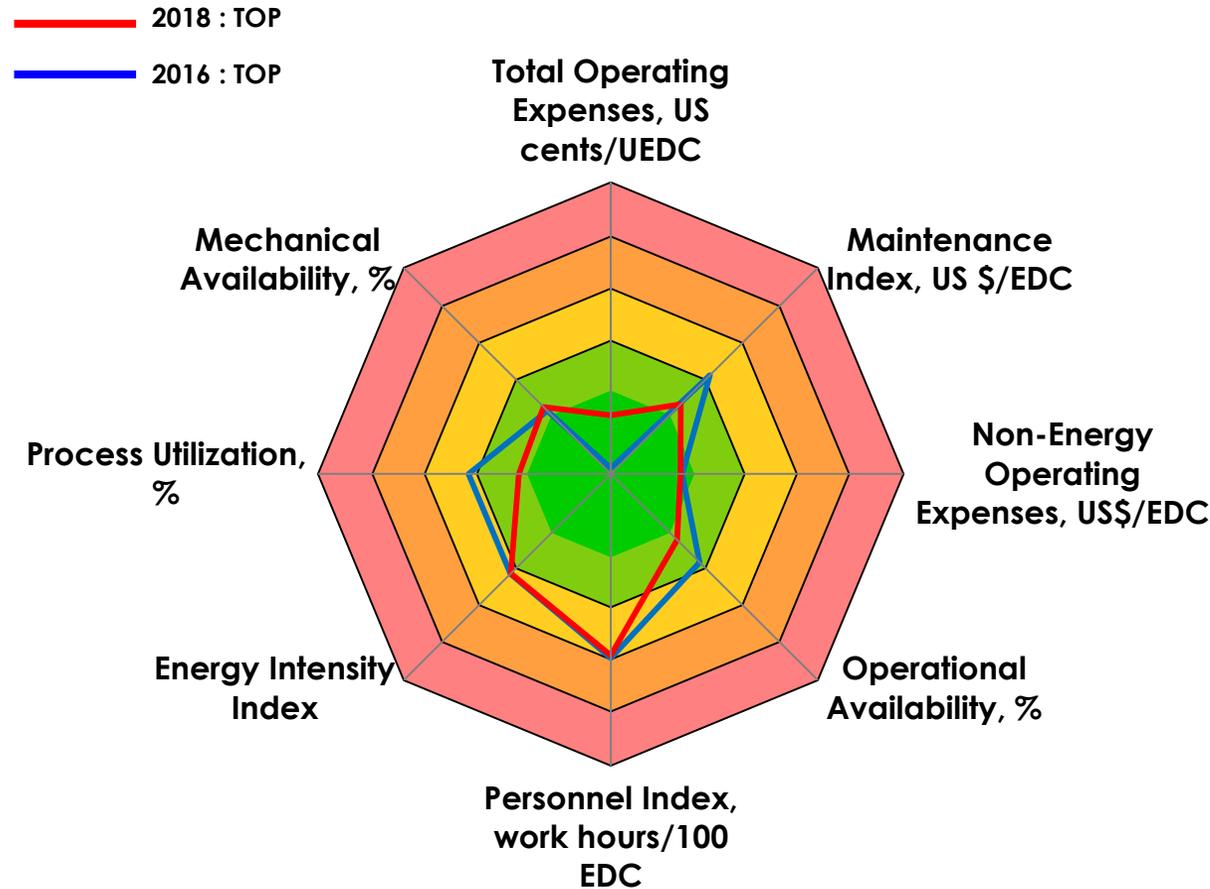
Direct connection with product pipeline system



- ✓ Our plants are located within the Sriracha Complex
- ✓ SBM provides direct access to deep water ports, and ability to receive feedstock directly from VLCC
- ✓ We also enjoy available connections to delivery networks such as multi-product pipelines, including Thapline

Competitive Performance Benchmarking (Yr 2016 vs 2018)

Solomon for GOC 3⁽¹⁾ Category



Solomon Associates is the independent 3rd party who applies Comparative Performance Analysis methodology to industry peers in the area of reliability, equipment, utilization, operating expense, gross margin and overall performance range and come up with comparative ranking

Remark :

⁽¹⁾ GOC 3 stands for Gas Oil Conversion Group 3, under which refineries in this group have equivalence distillation capacity 1,800 – 2,999 KEDC



Optimized & Flexible Operations...Superior Performance

Thai Oil is able to diversify its type of crude intake and product outputs to maximize demand and margin

Crude Assays based on TOP configuration*



Sources of Crude

Product output

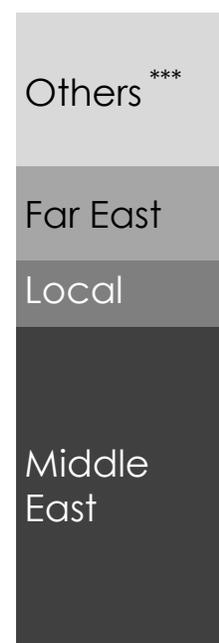
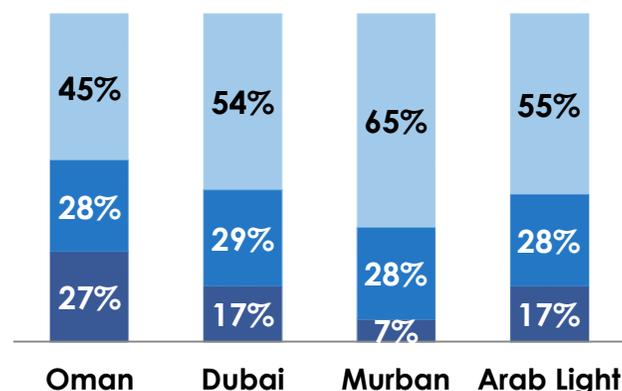
Reference Price



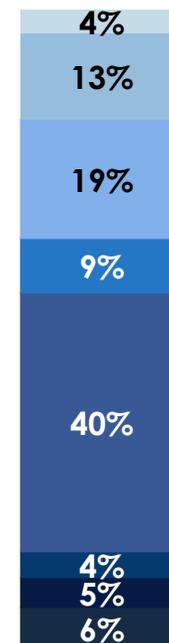
Domestic demand for petroleum products**

% S = 1.43 API = 32.0	% S = 2.52 API = 31.2	% S = 0.78 API = 39.4	% S = 1.97 API = 32.8
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■ Short Residue ■ Waxy ■ Gasoline/Distillates



Q2/21



Q2/21

SAUDI ARAMCO
MOPS ULG 95 FOB SG
MOPS Jet Kerosene FOB SG
MOPS Gasoil 0.05% Sulfur FOB SG
MOPS Fuel Oil 0.5%S
MOPS Fuel Oil 3.5%S



*Crude yield as per assay in Spiral as of Feb 2016

** Source: Energy Policy and Planning Office, Ministry of Energy Thailand

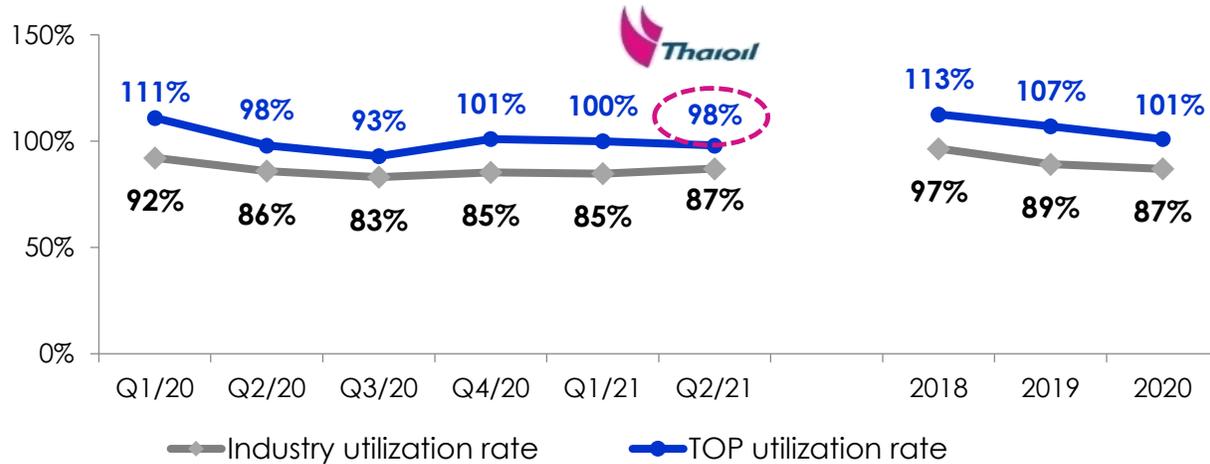
*** Including Nigeria, Russia and others

- Flexibility in crude intake allows diversification of crude types to source cheaper crude
- Flexibility in product outputs by maximizing middle distillates (jet and diesel) by adjusting production mode to capture domestic demand and price premium
- Maximize Platformate production to capture higher margin on aromatics
- Minimize fuel oil output to avoid lower margin products

Refinery: Slightly Lower Utilization as Softening Domestic Oil Demand

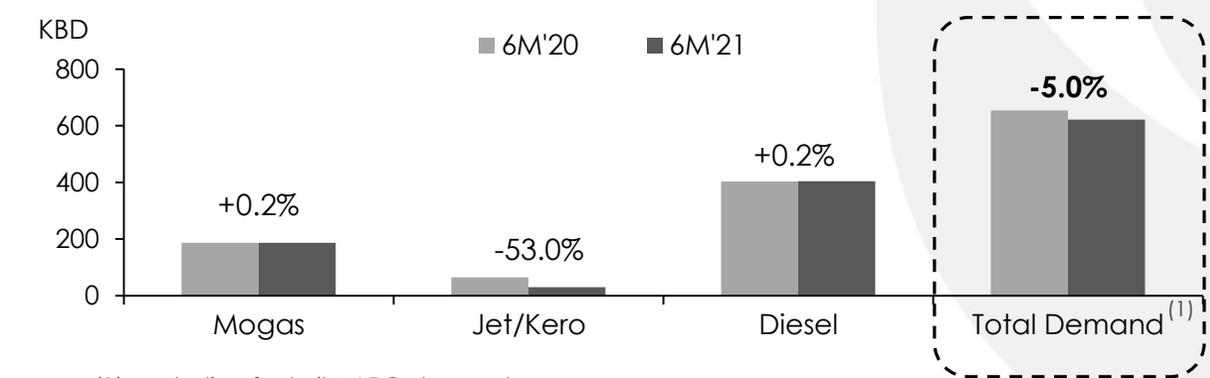
TOP/ Domestic Refinery Utilization Rate

Unit: % Utilization Rate



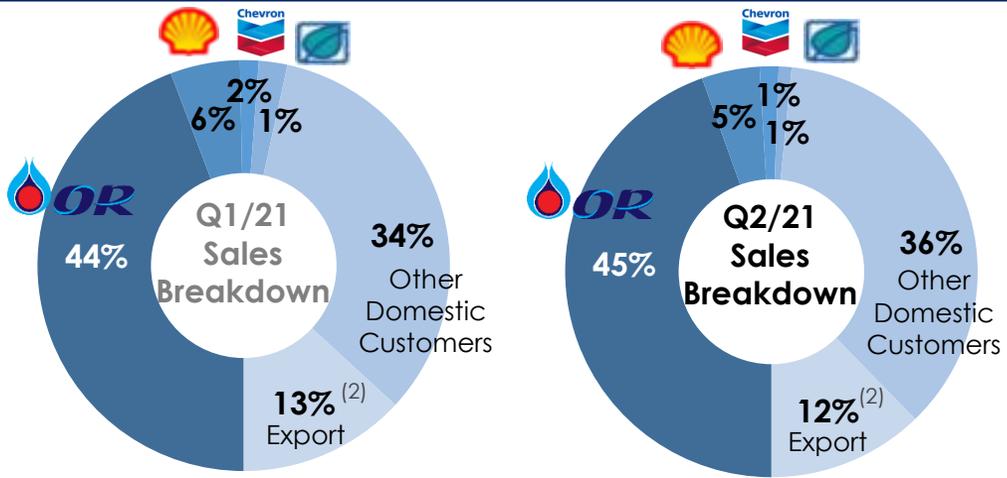
Domestic Oil Demand

Jun'21 (yoy)	Mogas	Jet/Kero	Gasoil	Total
	-8.0%	+60.5%	-4.4%	-3.8%



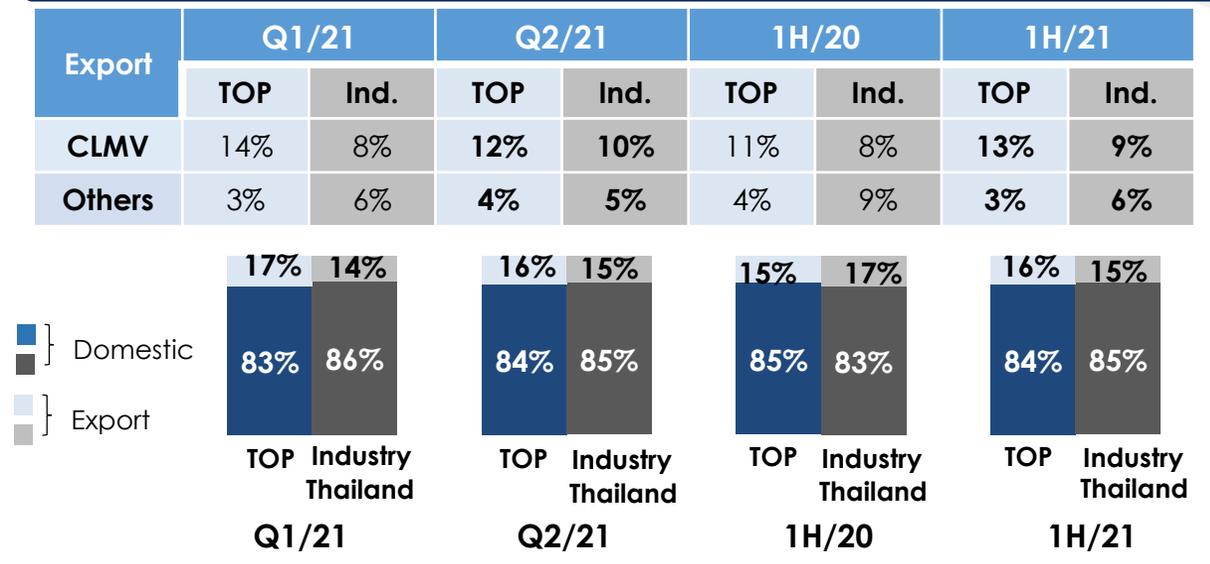
(1) excluding fuel oil & LPG demand

Sales Breakdown by Customers



(2) Excluding export sale through PTT
 (3) Source: Department of Energy Business, Ministry of Energy

TOP's Domestic Sales vs Industry (3)





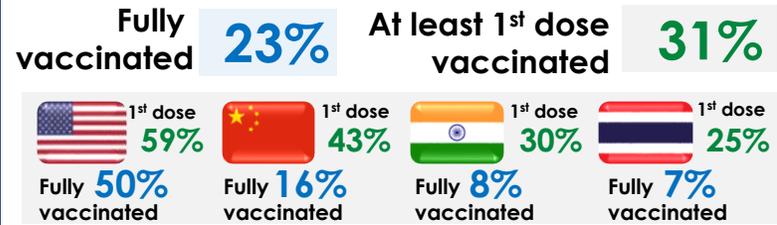
KEY FINANCIAL HIGHLIGHTS

Q2/21 Recovery On The Way

COVID-19 Pandemic Recovery

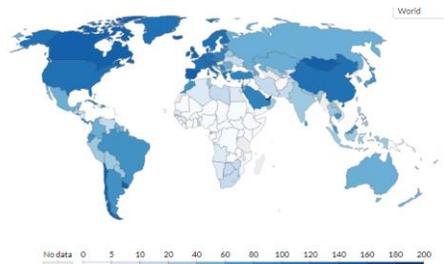
Vaccination rate

Share of people vaccinated against COVID-19 (Aug 13, 2021)



Source: WHO (Aug'21), OMS & GCDL & University of Oxford (Aug'21)

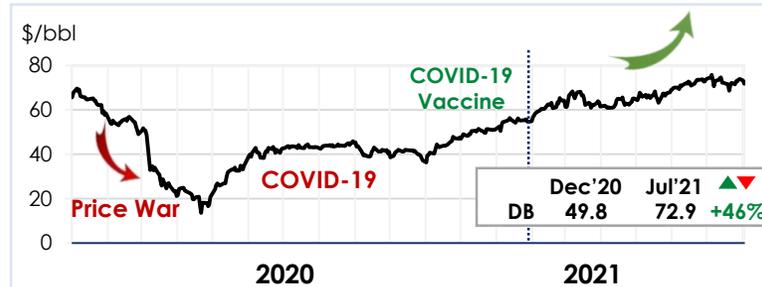
- **31% of the world population has received at least one dose of COVID-19 vaccine**, 4.7 billion doses have been administered globally



- **Widespread immunization is expected to be achieved** by most developed economies i.e. the U.S., Europe & China
- **The economic recovery from COVID-19 has started to accelerate particularly in the U.S., Europe & China** on the back of a massive fiscal stimulus plan and easing COVID-19

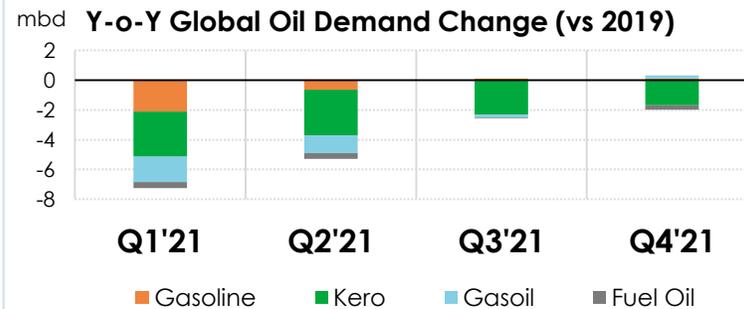
Global Oil Demand Recovery

- **Rising crude prices amid demand recovery and tightening supply**



Source: Reuters (Aug'21)

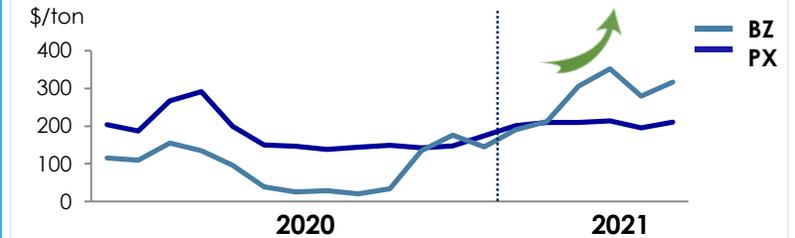
- **Improving product demand due to increasing global vaccination rate and easing COVID-19 restrictions in developed countries**



Source: Energy Aspects (Jul'21)

Strong Downstream Markets

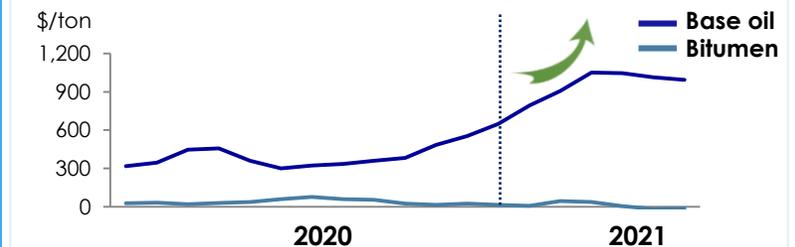
- **Improving Aromatic & LAB Markets**



Source: Reuters (Aug'21)

- **Improving aromatics market** on less additional capacity and demand recovery
- **Robust LAB market** on growing demand for hygiene products during COVID-19 pandemic amid limited supply

- **Record High Base Oil Margin**



Source: Reuters (Aug'21)

- **Extremely strong base oil market** on limited supply from refinery run cuts and demand recovery

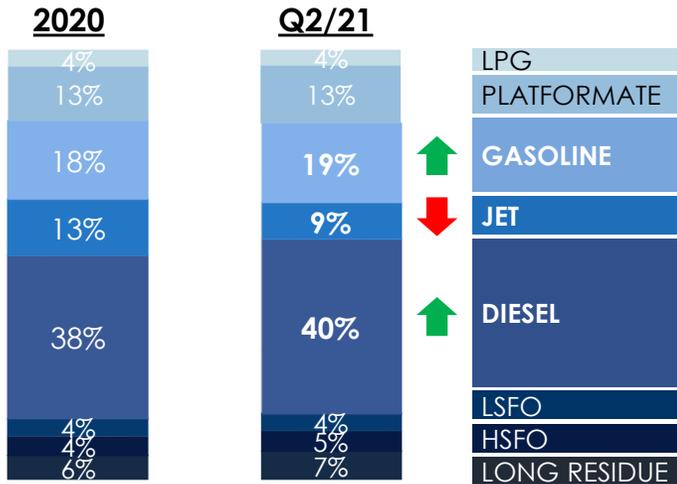
Continuous Business Excellence

Operational

• Optimize overall utilization rates

U-Rate %	Q1/21	Q2/21	1H/20	1H/21
Refinery	100%	98%	105%	99%
Aromatics	80%	89%	78%	85%
LAB	91%	117%	113%	104%
Base Oil	93%	95%	85%	94%

• Stretched operational boundaries

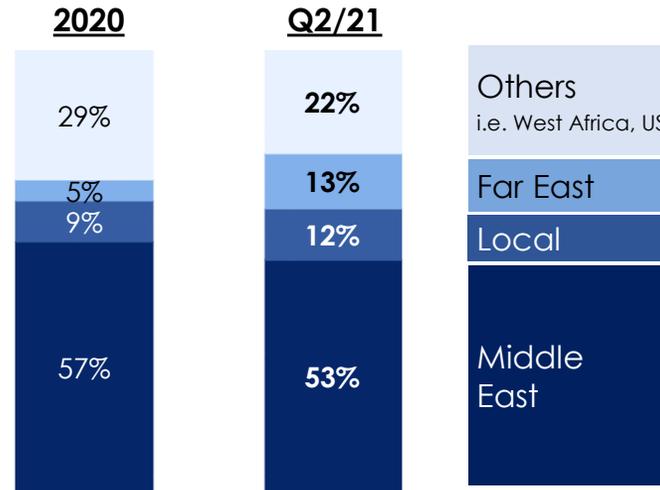


Commercial

• Maximize domestic & Indochina sales

	Q1/21	Q2/21	1H/20	1H/21
Local	83%	84%	85%	84%
Indochina	14%	12%	11%	13%
Other exports	3%	4%	4%	3%

• Crude diversification



Financial

• Affirmed Credit Rating

- In line with TOP's strategic direction
- Clear recapitalization plan, but subject to market conditions
- Strong parental support from PTT

MOODY'S

STANDARD & POOR'S

FitchRatings

Baa3
Negative Outlook

BBB
Stable Outlook

A+ (Tha)
Negative Outlook

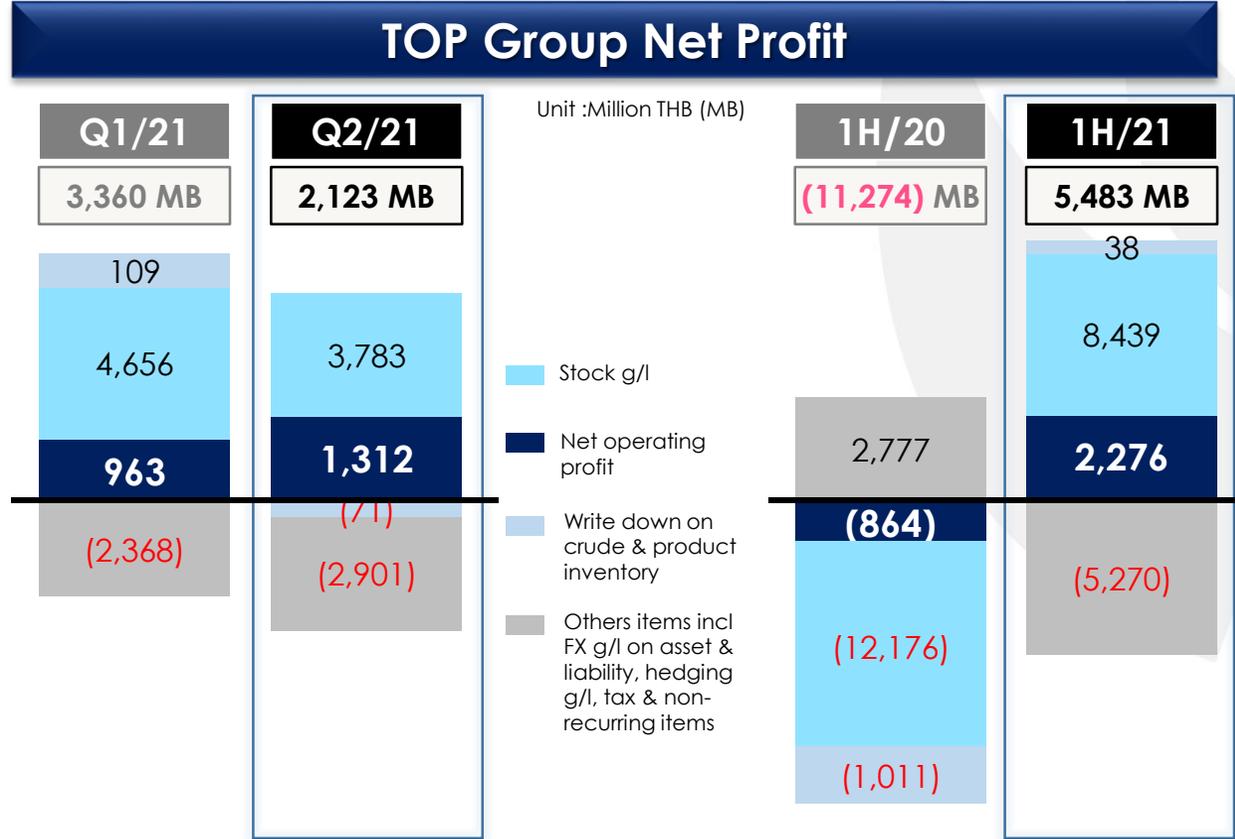
• Successful completion of marine business restructuring in Apr'21

• Continuously enhanced cost management

• Funding Readiness

Q2 & 1H/21 Performance

Crude	<p>QoQ Dubai rose from \$64.4/bbl to \$71.6/bbl YoY Dubai rose from \$40.8/bbl to \$71.6/bbl</p> <ul style="list-style-type: none"> + Oil demand recovery due to increasing global vaccination rate & easing COVID-19 restrictions in developed economies + Limited crude oil supply from strong compliance of OPEC+ cut by 6.6 MBD
Refinery	<p>QoQ Mkt GRM softened from \$0.7/bbl to \$0.4/bbl YoY Mkt GRM slightly softened from \$0.7/bbl to \$0.6/bbl</p> <ul style="list-style-type: none"> - Higher crude cost due to tight crude oil market and stronger oil demand in the U.S. + Improving Gasoline spread due to rising demand in the U.S. and Europe from easing COVID-19 restrictions and higher summer driving season demand in the U.S. + Improving Middle Distillate spreads due to increasing demand from higher economic activities from easing COVID-19 restrictions in the U.S., Europe & China
Aromatic & LAB	<p>QoQ Contributions improved from \$2.0/bbl to \$2.4/bbl YoY Contributions improved from \$1.5/bbl to \$2.2/bbl</p> <ul style="list-style-type: none"> + Strong BZ margin due to higher demand from new SM plant start-up (1.2 mtpa) and supply disruption in the U.S. following historic cold blast + Robust LAB Contribution from growing demand for hygiene products during COVID-19 pandemic amid limited supply
Lube	<p>QoQ Contribution improved from \$1.5/bbl to \$2.4/bbl YoY Contribution improved from \$0.3 to \$1.9/bbl</p> <ul style="list-style-type: none"> + Record high Base Oil margin due to limited supply from refinery run cuts and regional demand recovery



QoQ

- + **Higher Market GIM** from \$4.1/bbl to \$5.2/bbl
- **Lower Utilization Rate** from 100% to 98%

YoY

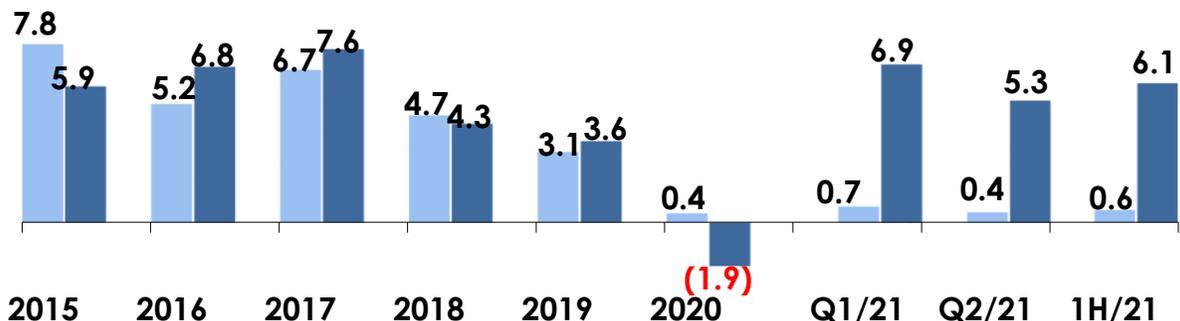
- + **Improving Market GIM** from \$2.5/bbl to \$4.7/bbl
- **Lower Utilization Rate** from 105% to 99%

Integrated Margin & Competitive Cash Cost

Gross Refining Margin

(Unit: US\$/bbl)

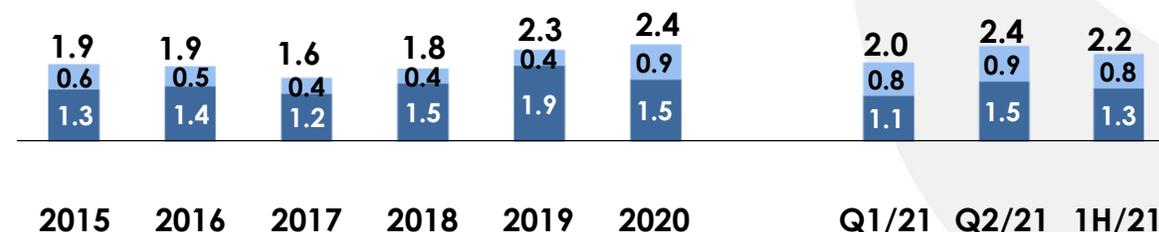
■ Market GRM ■ Accounting GRM (Market GRM + Stock G/L)



Refinery's Cash Cost

(Unit: US\$/bbl)

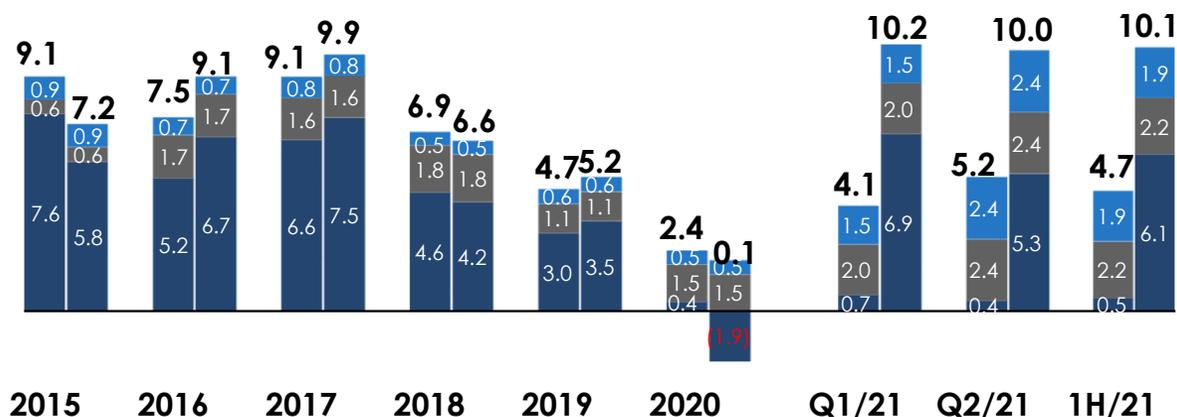
■ Operating Cost ■ Interest Expense (net) (excl. one-time non-operating item)



Gross Integrated Margin

(Unit: US\$/bbl)

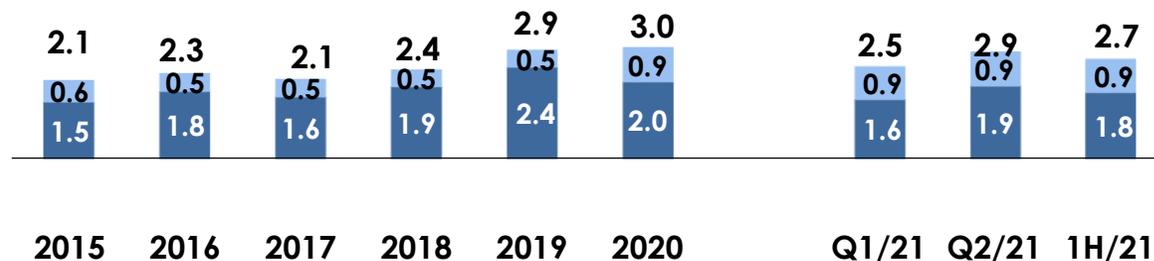
■ Market GRM ■ Accounting GRM (Market GRM + Stock G/L)
 ■ Refinery ■ Aromatic & LAB ■ Lube Base



Group's Cash Cost

(Unit: US\$/bbl)

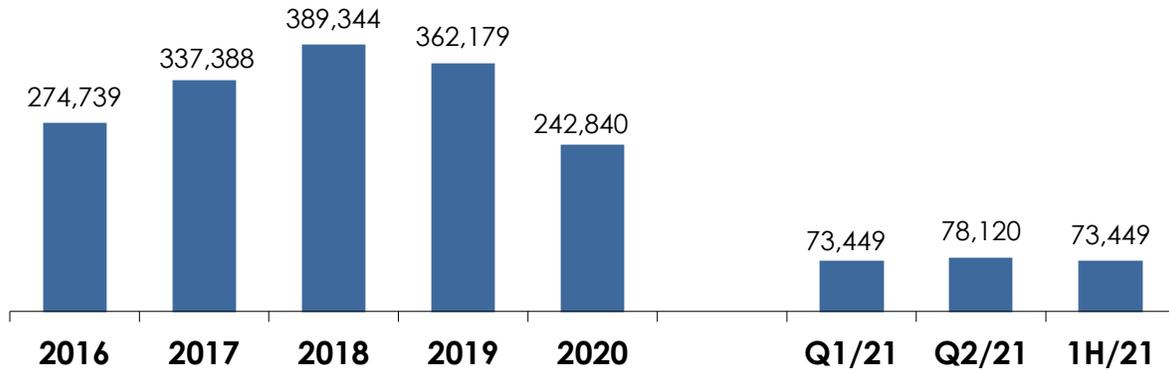
■ Operating Cost ■ Interest Expense (net) (excl. one-time non-operating item)



Financial Performance

Sales Revenue

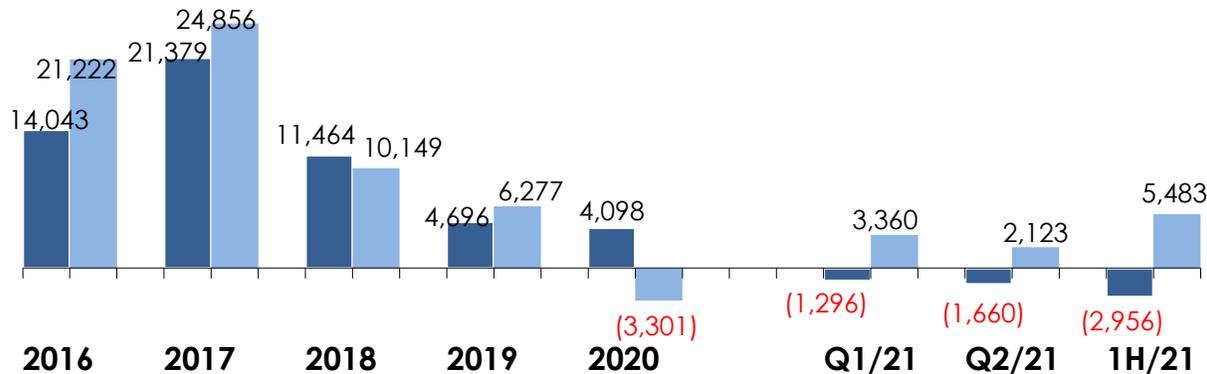
Unit: Million THB



Net Profit

Unit: Million THB

■ NP (excl stk G/L before tax) ■ NP (incl stk G/L)



EBITDA

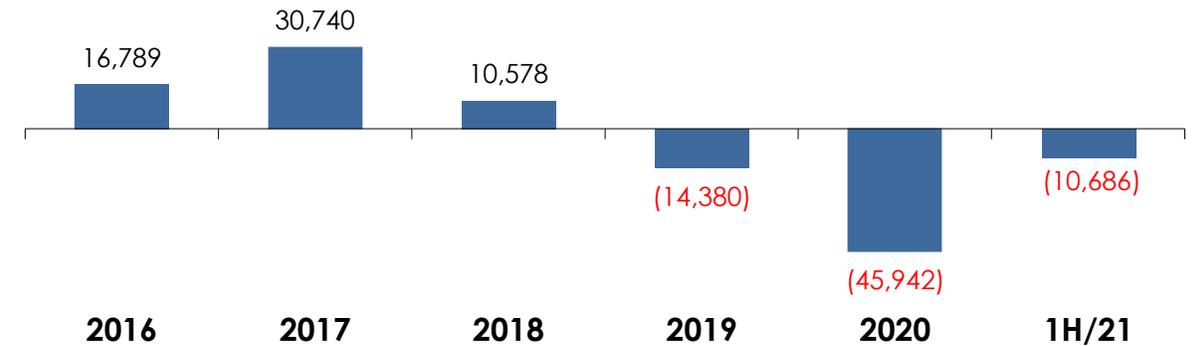
Unit: Million THB

■ EBITDA (excl stk G/L) ■ EBITDA (incl stk G/L)



Free Cash Flow*

Unit: Million THB



Net CAPEX (PP&E)

10,830	6,392	3,677	7,735	27,467	48,377	19,086
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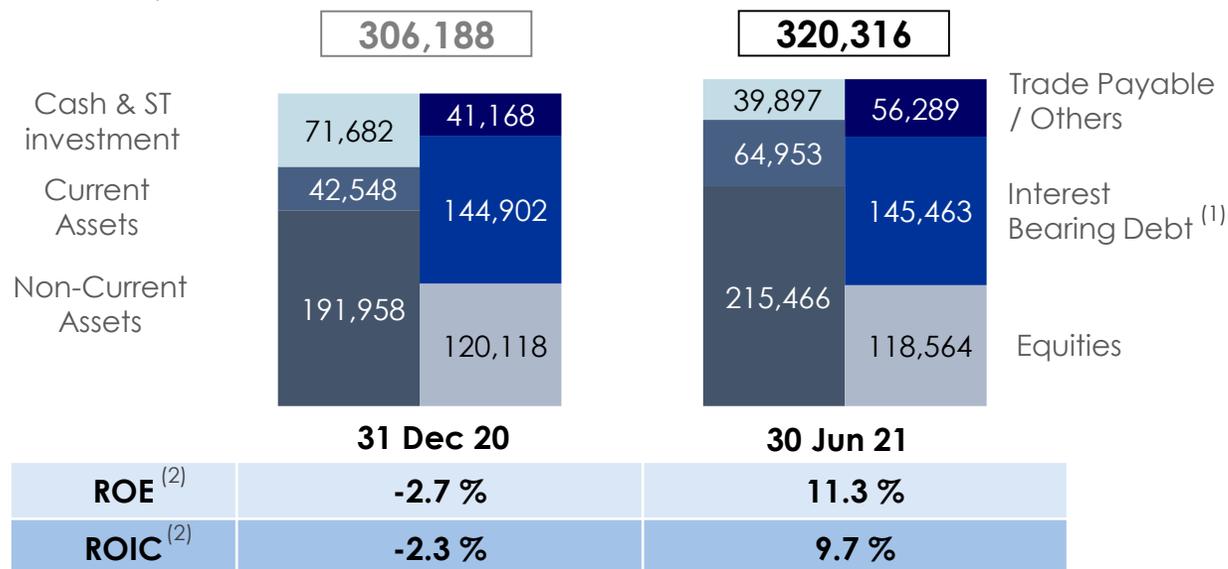
^R Restated financial statement

* Free Cash Flow (FCF) = Operating cash flow – Net CAPEX(PP&E)

Q2/21 TOP Group Strong Financial Position & Financial Ratios

Statements of Financial Position

(Unit: million THB)

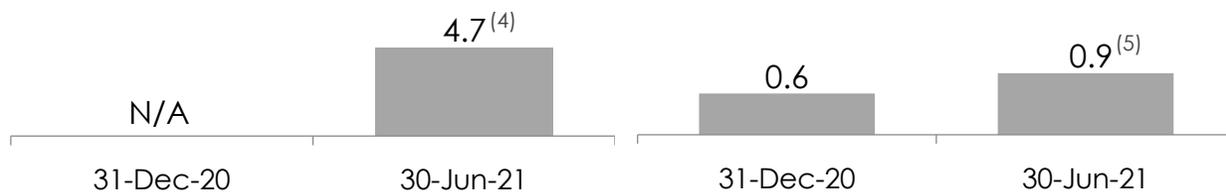


(1) Including current portion of Long-Term Debt
 (2) Based on actual performance in the past 12 month

Financial Ratios

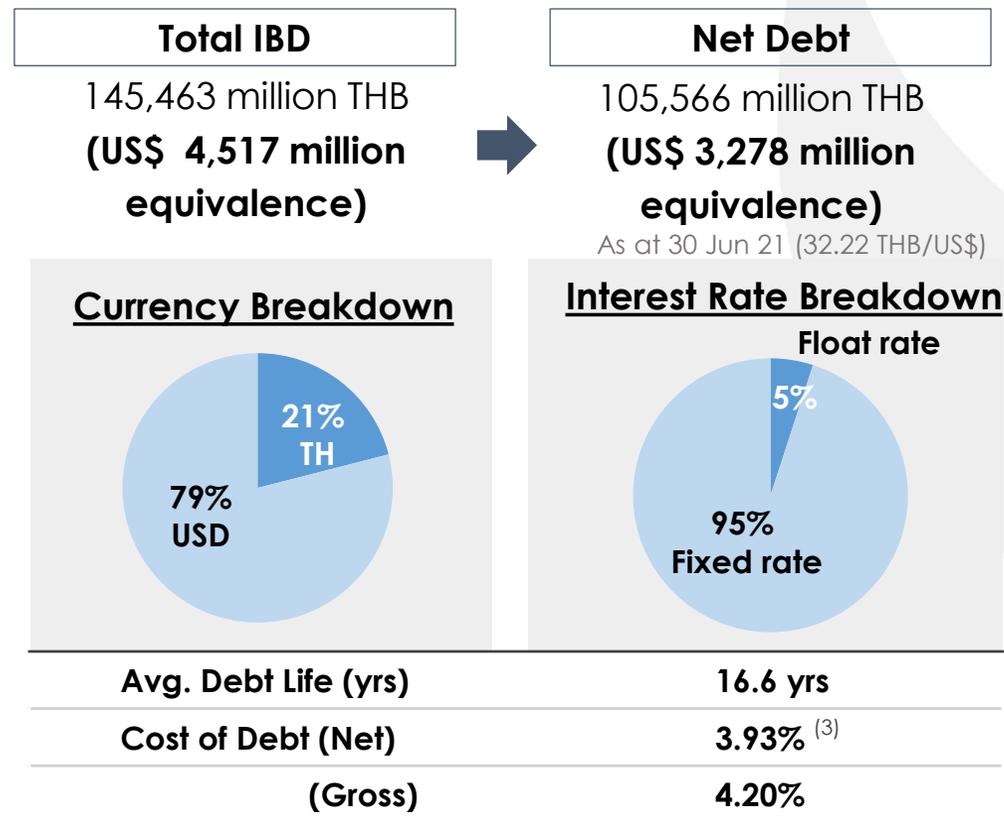
Net Debt / EBITDA

Net Debt / Equity



(4) Based on actual performance in the past 12 month
 (5) As of 30 Jun 21 Net Debt 105,566 MB or 3,278 M\$

Consolidated Long-Term Debt as at 30 Jun 21



(3) Due to yield enhancement



TOP Group Strategic Investment Plan

CAPEX Plan (Unit US\$ million)

Updated as of July 2021

Project	Actual 1H/21	Estimated Budgeting for Investment Plan 2021 - 2024
CFP project *	579	1,902
Total Ongoing CAPEX	22	201
Reliability, Efficiency and Flexibility Improvement	3	48
Infrastructure Improvement (i.e. Jetty 7&8, Office Relocation & New Crude Tank, Site office preparation for fire water & fire water improvement, New Bangphra Raw Water Line)	13	72
Other Investments (i.e. Corporate Venture Capital - CVC , Digital Transformation)	6	81
TOP SPP Expansion	19	145
Olefins Investment	-	1,183
Total CAPEX	620	3,431

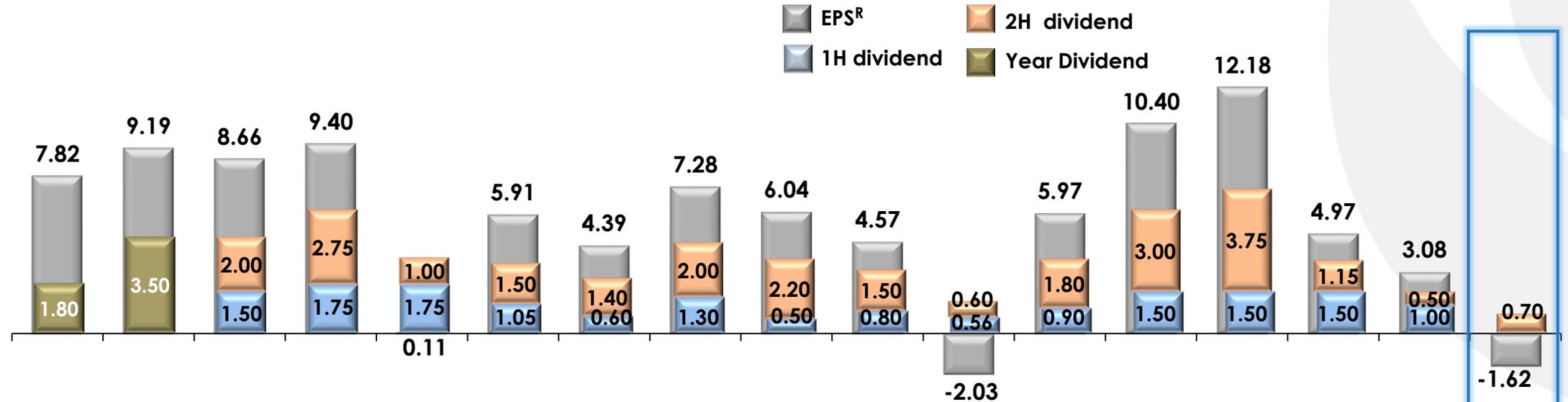
* CAPEX of CFP Project including the disposal of asset to transfer ownership in the Energy Recovery Unit (ERU) which is a part of the CFP Project

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

Dividend Payment

Dividend Policy :
Not less than 25% of consolidated net profit after deducting reserves, subject to cash flow and investment plan

Unit : THB/share



	FY/04	FY/05	FY/06	FY/07	FY/08	FY/09	FY/10	FY/11	FY/12	FY/13	FY/14	FY/15	FY/16	FY/17	FY/18	FY/19	FY/20
Annual DPS (Baht/share)	1.80	3.50	3.50	4.50	2.75	2.55	2.00	3.30	2.70	2.30	1.16	2.70	4.50	5.25	2.65	1.50	0.70
Dividend Payout	23%**	38%	40%**	48%	N/A	43%	45%	45%	45%	50%**	N/A	45%	43%	43%	53%	49%	N/A
Dividend Yield*	4.0%	5.6%	5.6%	6.2%	5.2%	7.1%	4.0%	4.7%	4.2%	3.6%	2.3%	5.0%	6.7%	6.2%	3.1%	2.2%	1.6%
Avg TOP price	44.7	63.0	62.7	72.7	53.3	35.9	49.9	69.8	65.1	64.6	50.4	53.5	66.7	84.2	86.9	68.3	44.0

^R Based on restated financial statement

* Based on average TOP share price in each year

** Dividend payout before restated ; 2004 = 25% , 2006 = 43% , 2013 = 45%



STRATEGIC INVESTMENT PLANS

Thaioil's 2021 Strategic Direction : Building on Our Strong Foundation

Vision



Empowering Human Life
through Sustainable Energy and Chemicals

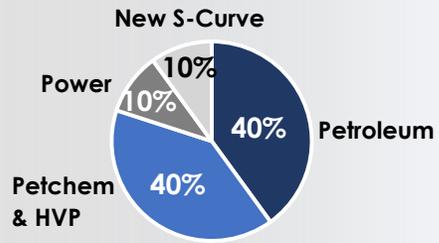
Strategic Objective

To be a competitive Energy & Chemicals company that
delivers sustainable returns & better quality of life to all stakeholders

Measurement

Growth / Earnings Diversity / Returns / Sustainability / Stakeholders

Portfolio Strategic
Direction



Effective Execution

People + Patronage + Partnership + Platform

Drive for Sustainability

Environment + Social + Governance

3-Pronged Strategy (3V)



Value Maximization :
Integrated Crude to Chemicals

“Build on our strong foundation”

- Strengthen core through CFP project
- Speedup growth by building on our strong foundation
- Existing value chain (Aromatics, Lube & LAB) & HVP via revamp/debottleneck & partnership
- Olefins value chain, jumpstart via JV/partnership & bypass to downstream HVP
- Expand product portfolio & develop HVP through customer orientation, technical expertise & partnership



Value Enhancement :
Integrated Value Chain Management

“Know your customers & knowledge-based”

- ASIAN region as our investment playground & market
- Prepare for CFP & PetChem
- Move closer to customers to promote HVP's



Value Diversification

“Stable Earnings & New S-Curve”

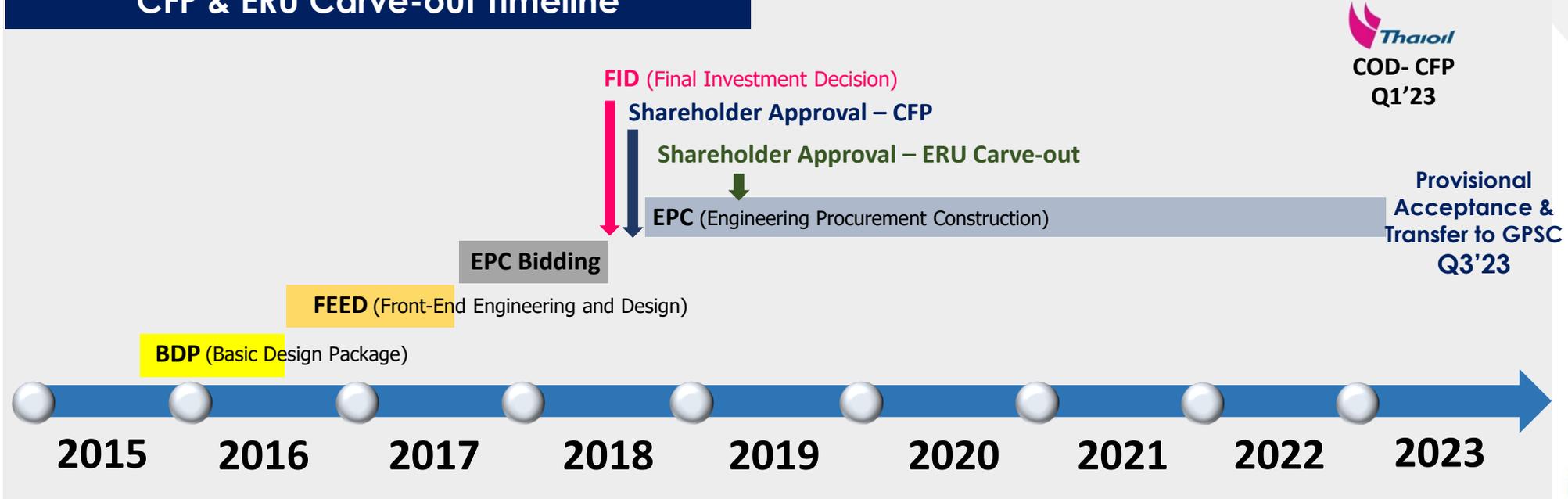
- Power to provide stable earnings
- Step up effort on New Ventures
- Window to identify new S-curve opportunities & diversity sources of earnings

CFP Rationale & Timeline

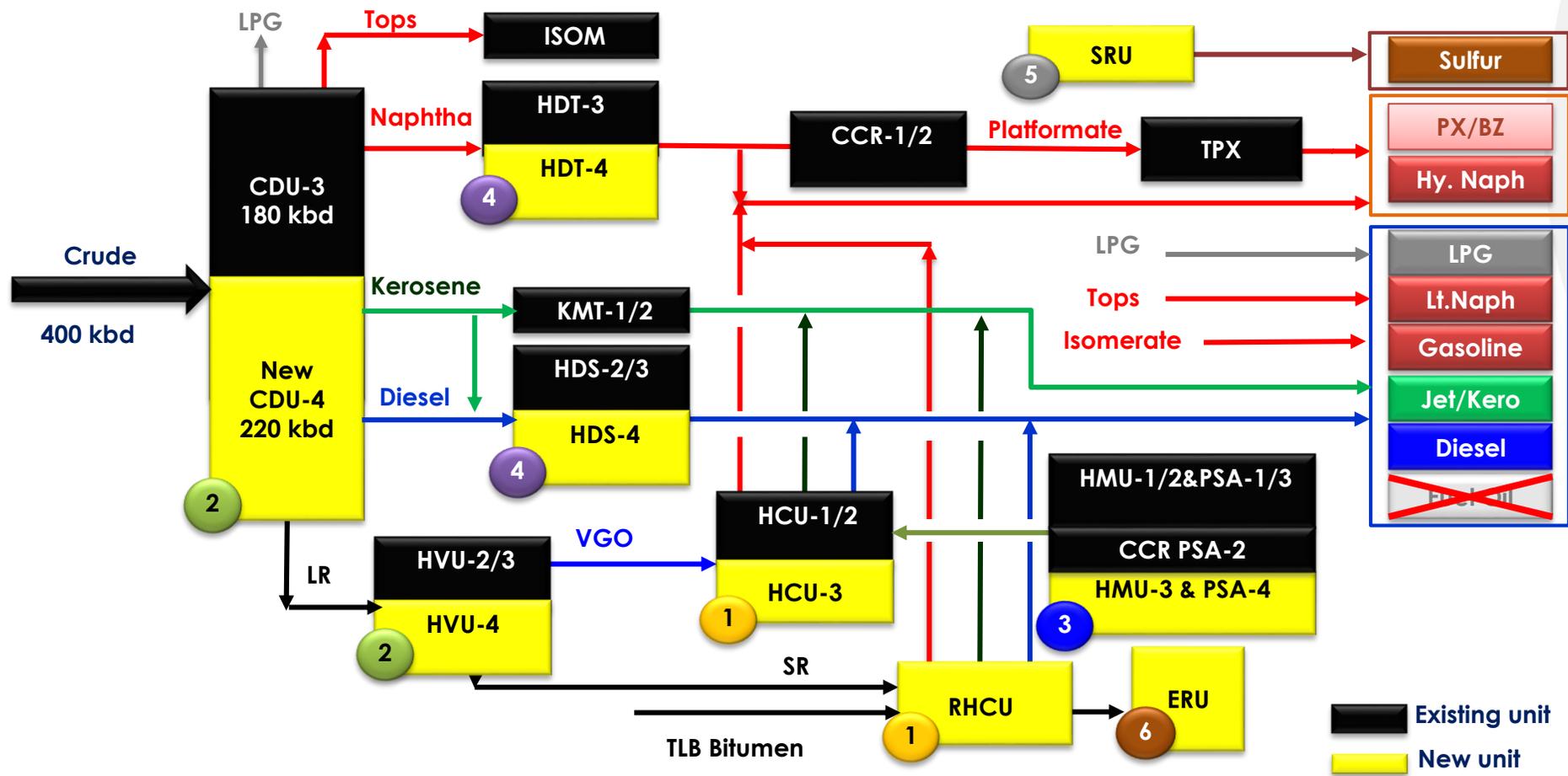
Project Rationale

- Risk of losing competitiveness to others regional refineries as more new refineries with higher capacity and more advanced technologies are on stream.
- Adjust product portfolio by producing high demand and clean product to serve customer needs and country's energy stability.
- Replace units i.e. CDU 1,2 which have been operating more than 50 and 40 years respectively.

CFP & ERU Carve-out Timeline



Scope of CFP & Technical Aspect

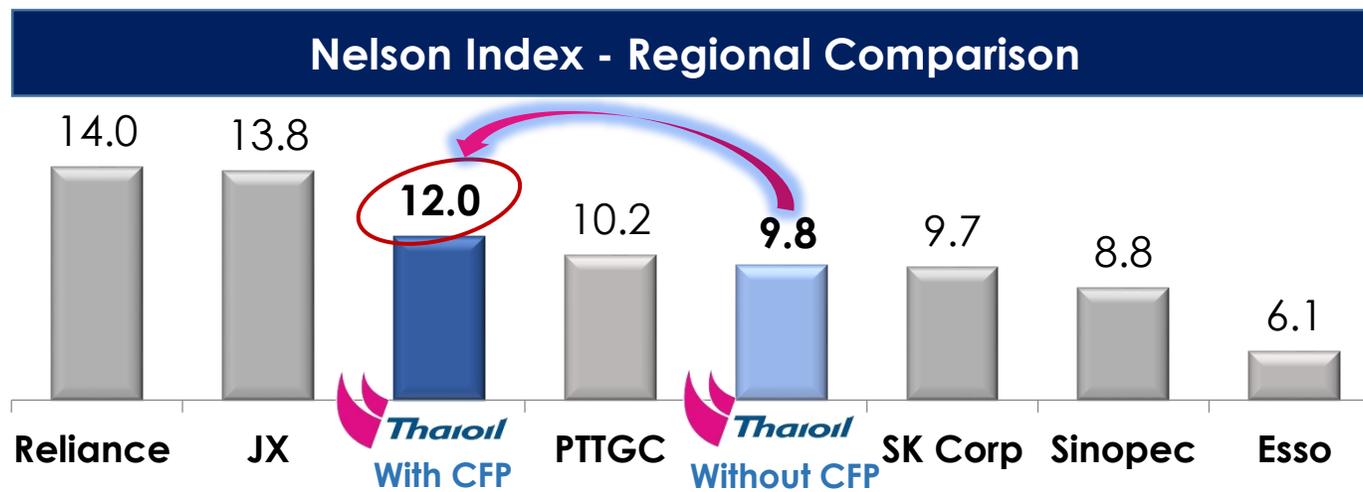


- (1) New Upgrading Unit
- (2) New Distillation Unit
- (3) New Hydrogen Manufacturing Unit
- (4) New Treating Unit
- (5) New Sulphur Recovery Unit
- (6) New Energy Recovery Unit

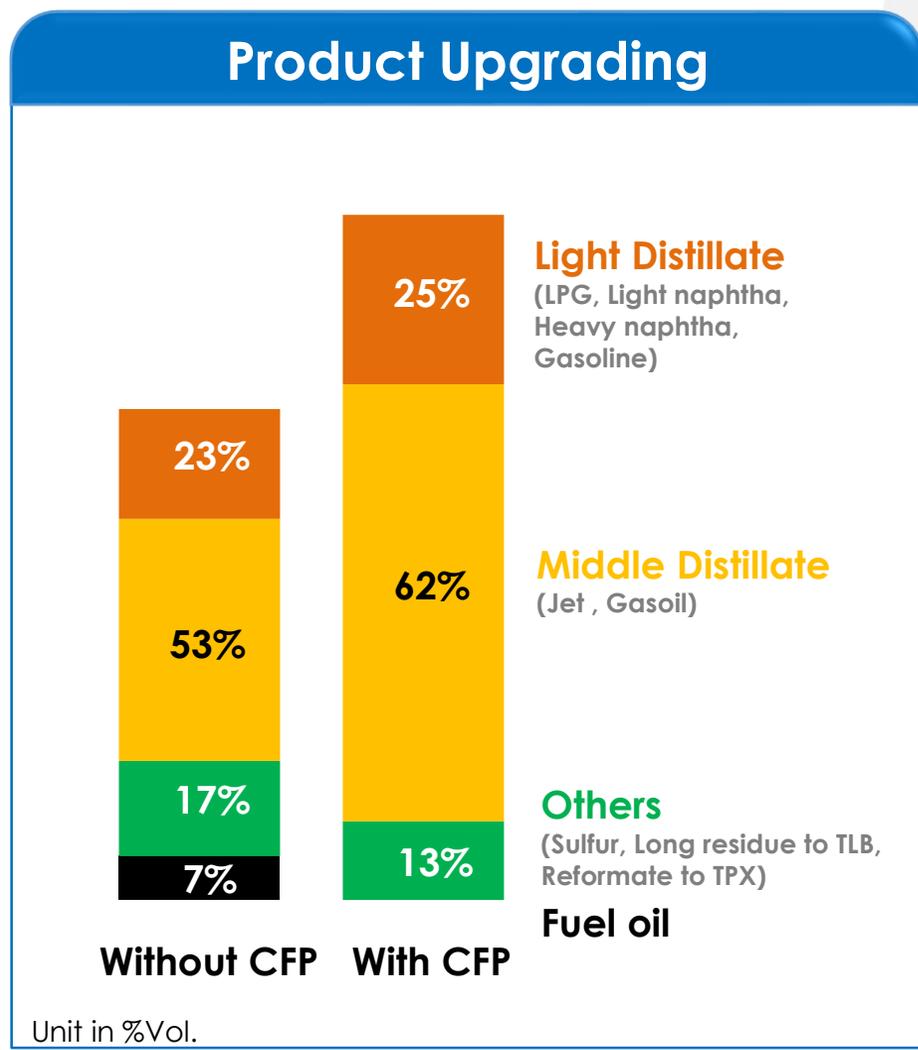
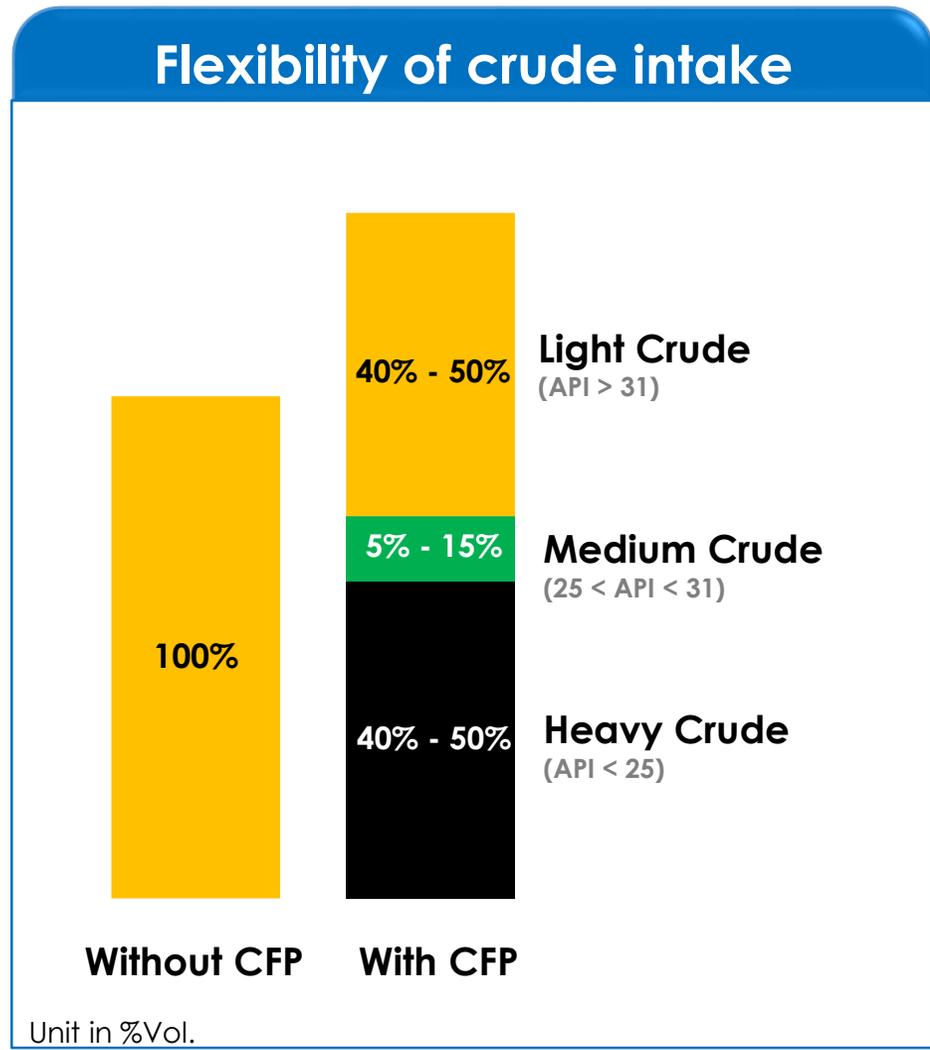
CFP Competitiveness

Without CFP	With CFP
<ul style="list-style-type: none">• CDU Capacity 275,000 bbl per day• Upgrading Ratio 28 % (upgrading capacity⁽¹⁾ over CDU capacity)	<ul style="list-style-type: none">• CDU Capacity 400,000 bbl per day• Upgrading Ratio 50% (upgrading capacity⁽²⁾ over CDU capacity)• Power Plant 250 MW

Remark : (1) including HCU 1/2, FCCU, TCU (2) including HCU 1/2/3, RHCU



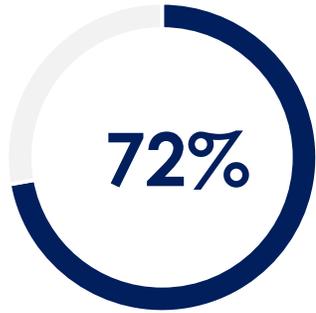
CFP Value Proposition



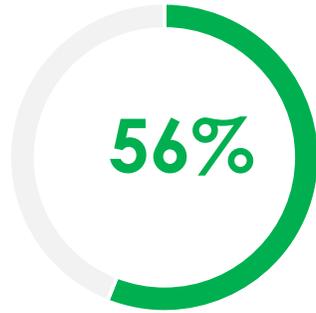
Note : After CFP, all products based on average data 2023-2043

Clan Fuel Project (CFP)

Overall CFP Progress



Project Progress
As of end Jun'21



Budget Utilization
As of end Jun'21

1H/21 Progress

- Continuing equipment and module arrival to Thailand
- Massive progress of heavy lifting work for critical equipment and module installation
- Completed main substation structure construction for energization by 2022
- Maximized manpower in critical construction area and balanced personnel in non critical area to control COVID-19 situation
- Continuing construction at site amid strict COVID-19 control measures

Going Forward in 2H/21- 2022

- Focus on construction at site i.e. equipment and module installation work
- Most of equipment and module will be arrived Thailand and ready to be installed until next year





OLEFINS INVESTMENT

Achieving TOP's Strategic Objectives: Integrated Crude to Chemicals



TOP's Strategic Direction

Strategic Objectives Achieved

Value Maximization



Further extend Hydro-Carbon value chain to Olefins PetChem, in addition to existing Aromatics

- ✓ A jumpstart into Olefins value chain
- ✓ Minimum investment in existing facilities & growth plan
- ✓ Avoid adding new capacity
- ✓ Instant upgrade of LPG & Naphtha value from CFP
- ✓ Partner with reputable & experienced local Indonesian & Thai

Value Enhancement



Geographic expansion



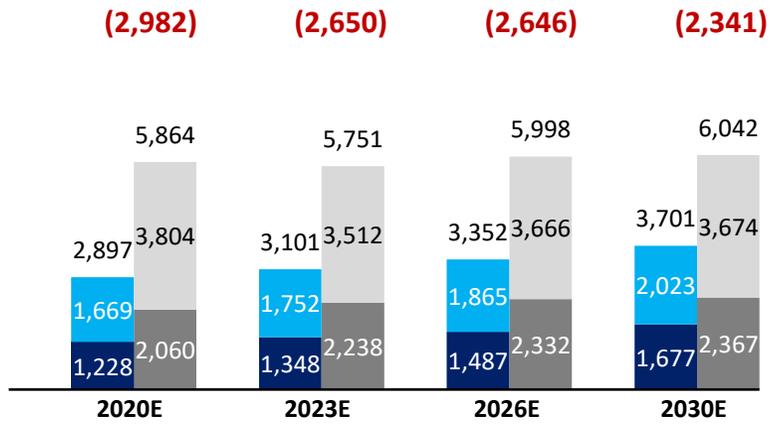
Platform for international growth

- ✓ Strategic market location – supply shortfall & growing
- ✓ Opportunity to expand to other businesses
- ✓ Gateway to Indonesia

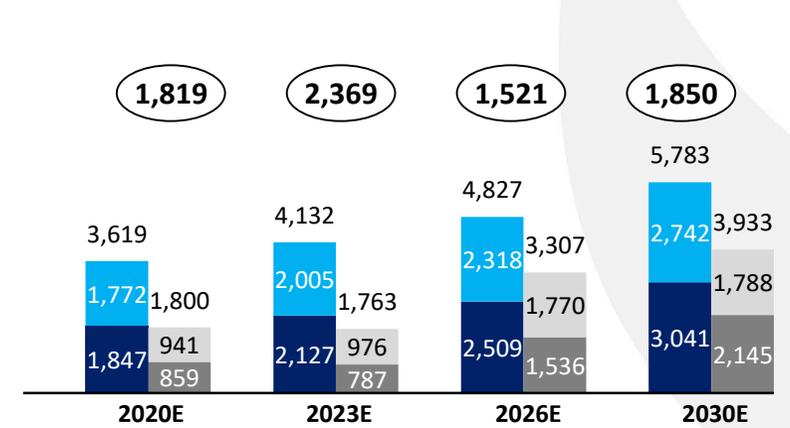
Attractive Indonesian Growth Fundamentals



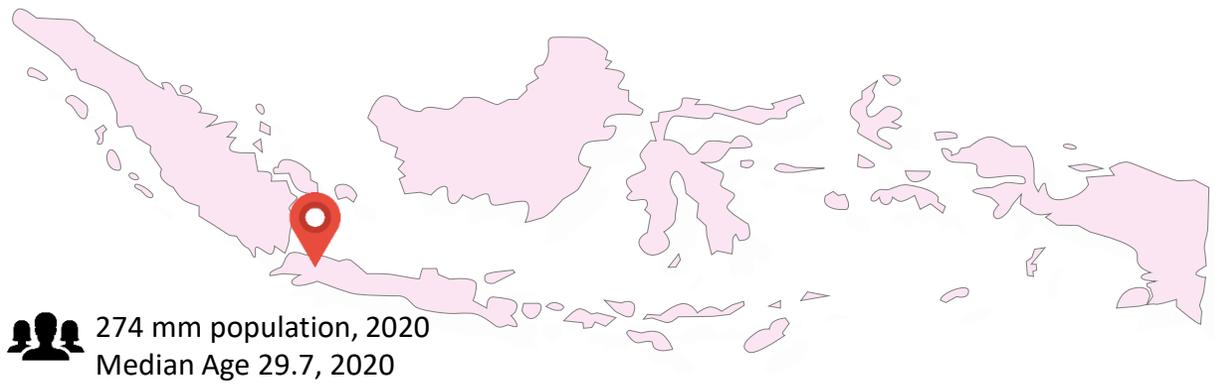
Thailand (CAGR 2.5%)



Indonesia (CAGR 4.8%)



○ Net Imports ■ PP Domestic Demand ■ PE Domestic Demand ■ PP Production ■ PE Production
 *Production includes utilization rate



INDONESIA has the **4th largest population in the world** with enormous potential of plastic consumption growth



INDONESIA continues to be **net-import** going forward, despite new additional capacities.



Source:
 (1) Market information from IHS2021 Edition: Spring 2021 Update
 (2) Supplies from CAP2 and Lotte have been added into Indonesia's supply volume

CAP is Indonesia's Premier Petrochemical Producer

1. Market Leading Position



#1

The Largest & Dominant Integrated Petrochemical Producer in Indonesia

Note:

(1) Comparable Asian players

2. Operational Excellence

29
Years

In petrochemical industry



Only integrated Naphtha cracker in Indonesia

25%

Superior profitability relative to peers
Q1 2021 EBITDA margin VS peers average of 20%⁽¹⁾



Plans to double Naphtha Cracker capacity within 2026

3. Strong Sponsorship



Strong Shareholder Group including Barito Pacific and SCG Chemicals

Support from Indonesian Government - CAP as a strategic vital national entity to support country's growth

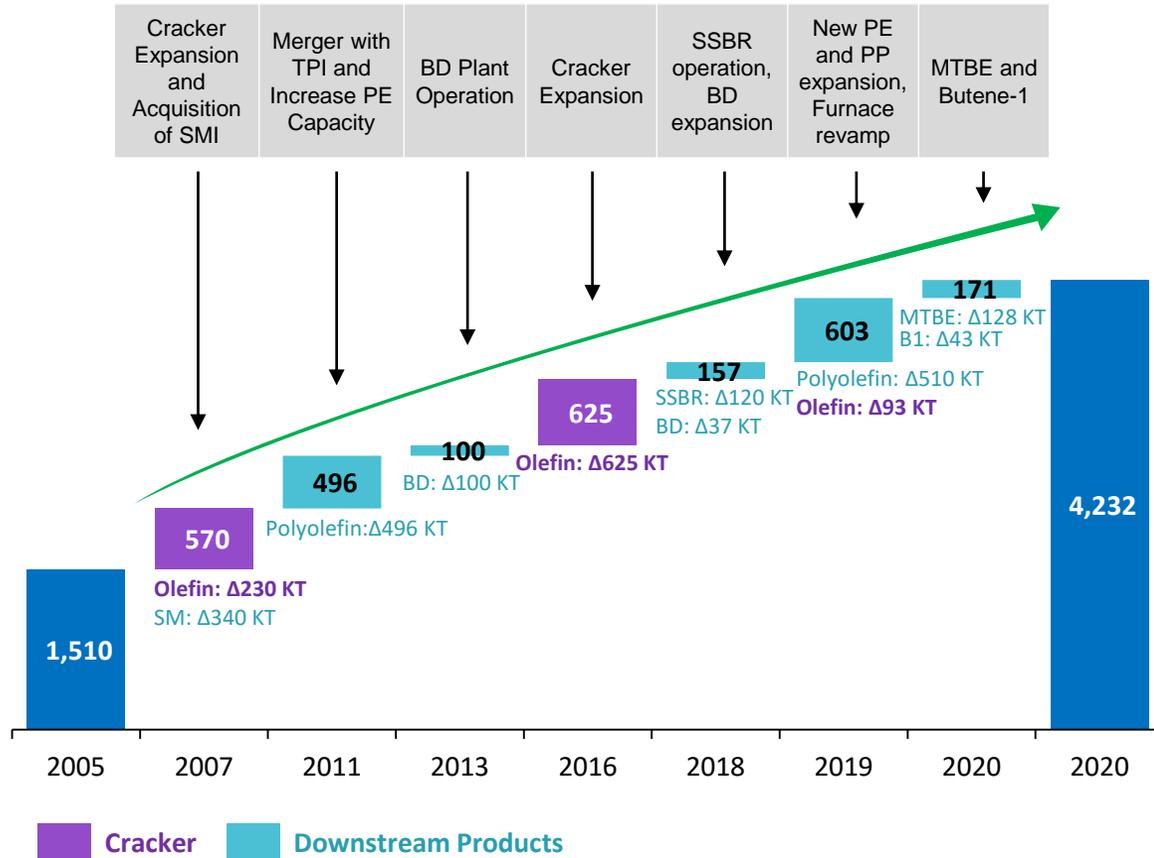
10 years of good governance in **Indonesia Stock Exchange (IDX)**



Continuous Expansions and Debottlenecking with High Profitability

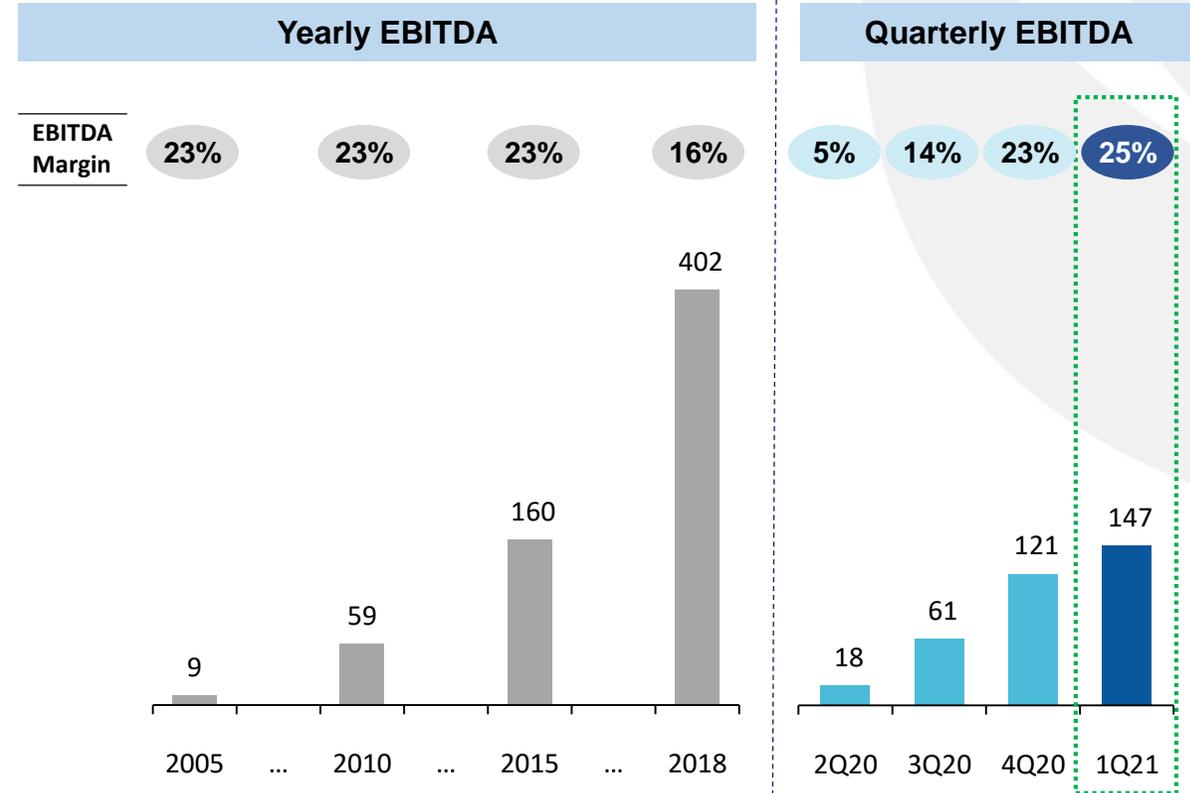
Expansions and debottlenecking executed successfully

Unit: '000 tons



Revenue and profit are on upward trend.

Unit: US\$ mm



Source:
 (1) CAP's Presentations
 (2) 2005 – 2020 EBITDA from Bloomberg and 2Q2020 – 1Q2021 EBITDA from company presentation



CAP2 Expansion is a Transformative Project for CAP

CAP2 Project Overview



Approx. USD 5 bn new plant to double CAP's Petrochemical Capacity



Flexible Feedstock Configuration



Synergy with Existing Plant

- 93% of Land has been secured adjacent to the existing plant



Strong Support From the Government

- 20+2 year Corporate Income Tax Holiday (even pre-FID)⁽¹⁾
- EIA approved



Rights issue

- Expected primary proceeds of USD1.1bn
- Doesn't expect another capital increase to develop CAP2



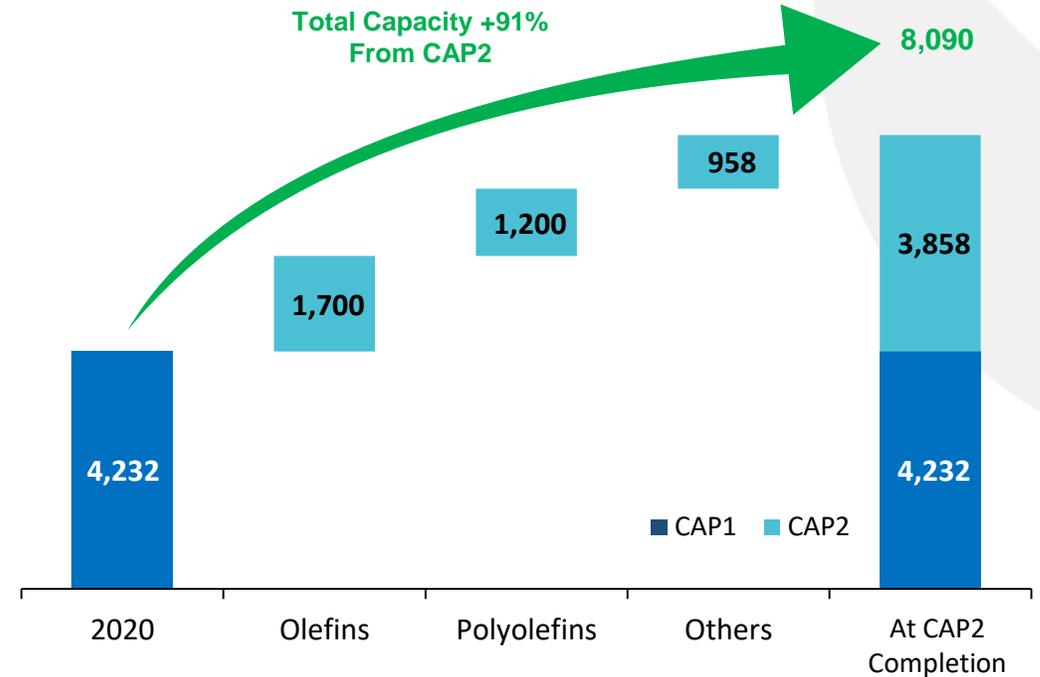
Expected Final investment decision (FID) in 2022

Expected COD in 2026



CAP2 Will Double The Capacity of CAP

Unit '000 tons



Note: (1) 20 years at 100% off corporate income tax and 2 years at 50% off corporate income tax
Source: CAP's Presentations



Win-Win-Win Partnership



TOP Key Value Adds

- Long-term feedstock supply security
- Expertise in margin improvement program and operational excellence program
- Recent experience in mega project development, i.e. CFP
- Equity funding for development of CAP2

CAP Key Value Adds

- Leading operator of petrochemical complex in Indonesia
- Track record of sustainable and profitable growth
- Highly visible growth opportunity from development of CAP2
- Sponsored by Barito Group

SCG Chemicals Key Value Adds

- CAP's long-term partner
- Long track record and expertise in PetChem
- Recent experience in mega project development, i.e. Longson PetChem project in Vietnam
- Equity funding for development of CAP2

Strategic Collaboration & Synergies



Planning, development and construction of CAP2



Feedstock supply by TOP to enhance feedstock security for CAP



Product distribution by TOP to further expand CAP distribution network



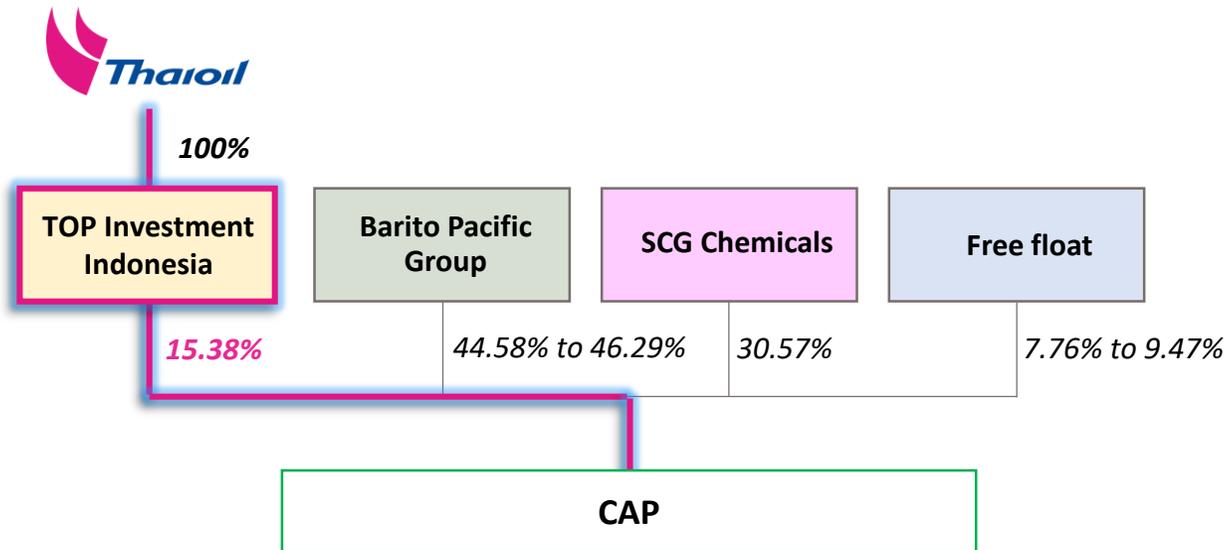
Knowledge / expertise transfer between both organizations



Future additional collaborations between TOP, CAP and SCG Chemicals



Details of Investment



Investment for 15.38% in CAP split into 2 tranches		
	Payment (US\$ mm)	% Share
1 st Tranche	913	15.0%
2 nd Tranche (when CAP2 FID in 2022)	270	0.38%
Total	1,183	15.38%

Use of Proceeds



All primary proceeds to CAP will be used for the development and construction of CAP2 Project

Condition Precedents



All necessary approvals including approval from the OJK are obtained

Timing



Closing for the 1st transaction is expected within 30 September 2021

Equity Accounting



TOP can apply **equity accounting method** after the 1st transaction

Summary of Investment Price

LTM CAP Share Price (USD)



Market Price of CAP

Blended Price Per Share (with FID):
US\$0.3532 or total investment size of US\$1,183mm by TOP

Price per Share for 1st Tranche:
US\$0.2815 or investment size of US\$913mm by TOP

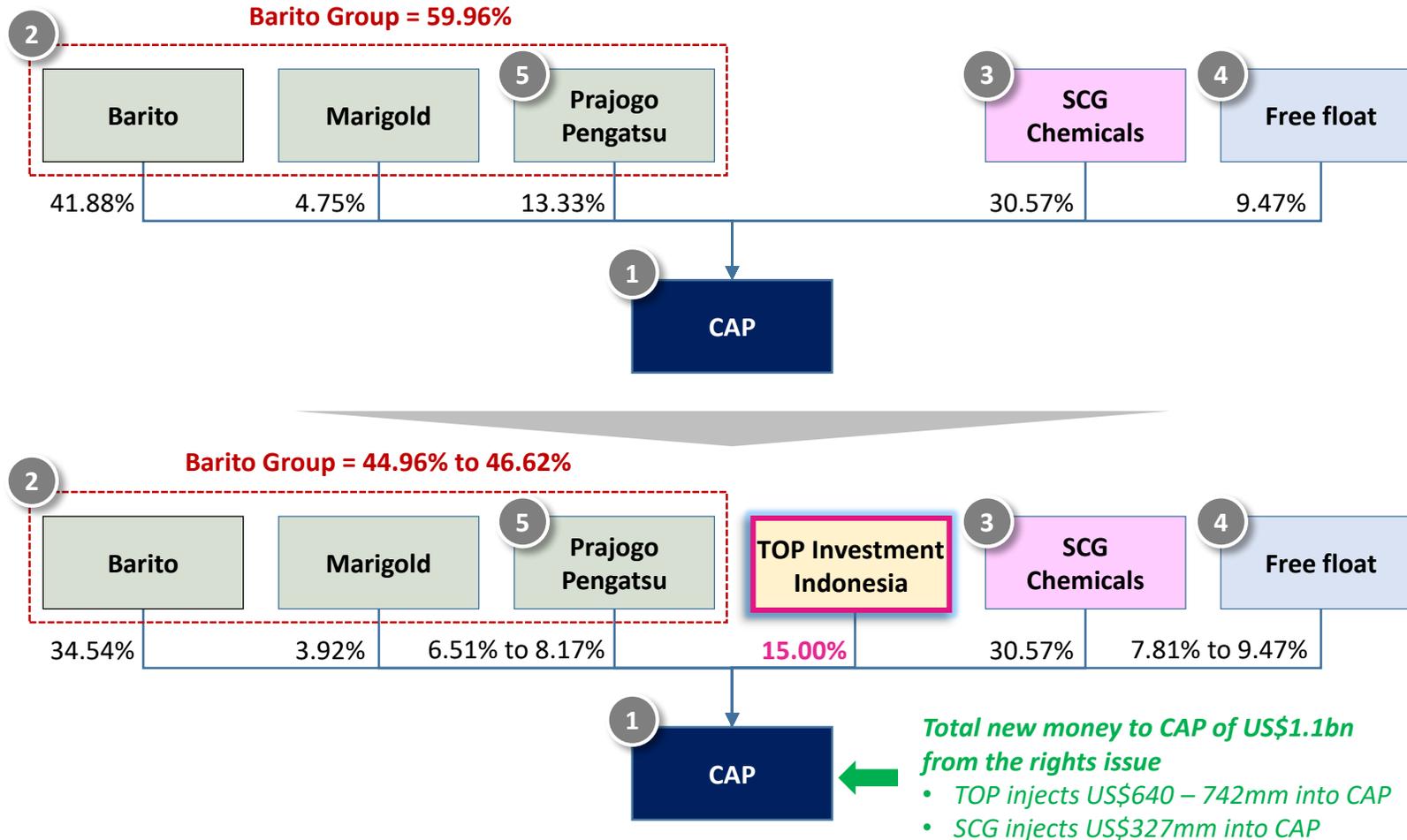
Equivalent to EV/EBITDA of 11.3
Based on LTM EBITDA 457 mnUSD as of Q2/21

Note: FX adopted for rights price per share: US\$1 = IDR14,500
Source: Factset (as at 27 July 2021) and company website



Investment Mechanics

Illustration of Investment



1st Tranche Mechanics

- 1 CAP carries out rights issue⁽¹⁾ by issuing 3.79 billion new shares to existing shareholders (17.5% of outstanding shares after rights issue) at US\$0.2815 cents per share
- 2 TOP acquires rights from Barito Group and subscribe to new CAP shares according to such rights
- 3 SCG Chemicals exercise its rights and subscribe to new shares to maintain its current shareholding
- 4 TOP acts a standby purchaser to acquire and exercise all unexercised rights by the public
- 5 Top up from Mr. Prajogo Pangetsu such that TOP holds exactly 15.00% in CAP after the 1st tranche

2nd Tranche Mechanics

- With FID of CAP2, TOP will invest another **US\$270mm to reach shareholding of 15.38%**

Note:

Barito refers to PT Barito Pacific Tbk; SCG refers to SCG Chemicals Company Limited; Marigold refers to Marigold Resources Pte. Ltd.; TOP refers to Thai Oil Public Company Limited

(1) Rights issue instead of private placement is used due to (a) regulatory considerations in Indonesia make private placement impractical; and (b) rights issue allows other shareholders of CAP to participate in the transaction as well



Key Partnership Arrangements

Commercial

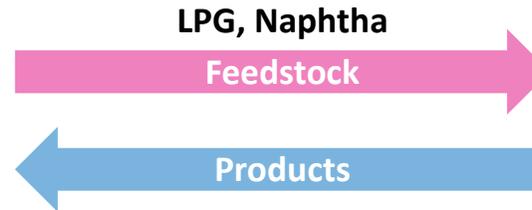


Thailand



TIRTA SURYA RAYA

- PT. Tirta Surya Raya (TSR), Est. 2019
- TOP's solvent and chemical distributor company in Indonesia
- TOP holds 67% in TSR through TOP Solvent Thailand




Chandra Asri

- Polymer Products:**
PE, PP
- Liquid Products:**
Benzene, Toluene, Xylene, etc.

Management Involvement

Board Seats



TOP can nominate 3 out of 15 directors

Management Positions



- Project Development CAP2
- Planning & Optimization
- Commercial

Investment Attractiveness

1



Rare & Attractive Investment Opportunity to Jump-start TOP's Olefins Value Chain

- Strategic fit with TOP's Value Maximization
- Rare opportunity creating global scale
- Avoid adding new capacity

2



CFP Products Value Upgrade

- Reliable outlet for TOP's products as feedstock for CAP
- Extension of TOP value chain

3



Strategic Market Locations

- Net importing country despite new additions
- High potential for strong local market demand

4



Experienced Partners & Well-Established Infrastructure

- Largest player in Indonesia
- Proven track record
- CAP2 advanced development
- Long-term partnership with SCG and CAP

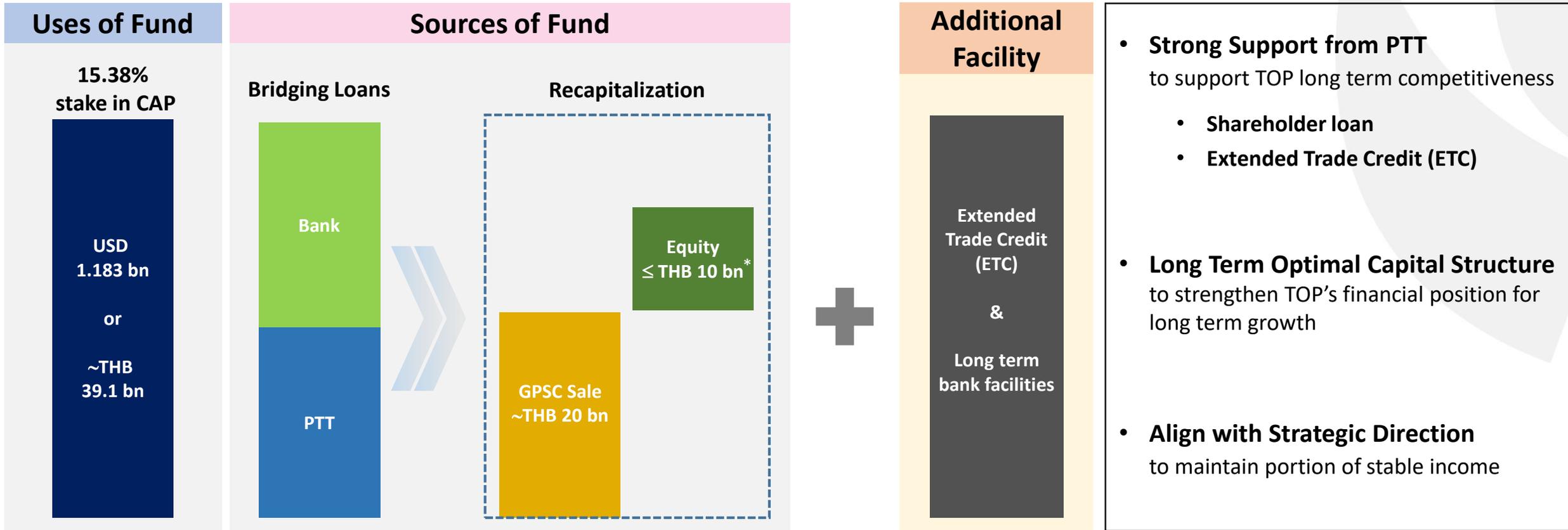
5



Gateway to Indonesia

- Opportunities for HVP in high demand country
- Future business collaborations

Funding Plan for the Transaction



*Excluding greenshoes

Long-Term Recapitalization Plan and Short-term Liquidity Support

Objectives

-  Return **Optimal Capital Structure** With Net D/E ~ 1.0x ⁽¹⁾
-  Maintain **Investment Grade Credit Rating** in Short-term and **Credit Rating Upgrade** in Long-term ⁽²⁾
-  **Minimize Impact to Shareholders**

Recapitalization

-  Sale of up to **10.8% GPSC Shares**⁽³⁾
-  Equity Offering of up to **~ THB 10,000 mm**⁽⁴⁾

Short-term Liquidity Support

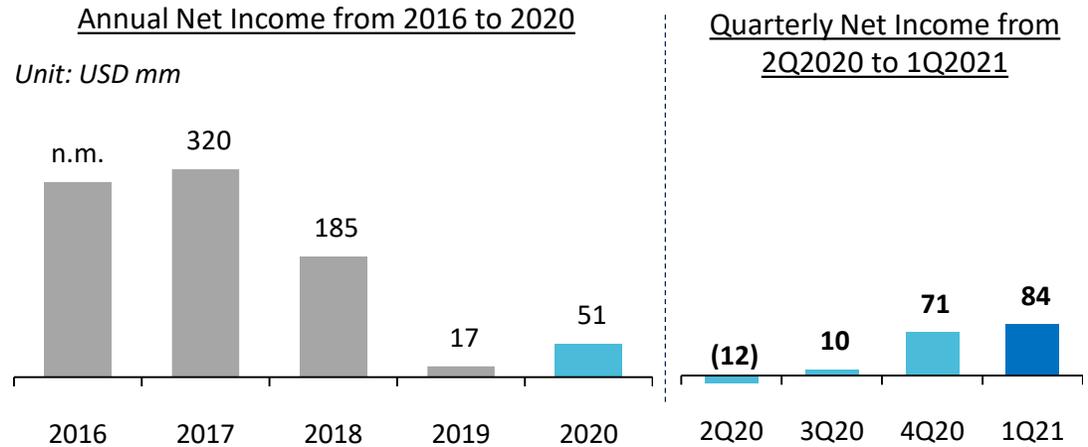
  **90-Day Extended Trade Credit Term from PTT**

Recapitalization Plan will Strengthen TOP's Capital Structure and Provide a Strong Foundation for the Next Stage of TOP's Growth Journey

(1) In line with internal policy and refinery and petrochemical peers
 (2) RCF net debt to recover to over 10% after CFP COD
 (3) Further details of the transaction to be announced and approved by the board of directors meeting and EGM (if required)
 (4) Further details of the offering structure to be announced and approved by the board of directors meeting and EGM

Expected Financial Benefits From the Transaction

Share of Profit from CAP to Enhance TOP's Performance



Higher income stability
from more diversified income source

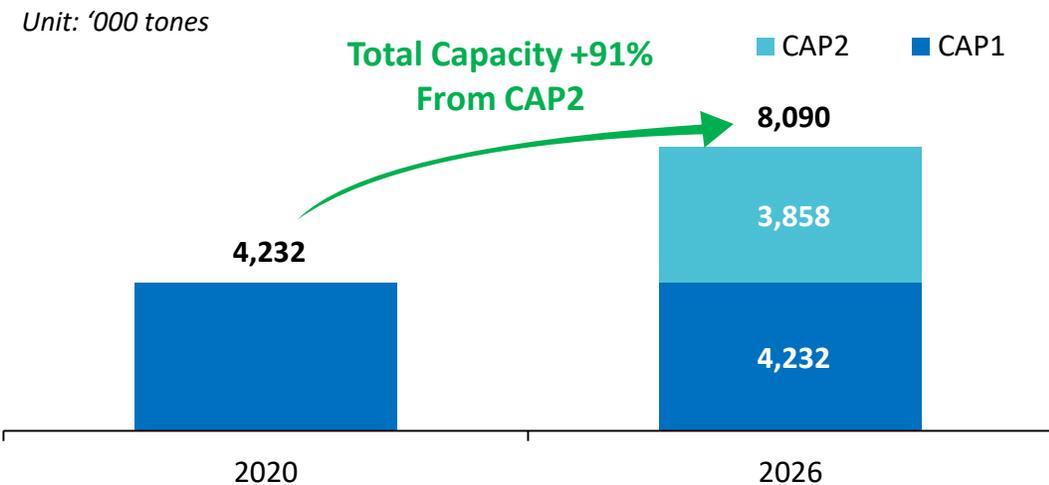


~ USD 40 – 50 mm of annual share of profit
in early years (based on 1Q2021 performance)



Secured demand
from feedstock supply agreement

Performance Expected to Increase Significantly From CAP2 Operations



Production capacity to increase over 90%
from CAP2 operations could result in double share of profit

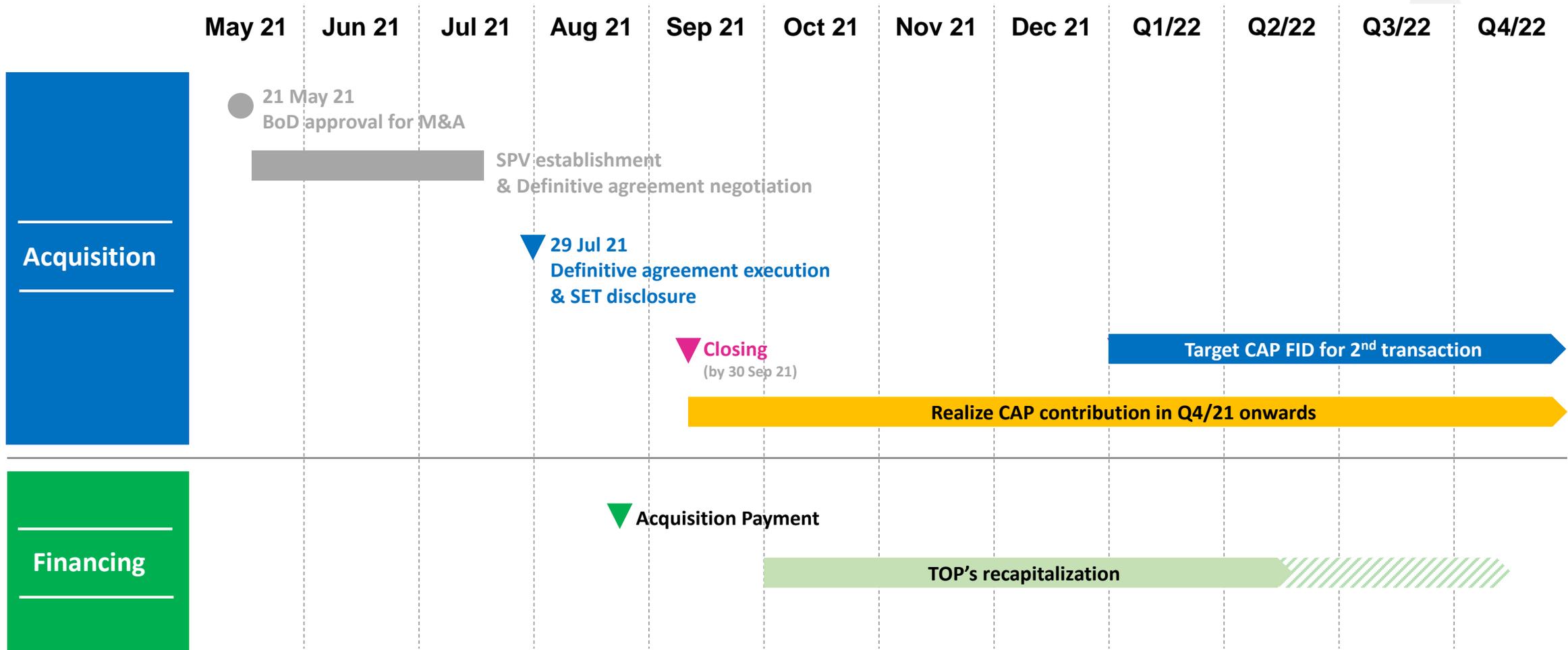


Expected margin improvement
from operational synergy between CAP1 and CAP2 to enhance share of profit from CAP



Source: Bloomberg
(1) Including extraordinary items

Illustrative Timeline



Key Investment Summary



- Jump-start our Olefins value chain
- Perfectly timed with CFP project
- Avoid adding new capacity
- Allow to concentrate on downstream HVP



- The region is our investment playground
- Young & fastest growing economy
- Net importer & growing PetChem market
- Our gateway to Indonesia



- Largest PetChem producer in Indonesia
- Market share over 50%
- Proven track record of sustainable & profitable growth



- Advance develop stage of expansion project
- CAP2 more than double capacity to 8 MTPA
- Capital injection by TOP & SCG will anchor CAP2 investment
- TOP to supply feedstock and distribute products



- Investment is financed by loans from banks & PTT
- Take-out plan designed to optimize long-term capital structure



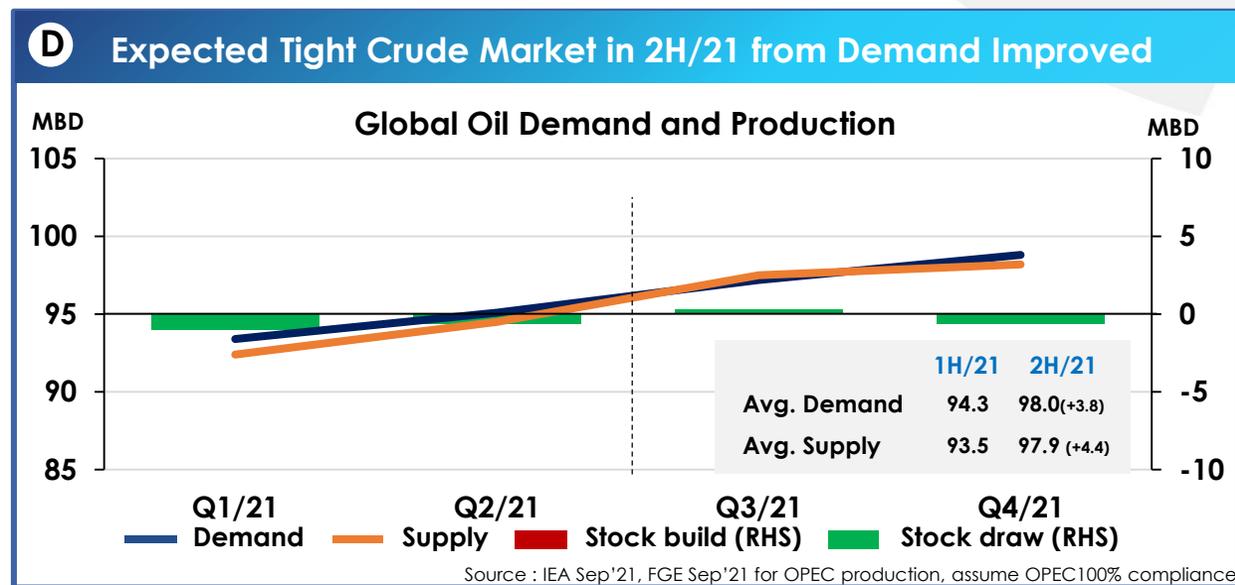
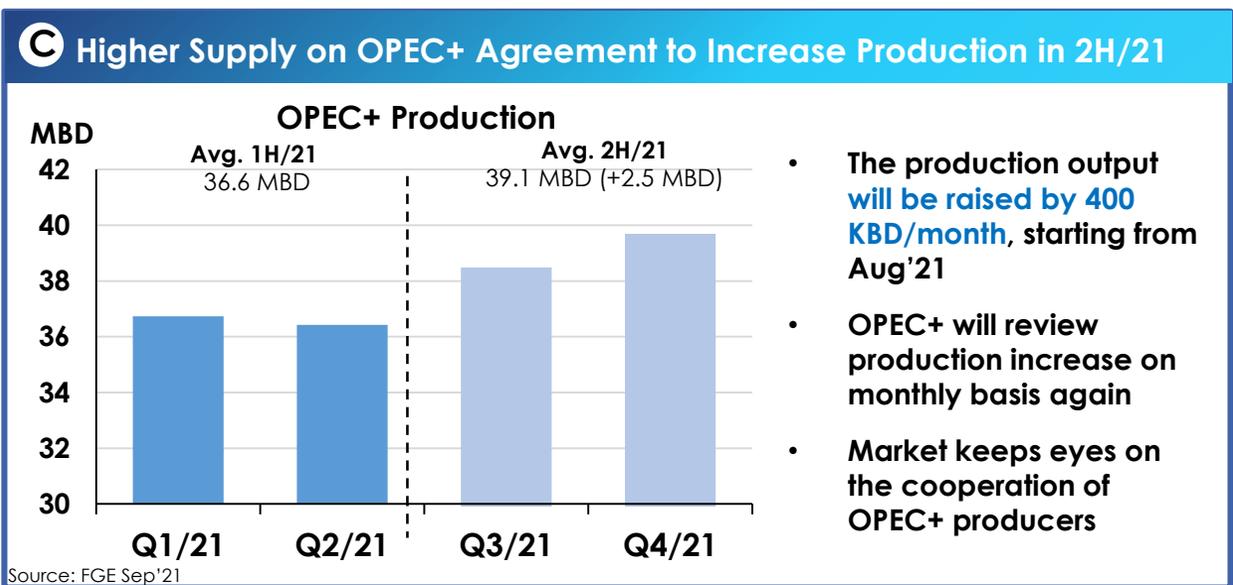
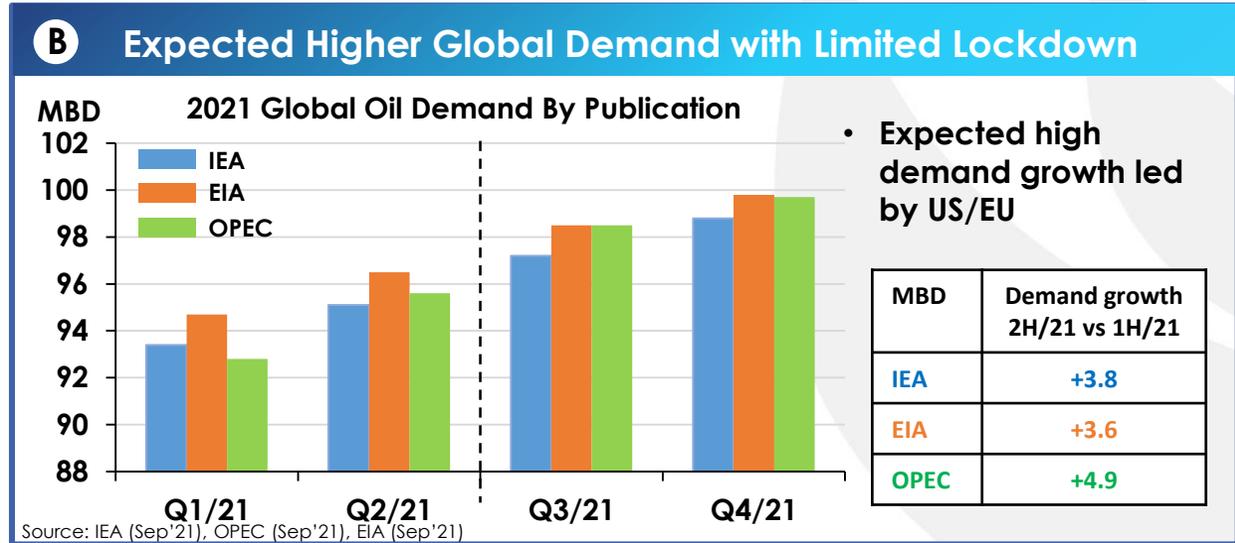
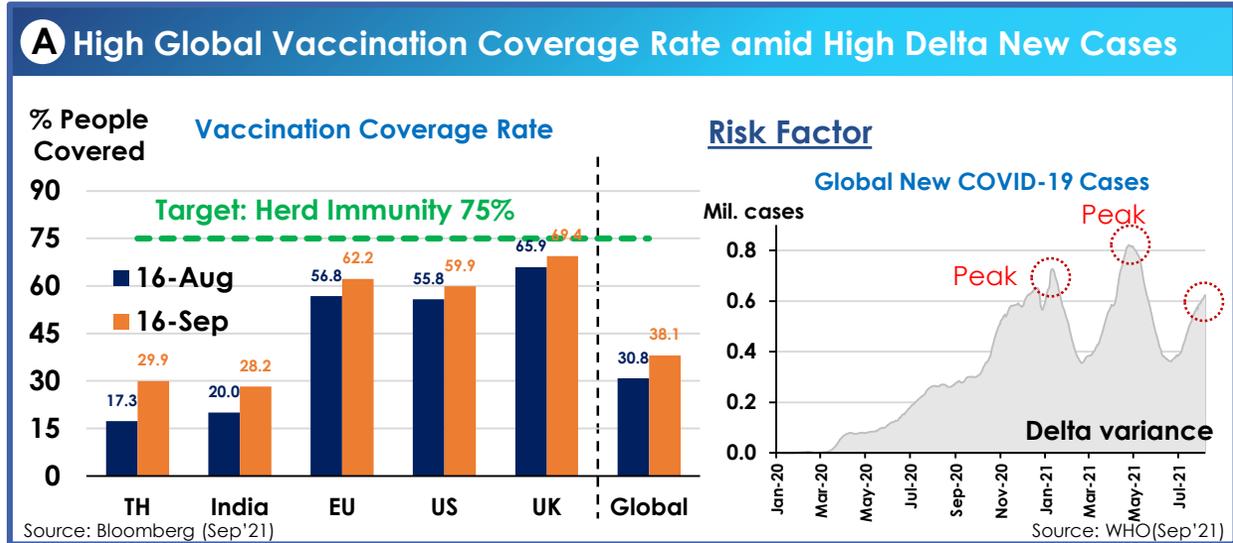
- Represent a strong and mutually beneficial partnership between TOP, CAP and SCG



2H/21 OUTLOOK

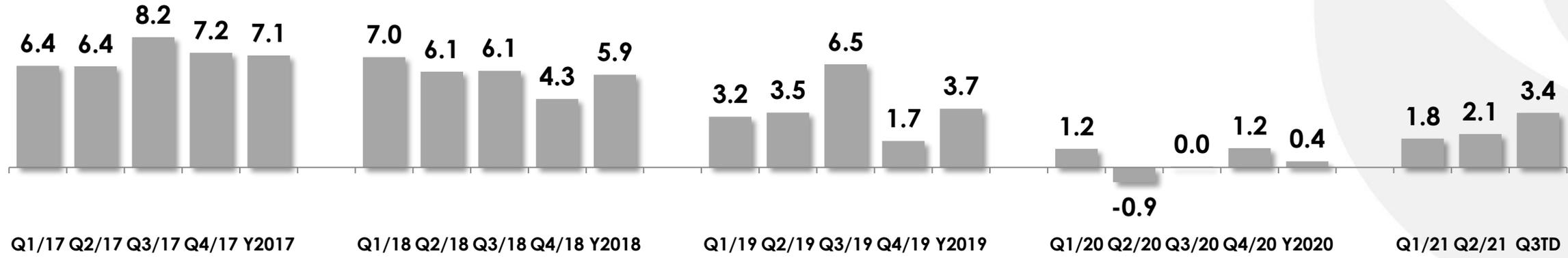
- Crude Oil
- Refinery
- Aromatic
- Base Oil & Bitumen

Stable Oil Price on Improved Demand Amid Higher OPEC+ Supply in 2H/21



Increasing Refinery Margin on Recovering Economic after Easing Restrictions

Singapore Cracking GRM (\$/BBL)



Source : Reuters Sep'21, Exclude Fuel and Loss

Remark : QTD as of 16 Sep'21

2H/21 Key Highlights: GRM to Recover on Resuming Petroleum Product Demand

Improving Gasoline Demand on Higher Global Mobility after Easing Lockdown

Recovering Jet Demand on Re-Opening Border

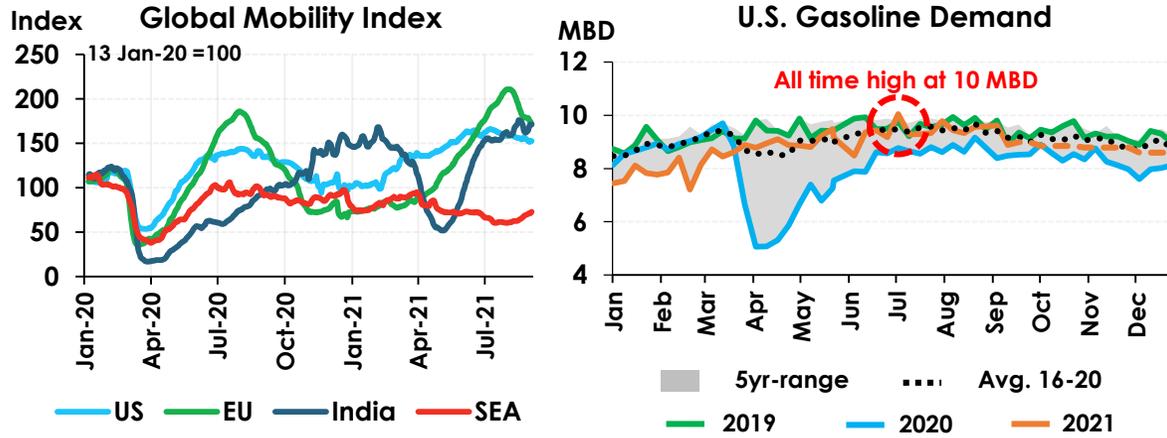
Gradually Improving Economic Activities to Support Global Gasoil Demand

Improving Fuel Oil Market on Higher Trading Activities and ME Summer Demand

Improving Gasoline Demand on Higher Global Mobility after Easing Lockdown Recovering Jet Demand on Re-Opening Border

Higher Gasoline Demand in 2H/21 on Easing Lockdown

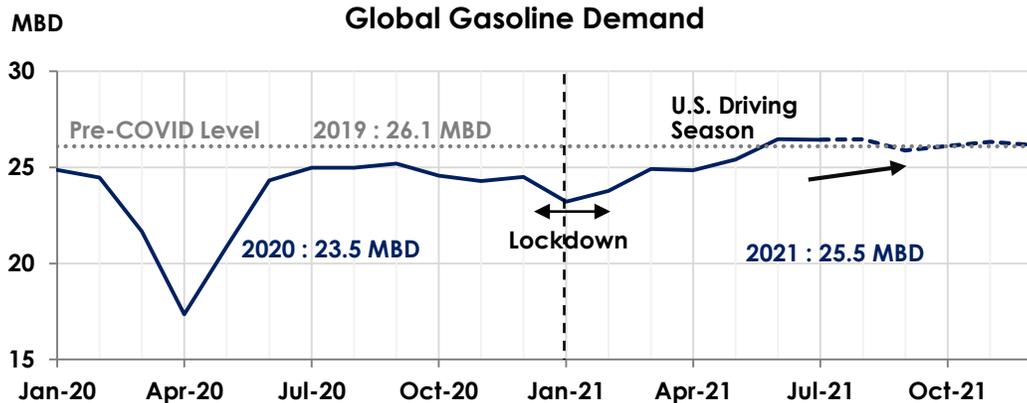
A Increase EU/US Gasoline Demand amid Slower Recovery in SEA



Source: Apple (Sep'21)

Source: EIA (Sep'21)

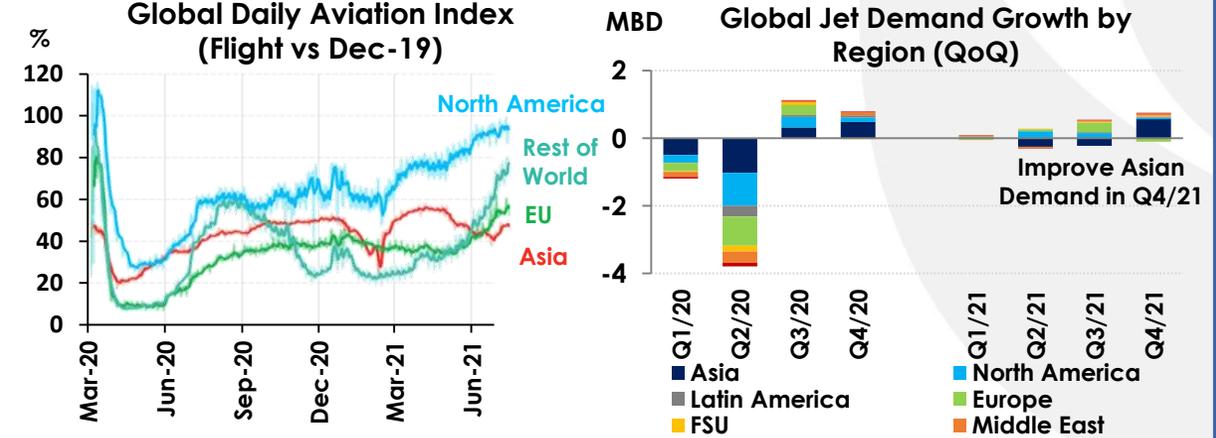
B Demand to be Above Pre-COVID Level in 2H/21



Source: Energy Aspects (Aug'21)

Higher EU/US Demand following by Asia's Demand in Q4/21

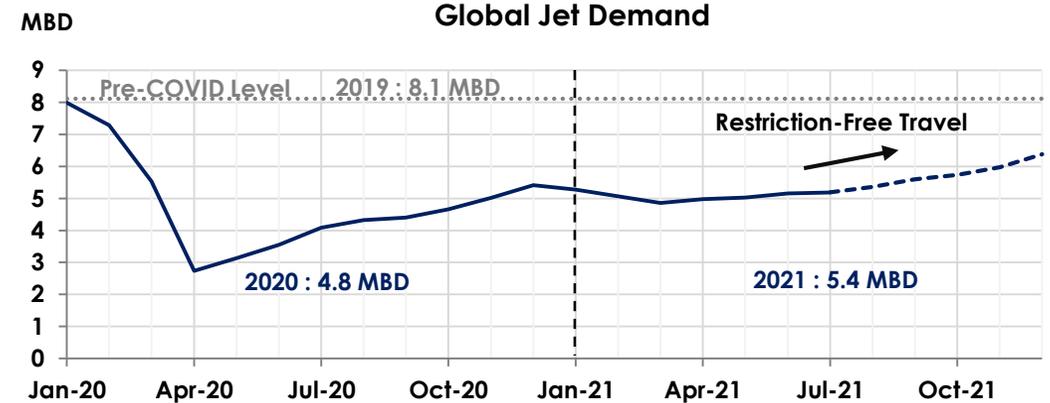
A Asian Jet Demand to Improve in Q4/21 on Reopening Borders



Source: BNEF (Jul'21)

Source: Energy Aspects (Aug'21)

B Increase Jet Demand Driven by Tourism Resumption



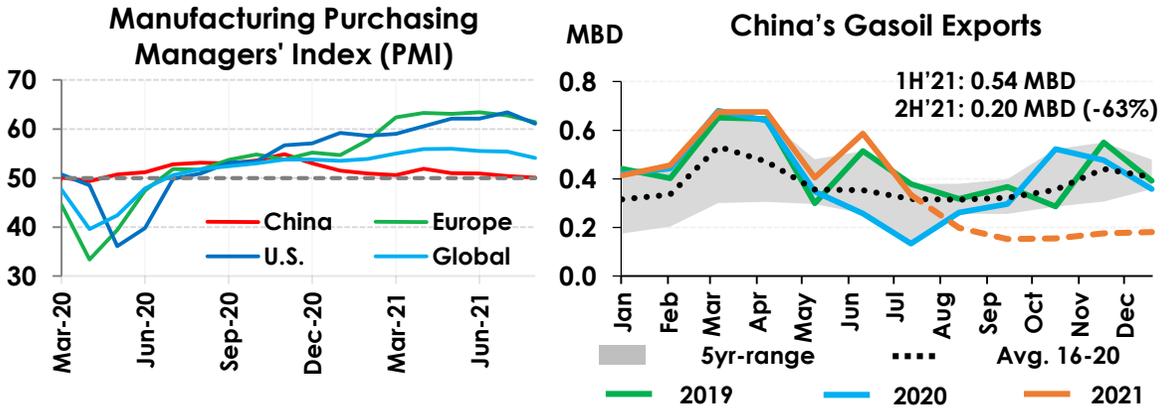
Source: Energy Aspects (Aug'21)

Gradually Improving Economic Activities to Support Global Gasoil Demand

Improving Fuel Oil Market on Higher Trading Activities and ME Summer Demand

Improving Gasoil Demand on Economic Recovery

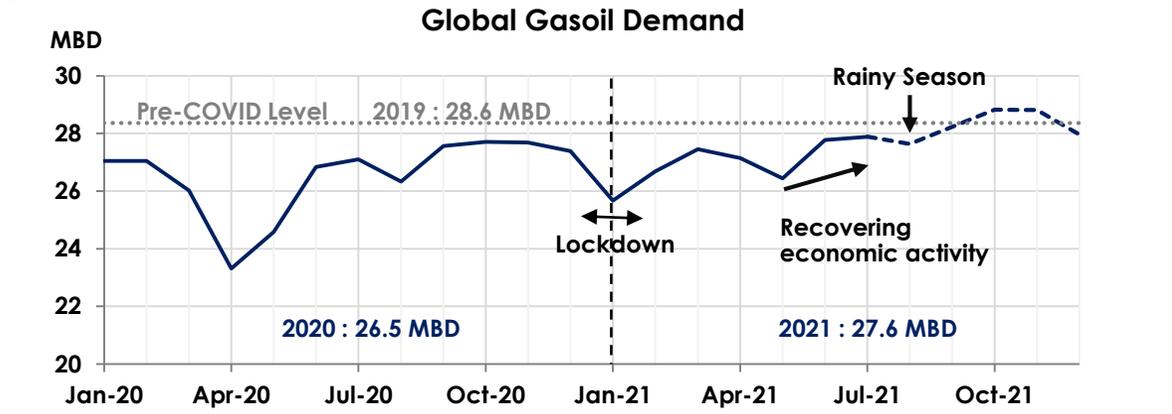
A Expanding Global Economy to Support Demand and Lower China's Gasoil Exports in 2H/21



Source: Markit economics (Aug'21)

Source: FGE (Aug'21)

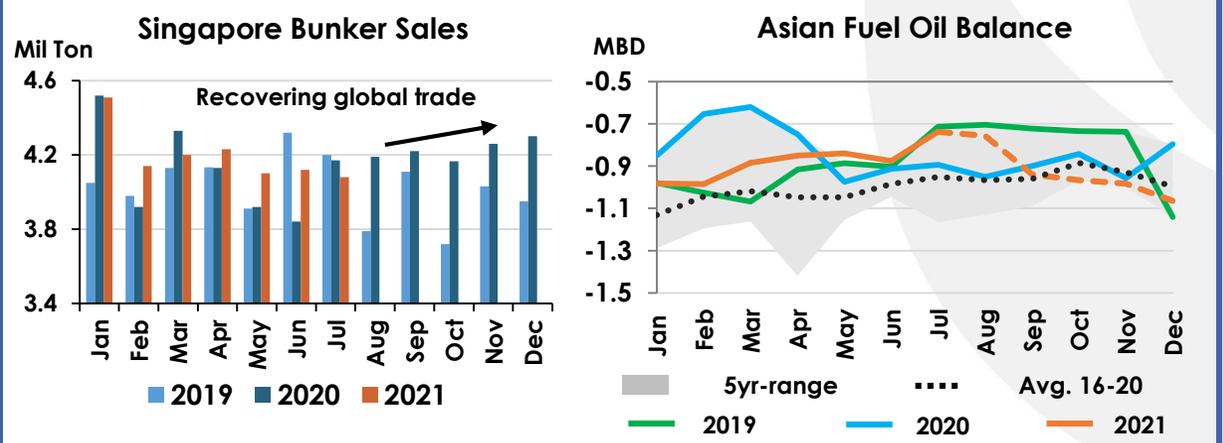
B Improve Gasoil Demand to Hit Pre-COVID by 2H/21



Source: Energy Aspects (Aug'21)

Rising Trading and ME Demand to Support Fuel Oil Market

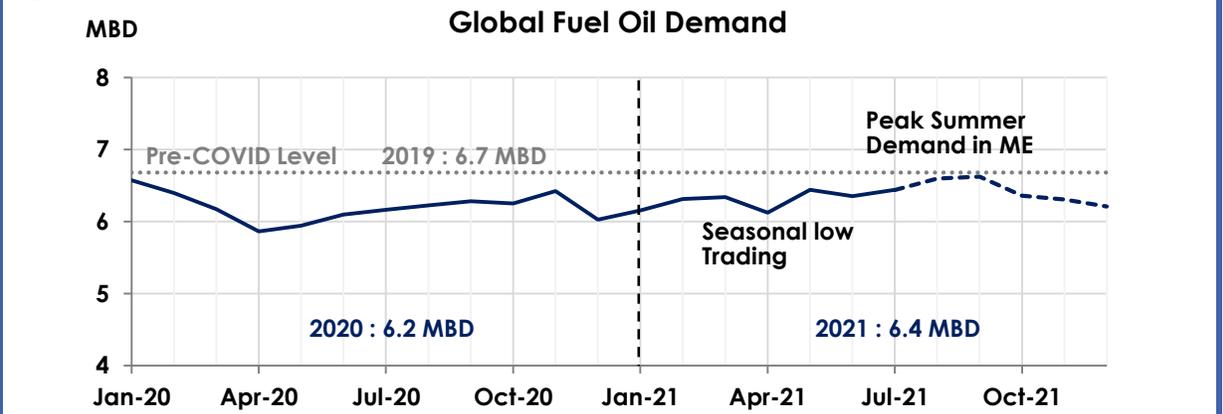
A Deficit Asian Market in 2H/21 on Rising Bunker Demand



Source: FGE (Sep'21)

Source: FGE (Aug'21)

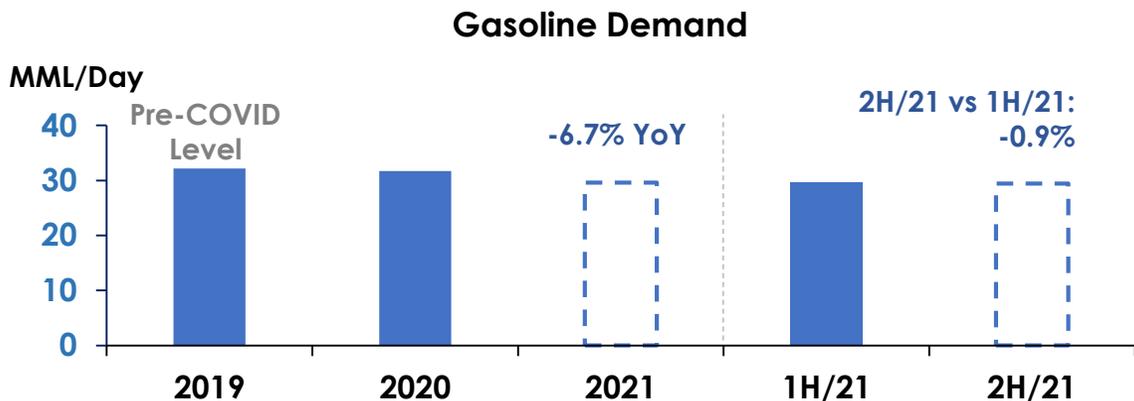
B Recovering Demand during Summer Season in the Middle East



Source: Energy Aspects (Aug'21)

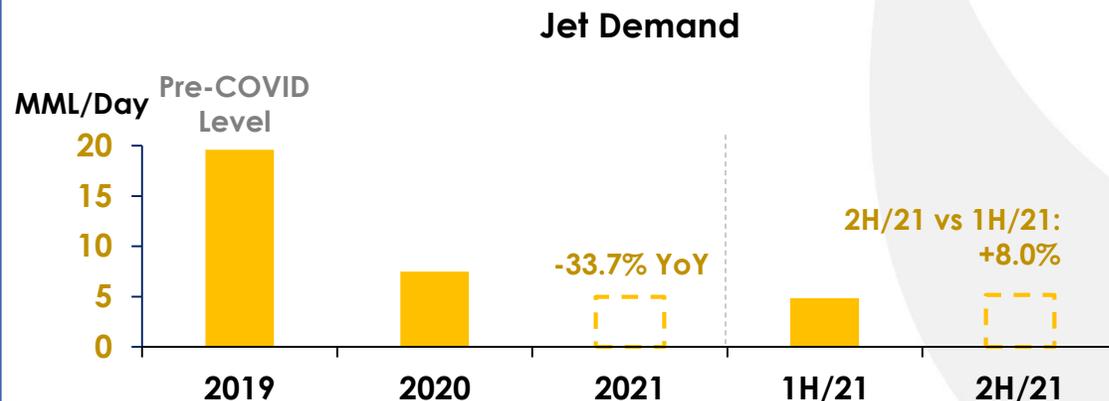
Fluctuating Domestic Demand in 2H/21 amid the 4th Wave of COVID-19

A Lower Gasoline Demand on Travel Restriction Measures



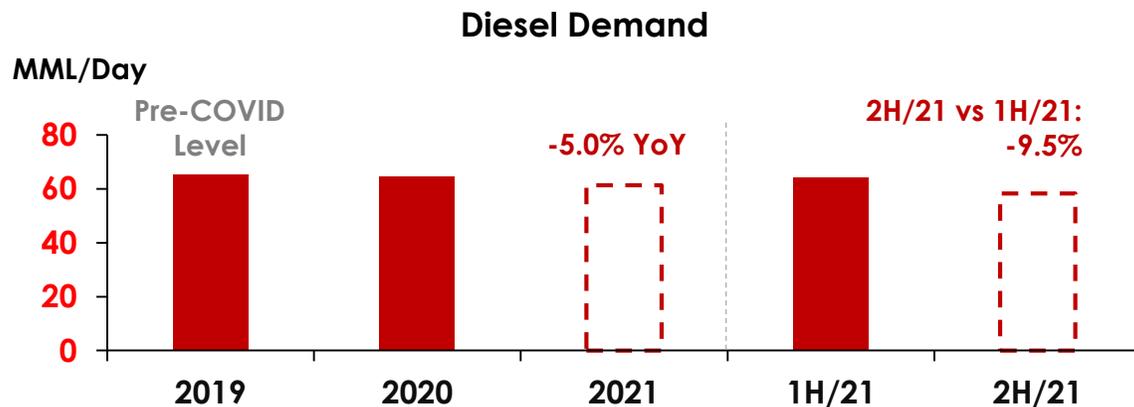
Source : DOEB and PTT (Sep'21)

B Higher Jet Demand on Recover of International Flight Movements



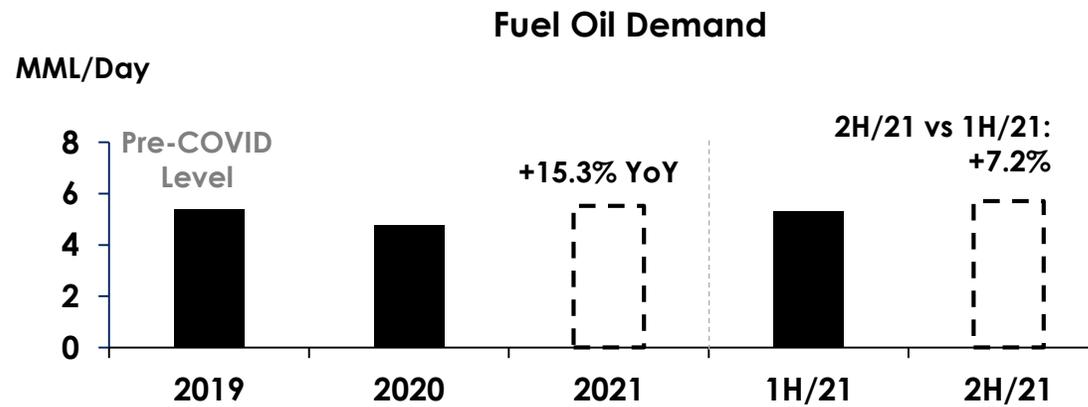
Source : DOEB and PTT (Sep'21)

C Lower Diesel Demand on Lockdown Measures and Monsoon Season



Source : DOEB and PTT (Sep'21)

D Higher Fuel Oil Demand on Stronger Global Trade

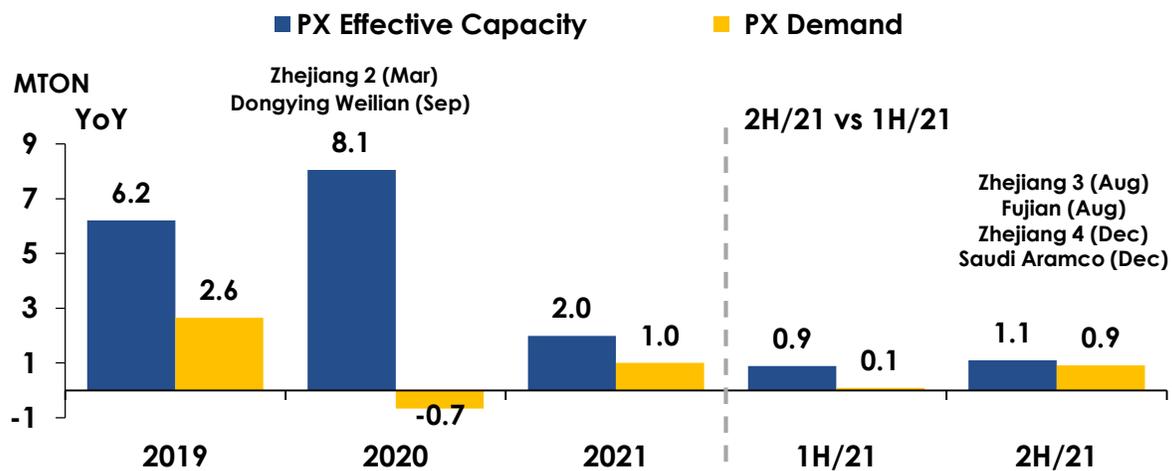


Source : DOEB and PTT (Sep'21)

More Aromatics Supply from Mega Capacity amid Good Demand Growth

A More Capacity Addition amid Recovered Demand

AP/ME PX Capacity Addition vs. Demand Growth



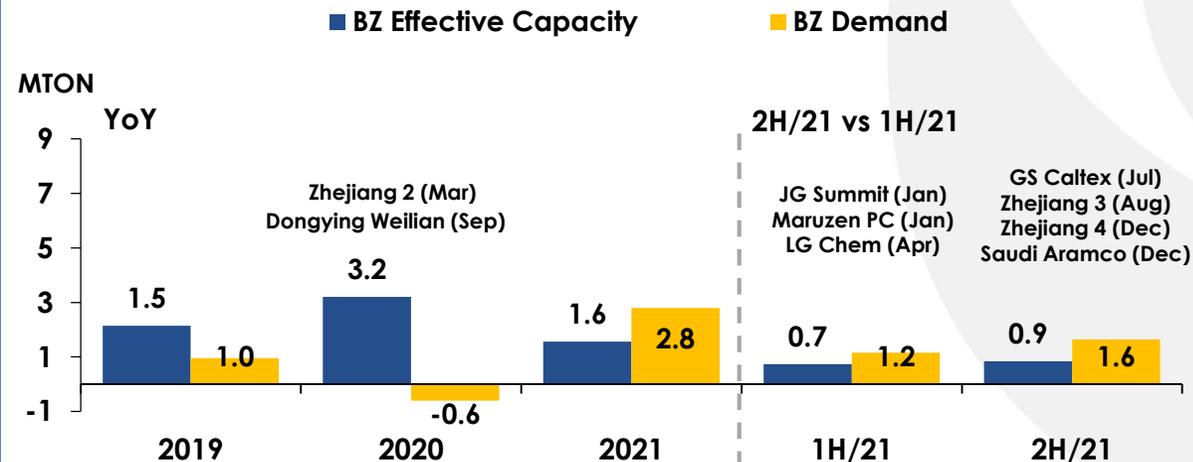
More Waves of PX Plant Start-up in 2H/21

Country	PX Company	Nameplate Capacity (KTON)	Startup Period
China	Fujian Refining PC	300	Q3
China	Zhejiang PC #3	2200	Q3
China	Zhejiang PC #4	2200	Q4
Saudi Arabia	Saudi Aramco Jizan	800	Q4

Source: WM Chemicals (Aug-21) and TOP's Estimate

B More Capacity Addition amid Recovered Demand

AP/ME BZ Capacity Addition vs. Demand Growth

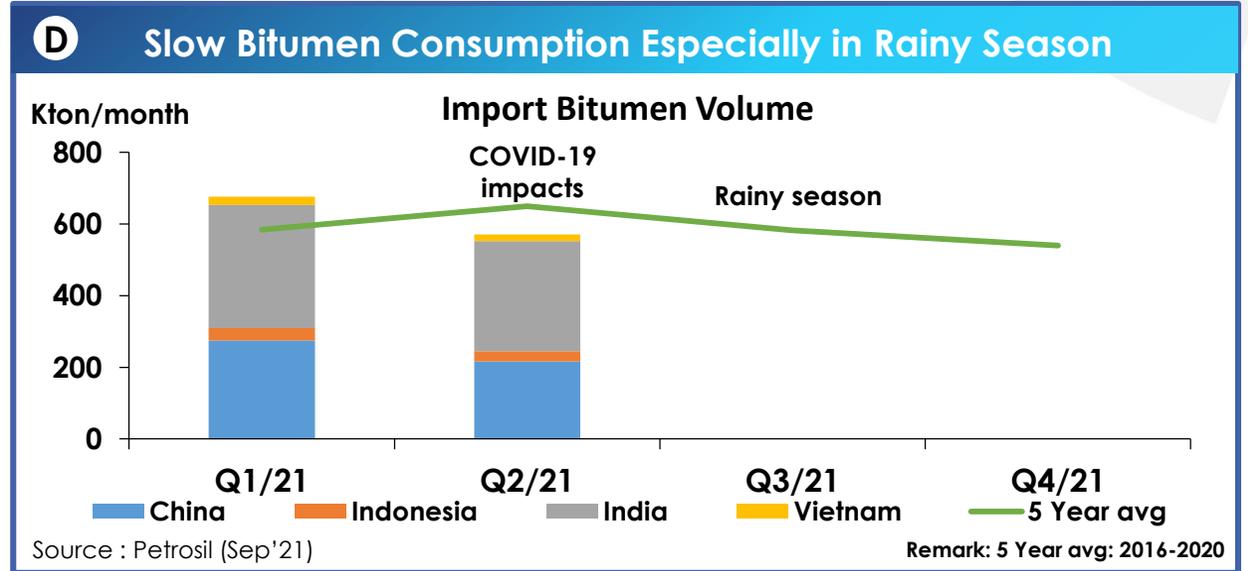
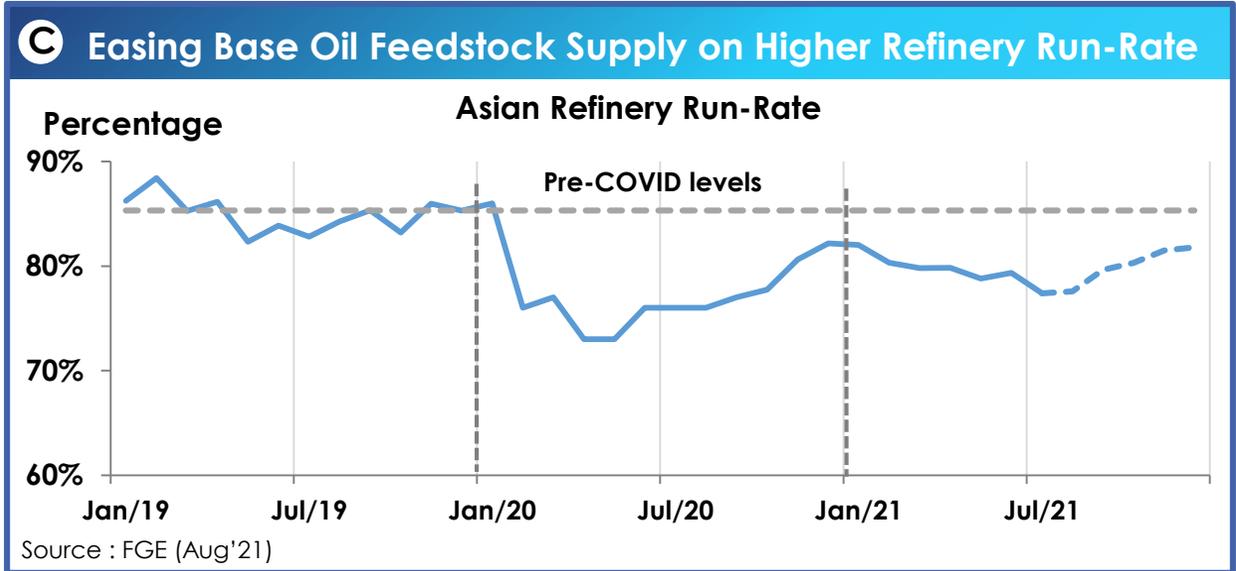
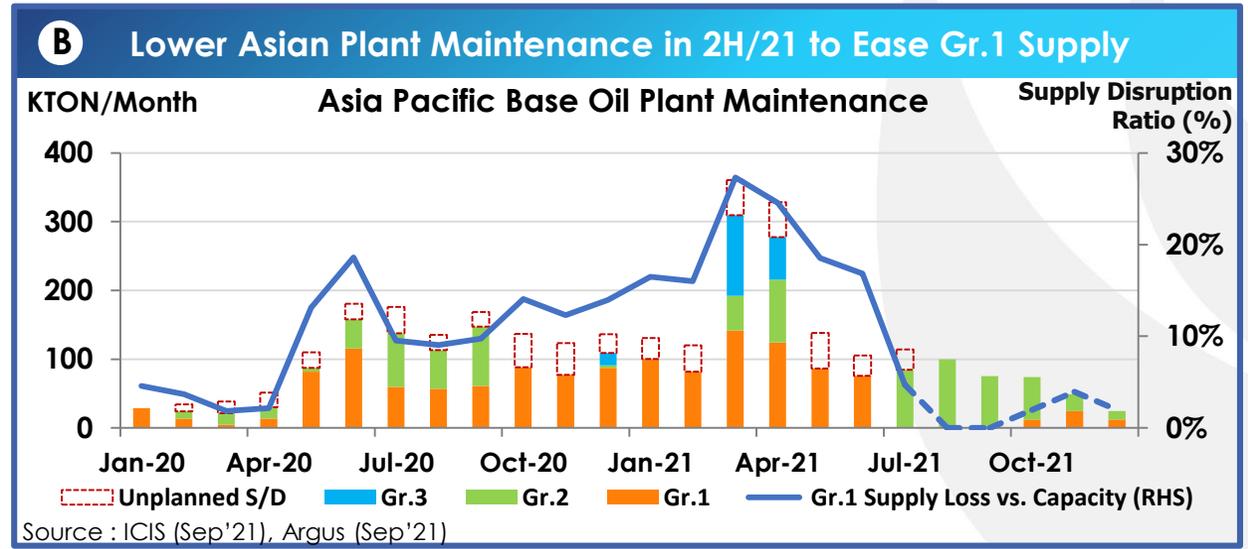
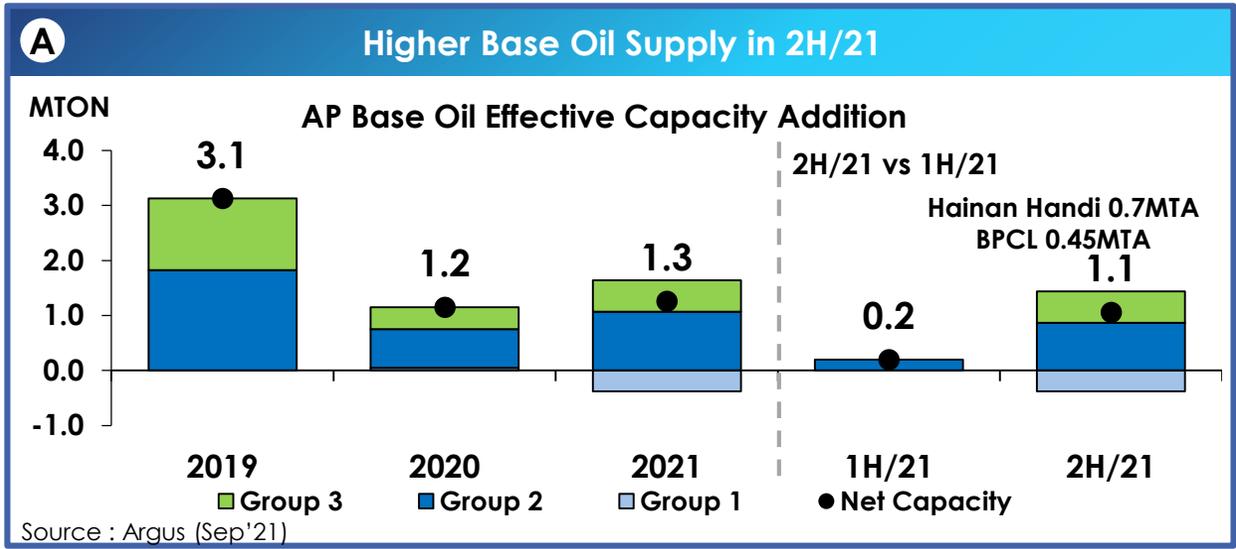


Additional BZ Capacities in 2H/21

Country	BZ Company	Nameplate Capacity (KTON)	Startup Period
South Korea	GS Caltex	140	Q3
China	Zhejiang PC #3	650	Q3
China	Zhejiang PC #4	650	Q4
Saudi Arabia	Saudi Aramco Jizan	420	Q4

Source: IHS Spring 2021 and TOP's Estimate

Higher Base Oil Capacity Addition and Easing Tight Feedstock Supply Situation



2H/21 Outlook Conclusion

(vs. 1H/21)



Crude Oil

Supportive Oil Market on Improved Demand due to Widely Vaccine Roll Out amid Higher OPEC+ Supply



Refinery

Increasing Refinery Margin on Gradually Expanding Economic Activities after Easing COVID-19 Restrictions



Aromatics

More Aromatics Supply from Mega Capacity amid Good Demand Growth



Lube Base

Higher Base Oil Capacity Addition and Easing Tight Feedstock Supply Situation



FINAL REMARKS

Looking Forward

2H/21 Market



Stable crude oil prices on improving demand amid higher OPEC+ supply



Market GRM improves on higher oil demand from less COVID-19 restriction and lower crude premium



Robust aromatic & LAB and lube contribution



Optimized overall utilization to cope with low oil demand

Looking Forward

2021-2023 Roadmap





APPENDIX

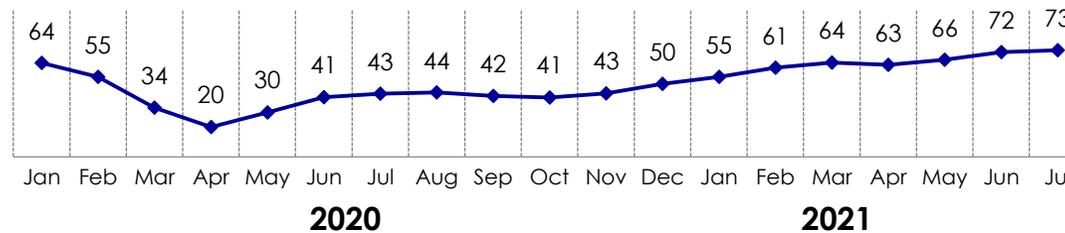
- Performance analysis
- Sustainability / ESG
- Refinery capacity addition
- Aromatics
- World GRM / Inventories
- Thailand petroleum demand by products

Refinery: Softening Mkt GRM Pressured by Higher Crude Premium

Dubai Crude Price & Key Petroleum Product Spreads

	2020				2021				2020
	Q1	Q2	Q3	Q4	Q1	Q2	1H	Q3TD*	FY
\$/bbl									
DUBAI (DB)	50.9	30.6	42.9	44.6	60.0	66.9 ↑	63.5	72.1	42.2
ULG95 - DB	6.7	2.6	4.4	4.1	7.1	9.9 ↑	8.5	12.5	4.5
JET - DB	8.6	(0.1)	(0.7)	2.4	3.3	4.5 ↑	3.9	4.6	2.5
GO - DB	11.1	5.7	4.2	3.7	4.7	5.3 ↑	5.0	5.1	6.2
VLSFO - DB	13.8	5.3	3.2	5.5	7.6	5.0 ↓	6.3	4.6	7.0
HSFO - DB	(7.5)	(1.6)	(2.5)	(0.6)	(3.5)	(5.8) ↓	(4.6)	(6.0)	(3.0)

*Q3TD as of 13 Aug'21

Dubai Price
(US\$/bbl)

Refinery Utilization			
Q1/21	Q2/21	1H/20	1H/21
100%	98%	105%	99%
% MB Intake/ MB-DB (\$/bbl)			
17%/0.7	8%/1.3	20%/(1.1)	13%/1.0
% Middle East crude intake			
52%	53%	50%	52%

Q2/21 Market GRM

- **Higher crude premium** due to tight crude oil market and stronger oil demand in the U.S.
- **Higher fuel & loss** following rising crude price
- + **Improving Gasoline spread** due to rising demand in the U.S. and Europe from easing COVID-19 restrictions and higher summer driving season demand in the U.S.
- + **Improving Middle Distillates margins** due to improving demand from higher economic activities from easing COVID-19 restrictions in the U.S., Europe & China

Gross Refinery Margins - GRM

	2020				2021			2020
	Q1	Q2	Q3	Q4	Q1	Q2	1H	FY
\$/bbl								
Market GRM	0.1	1.4	(1.1)	1.2	0.7	0.4	0.6	3.1
Stock G/(L)	(12.3)	(1.8)	4.0	2.3	6.2	4.9	5.5	0.5
Accounting GRM	(12.2)	(0.4)	2.9	3.4	6.9	5.3	6.1	3.6

Q2/21 Performance

- **Lower refinery run rate to 98%** due to softening domestic oil demand from the new wave of COVID-19 in Thailand

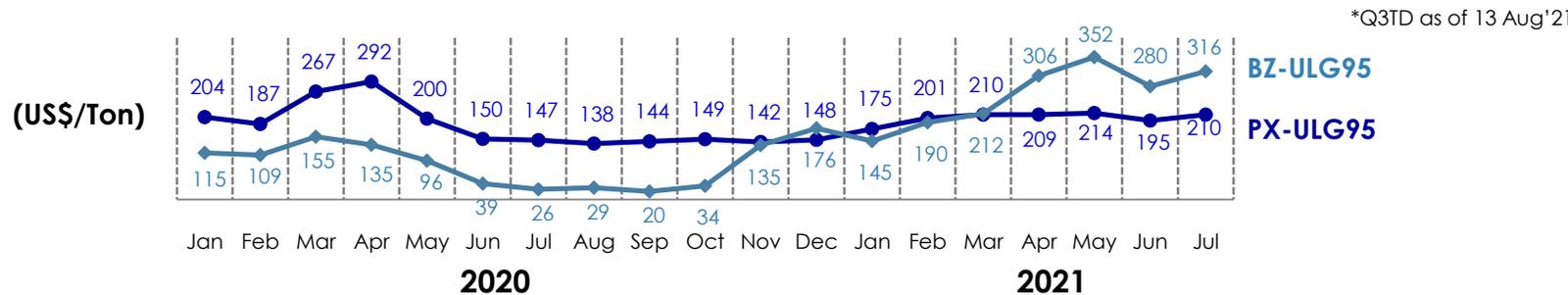
Aromatic: Higher Contribution Supported by BZ & LAB Margins

Aromatic Spreads and Margins

	2020				2021				2020
	Q1	Q2	Q3	Q4	Q1	Q2	1H	Q3TD*	FY
\$/ton									
PX-ULG95	218	214	143	146	195	206 ↑	201	223	180
BZ-ULG95	126	90	25	115	182	313 ↑	247	284	89

Aromatics Production			
Q1/21	Q2/21	1H/20	1H/21
80%	89%	78%	85%

Q2/21 Market

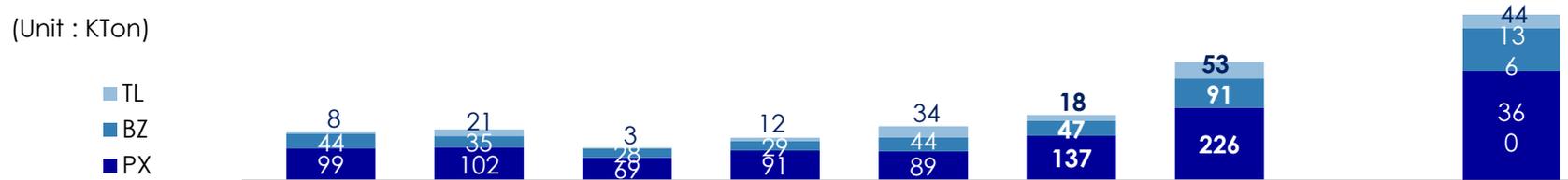


- + **Improving PX margin** due to greater demand for downstream products i.e. PET & polyesters
- + **Strong BZ margin** due to higher demand from new SM plant start-up (1.2 mtpa) and supply disruption in the U.S. following historic cold blast
- + **Robust LAB Contribution** from growing demand for hygiene products during COVID-19 pandemic amid limited supply

Aromatic's Sales (excluding by product) & Product-To-Feed Margin (P2F)

(Unit : KTon)

TL
BZ
PX



	2020				2021			2020
	Q1	Q2	Q3	Q4	Q1	Q2	1H	FY
P2F -\$/ton	85	77	68	76	106	112	110	77
P2F -\$/bbl	11.1	10.0	8.9	9.9	13.9	14.8	14.3	10.0
GIM -\$/bbl ⁽¹⁾	1.5	1.6	1.2	1.6	2.0	2.4	2.2	1.5

Q2/21 Performance

- + **Higher utilization rate at 89%**
- + **Increasing LAB utilization rate to 117%** after LABIX's maintenance for 18 days in Q1/21

(1) Including LAB contribution

Base Oil: Robust Contribution Supported by Strong Lube Spread

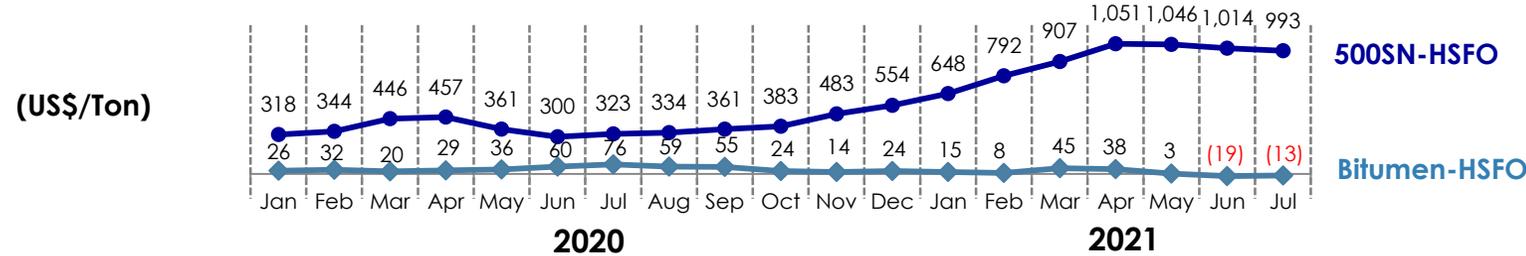
Base Oil & Bitumen Spreads & Margins

	2020				2021				2020
\$/ton	Q1	Q2	Q3	Q4	Q1	Q2	1H	Q3TD*	FY
500SN-HSFO	369	372	340	474	783	1,037 ↑	910	979	389
BITUMEN-HSFO	26	42	63	21	23	7 ↓	15	(25)	38

Base oil Production			
Q1/21	Q2/21	1H/20	1H/21
93%	95%	85%	94%

Q2/21 Market

- + **Record high Base Oil margin** due to limited supply from refinery run cuts and regional demand recovery
- **Softening Bitumen margin** due to weak regional demand from COVID lockdown in many countries

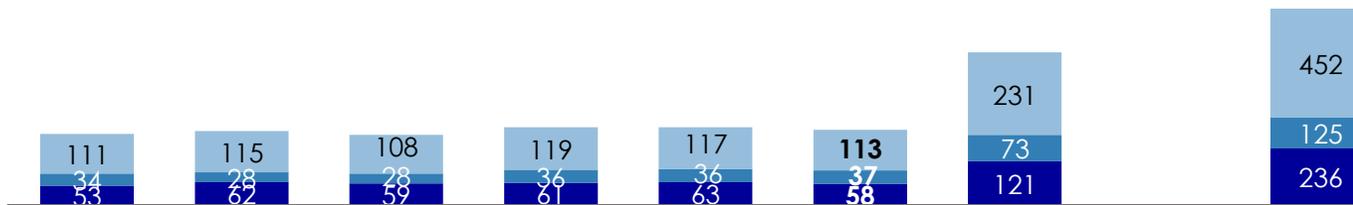


*Q3TD as of 13 Aug'21

TLB's Sales (excluding by product) & Product-To-Feed Margin (P2F)

(Unit : KTon)

- Bitumen
- Specialty
- Base Oil



	2020				2021			2020
	Q1	Q2	Q3	Q4	Q1	Q2	1H	FY
P2F -\$/ton	86	24	100	105	170	231	202	79
P2F -\$/bbl	13.1	3.6	15.1	15.9	25.7	34.9	30.3	11.9
GIM -\$/bbl	0.6	0.0	0.8	0.8	1.5	2.4	1.9	0.5

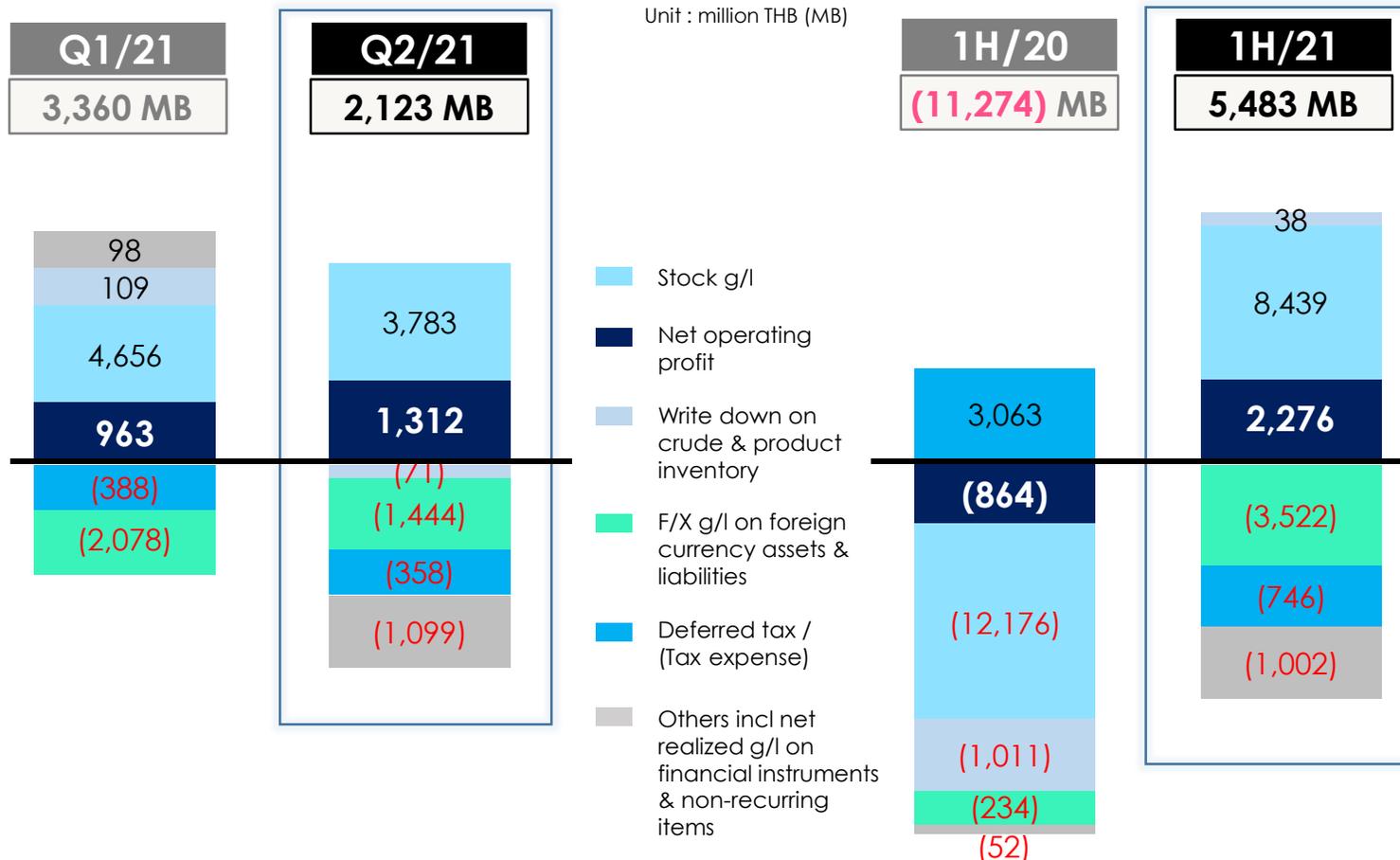
Q2/21 Performance

- + **Higher utilization rate at 95%** to capture strong base oil margin

Q2 & 1H/21 - Financial Performance

TOP Group Net Profit

Unit : million THB (MB)



Gross Refining Margin - GRM

	\$/bbl	Q1/21	Q2/21	1H/20	1H/21
Market GRM		0.7	0.4	0.7	0.6
Stock Gain/(Loss)		6.2	4.9	(7.3)	5.5
Accounting GRM		6.9	5.3	(6.7)	6.1

Gross Integrated Margin - GIM

Aromatics & LAB	2.0	2.4	1.5	2.2
Lube base	1.5	2.4	0.3	1.9
Market GIM	4.1	5.2	2.5	4.7
Accounting GIM	10.2	10.0	(4.8)	10.1

Utilization / Production Rate

Refinery	100%	98%	105%	99%
Aromatics	80%	89%	78%	85%
LAB	91%	117%	113	104%
Base Oil	93%	95%	85%	94%

- Remark**
- Stock gain/(loss) : Q1/21 4,656 MB, Q2/21 3,783 MB, 1H/20 (12,176) MB, 1H/21 8,439 MB
 - Reversal/ (write-down) on crude and petroleum product inventory : Q1/21 109 MB, Q2/21 (71) MB, 1H/20 (1,011) MB, 1H/21 38 MB
 - F/X gain/(loss) on gain on foreign currency assets & liabilities : Q1/21 (2,078) MB, Q2/21 (1,444) MB, 1H/20 (234) MB, 1H/21 (3,522) MB
 - (Tax expense)/Reversal of Tax expense : Q1/21 (388) MB, Q2/21 (358) MB, 1H/20 3,063 MB, 1H/21 (746) MB
 - Net realized gain/(loss) on financial instruments : Q1/21 (119) MB, Q2/21 (56) MB, 1H/20 (64) MB, 1H/21 (175) MB
 - Non-recurring item: Impact of TFRS-9 : Q1/21 217 MB, Q2/21 (1,043) MB, 1H/20 12 MB, 1H/21 (827) MB

Power Sector Performance...Growing Contribution to the Group

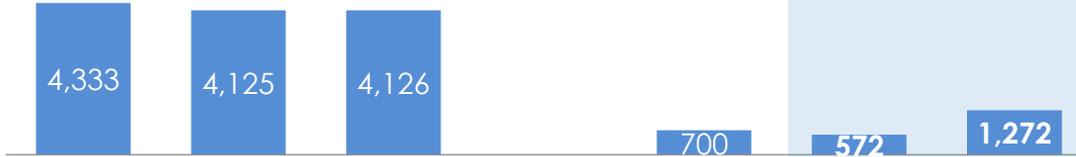
Power Business Sector

Power & Steam Sales

Electricity⁽¹⁾
(GWh)



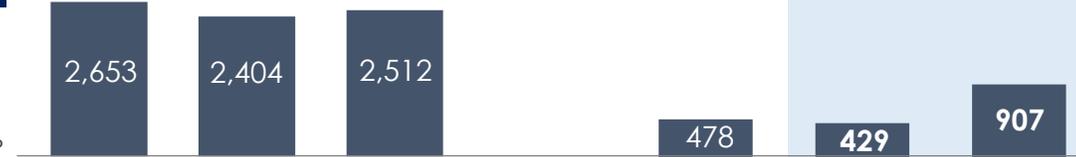
Steam⁽¹⁾
(kton)



(1) 100% of TP and TOP SPP

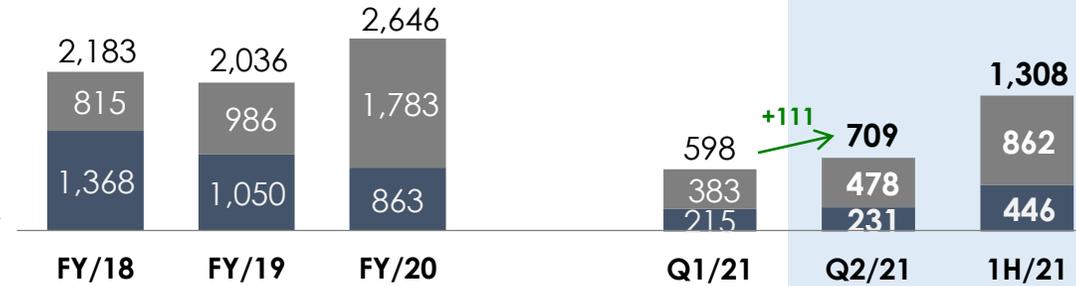
EBITDA & Net Profit

EBITDA⁽²⁾
(THB million)



(2) Consolidated EBITDA of TP and TOP SPP

Net Profit⁽³⁾
(THB million)



(3) Net profit of 74% TP + 100 % TOP SPP + 24.29% profit sharing from GPSC



Equity holding in



(4) ThaiOil Power(TP) completely transferred whole business to be under TOP in Feb'21

(5) TOP shareholding in GPSC decreased from 24.29% to 15.38% in Nov'20 – Jan'21, and increase to 20.78% in Feb'21 after TP's EBT completion

Q2/21 Performance Highlight

+ Higher power business contribution
mainly from higher contribution from GPSC

■ Equity income from GPSC
■ SPP (TP+TOP SPP)

Performance Breakdown

	Petroleum	Petrochemical & Lube Base ⁽¹⁾	Power ⁽²⁾	Others & New Business ⁽³⁾	Consolidated Net Profit (incl. Stock G/(L))	Stock Gain/ (Loss)	Consolidated Net Profit (excl. Stock G/(L))
Q1/21	898	1,431	598	380	3,360	4,656	(1,296)
Q2/21	(1,014)	2,302	709	260	2,123	3,783	(1,660)
1H/20	(13,302)	1,118	1,302	446	(11,274)	(12,176)	902
1H/21	(117)	3,734	1,307	639	5,483	8,439	(2,956)

Q2/21 Key Points

Petroleum

- Lower utilization rate to 98%
- Lower market GRM (from \$0.7 /bbl in Q1/21 to \$0.4/bbl in Q2/21)
- Huge stock gain of \$4.9/bbl as rising crude price

Power

- Higher contribution from TOP SPP due to higher electricity & stream demand and higher selling prices
- Higher contribution from GPSC mainly from XPCL and insurance claim

Petrochemical & Lube

- **Aromatics & LAB** : strong contribution supported by improving BZ from greater demand for new SM plant start up, as well as strong LAB margins
- **Lube** : record high contribution supported by strong lube spread from improving demand amid limited supply

Others & New Business

- **Solvent** : lower contribution due to narrower gross margin from weak demand from the new wave of COVID-19 in Southeast Asia
- **Ethanol** : lower contribution due to weak demand from the new wave of COVID-19 in Thailand
- **Marine** : successful completion of marine business restructuring in Apr'21

(1) Includes 75% of LAB net profit Q1/21 54 MB, Q2/21 197 MB, 1H/20 9 MB, 1H/21 251 MB

(2) Apply on an equity accounted basis in the consolidated financial statement.

(3) Consisting of Solvent, Ethanol and other business

Q2 & 1H/21 TOP Group Consolidated P&L

(Unit : MB)	<u>Q2/21</u>	<u>Q1/21</u>	<u>QoQ+ /(-)</u>	<u>Q2/20</u> Represented	<u>YoY+ /(-)</u>	<u>6M/21</u>	<u>6M/20</u> Represented	<u>YoY+ /(-)</u>
Sales Revenue	78,120	73,449	4,671 ^(A)	49,246	28,874	151,570	125,815	25,755 ^(C)
Net Realized G/(L) on Financial Instrument	(56)	(119)	63	(45)	(11)	(175)	(64)	(111)
EBITDA	↓ 7,003	8,272	(1,269)^(B)	2,881	4,122	↑ 15,275	(9,367)	24,642^(D)
EBITDA excl. Stk G/(L)&NRV	3,291	3,507	(216)	1,816	1,475	6,798	3,820	2,978
Net Loss on FV of Financial Instrument	(1,043)	217	(1,260)	389	(1,432)	(827)	12	(839)
FX G/(L) & CCS	(1,286)	(2,604)	1,318	2,049	(3,335)	(3,889)	(294)	(3,595)
Financial cost	(907)	(796)	(111)	(1,049)	142	(1,703)	(2,134)	431
Tax Expense	(358)	(388)	30	(494)	136	(746)	3,063	(3,809)
Net Profit	↓ 2,123	3,360	(1,237)	2,480	(357)	↑ 5,483	(11,274)	16,757
EPS (THB/Share)	1.04	1.65	(0.61)	1.22	(0.18)	2.69	(5.53)	8.21
Stock G/(L) and NRV	3,712	4,765	(1,053)	1,065	2,647	8,477	(13,187)	21,664
Net Profit excl. Stk G/(L)& NRV	(1,589)	(1,405)	(184)	1,415	(3,004)	(2,994)	1,913	(4,907)
THB/US\$ - average selling	31.53	30.46	1.07	32.11	(0.58)	30.98	31.77	(0.80)
THB/US\$ - ending	32.22	31.51	0.72	31.07	1.16	32.22	31.07	1.16

Analysis

QoQ

(A) Higher sales revenue due to improving average selling prices

(B) Lower EBITDA from lower stock gain \$4.9/bbl in Q2/21 vs \$6.2/bbl in Q1/21

YoY

(C) Higher sales revenue due to higher average selling prices

(D) Higher EBITDA from improving MKT GIM and huge stock gain

1H/21 Consolidated Cash Flow

(Unit: MB)

	1H/21	1H/20 Represent
Operating Cash Flow (CFO)	1,059	(899)
Net income	5,731	(10,947)
Depreciation & NRV	3,628	4,641
Other adj.	5,344	(1,737)
Change in working capital	(13,643)	7,144

	1H/21	1H/20 Represent
Investing Cash Flow (CFI)	(11,745)	(66,440)
Dividend income	757	841
ST investments	5,252	(42,009)
Sell / (Invest) in a associate	1,560	-
CAPEX (PP&E) & others	(19,315)	(25,272)

Free Cash Flow (CFO +CFI) **(10,618)** **(67,339)**

	1H/21	1H/20
Financing (CFF)	(17,890)	26,894
Loans proceeding	3,652	4,499
Loans repayment	(7,284)	(3,970)
Bond issue	(3,000)	31,120
Interest	(3,303)	(2,905)
Dividend & Lease	(7,954)	(1,851)

Beginning 2021

Cash	53,244
------	--------

+

Increase / (Decrease)

(28,576)

+

Effect of FX changes⁽¹⁾

820

=

Ending Q2/21

Cash	25,489
------	--------

Cash + S/T Investment

71,681

Cash + S/T Investment

39,897

(1) Effect of FX changes mainly from the FX gain/loss of FCD

ESG/Sustainability Highlights

Environmental

Toward Green Economy

Greenhouse Gases (GHGs)

- Reduced 4% direct GHG emission from BAU by 2022
- Participated in low emission supporting scheme: LESS and Thailand voluntary mission reduction program: T-VER



Circular Economy

• Water and Waste Management

- Water Saving: Study pilot projects of "Reverse Osmosis" for seawater and for recycling wastewater



- 3Rs in process: Zero waste to landfill

• Energy Efficiency

- 19 Energy efficiency projects solar cell at engineering building center

• Green Label Focus

- Green procurement: ISO 20400

Social

Toward Better Quality of Life

Communities

- Thailoil CSR program supported medical staffs and communities with hygiene equipment including protective suits PAPR, cloth masks, face shields, and alcohol gel hand sanitizer



Health care

• Sustainable energy for health care

Installed solar roof for 3 hospitals, Leam-Chabang, Panusnikom, Banbueng hospital



Governance

Toward Transparency

Structure & Oversight

• Sustainable Procurement

- 100% of strategic supplier signed acknowledge on "Thailoil Group Supplier Code of Conduct"
- Strengthen ESG practices and performance in supply chain through ISO 20400 : "Sustainable Procurement"



20400:2017

Transparency

• Strengthen GRC

- Continue with GRC Roadmap Implantation
- Applying digital technologies in the GRC Process

• ZERO case non-compliance & fraud incidents

- Operated without corruption cases
- Operated without cases of non compliance with business ethics



Zero case of non-compliance & fraud incidents through GRC roadmap

ESG/Sustainability Highlights 2020 – 1H/21

Member of
Dow Jones Sustainability Indices

Powered by the S&P Global CSA

Industry Leader

in oil & gas refining and marketing industry for 6 years

8 consecutive year recognized as member

Sustainability Award
Gold Class 2021

S&P Global

Sustainability Award (Gold Class)

in oil & gas refining and marketing industry for 7 years from 2014 – 2018 & 2021

INTEGRATED REPORTING <IR>
Leading Practices

Leading Practices

for Business Model-Value Creation disclosed IR 2019



Platinum Award



Listed in Thailand Sustainability Investment as sustainable stock
in SET THSI index for 6th Consecutive year

Environment



Energy Efficiency
2020 Certificate of Honor for Role Model Organizations in Greenhouse Gas Reductions



Carbon credit
Accredited by the Thailand Voluntary Emission Reduction Program (T-VER) for 0.64 M Ton CO₂e

Society



Sustainable Energy for Health Care
2020 Prime Minister's Industry Awards for outstanding achievements in CSR



Human rights management
2020 Human Rights Awards

Governance & Economics



Corporate Governance
One of the top 3 Thai listed companies with The highest ASEAN CG Score



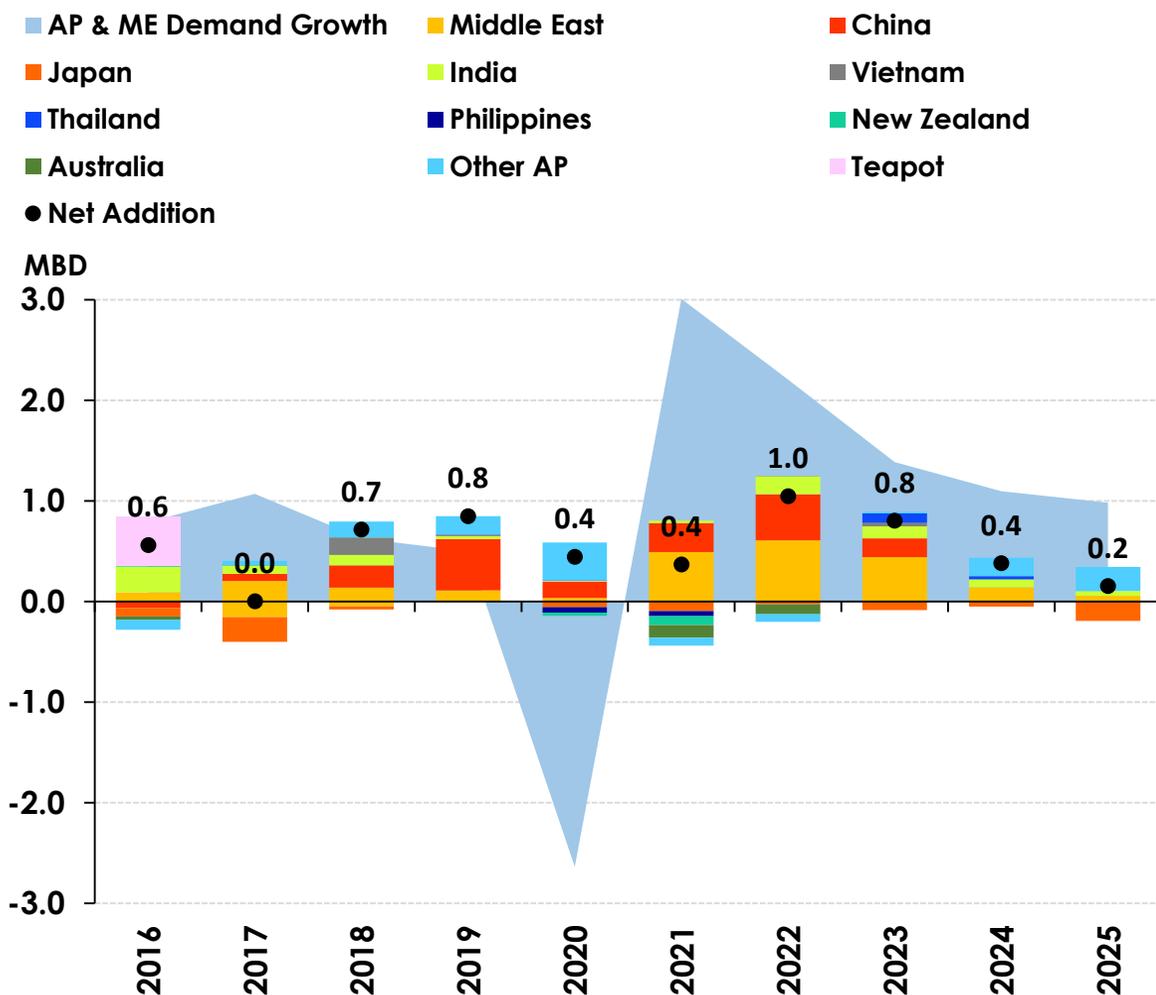
Corporate Governance
Maintains the "Excellence" level of CGR Score for 12th consecutive year



Sustainable Procurement
Accredited by the 3rd party for ISO 20400 for Sustainable Procurement process

Demand Growth to Outpace Refining Capacity Addition in Medium Term

Asia Pacific and Middle East Effective CDU Addition VS Additional Demand



Key Projects : New Addition

Country	Company	CDU (KBD)	Start-up
China	Sinopec Zhanjiang	200	Q2'20
Kuwait	KPC	171	Q2'20
China	Rongsheng II*	400	Q2'21
Saudi Arabia	Jizan	400	Q2'21
China	Local Shenghong Petrochemical	320	Q4'21
India	Hindustan Petroleum	125	Q1'22
Kuwait	Al Zour	615	Q2'22
China	CNPC/PDVSA	400	Q3'22
Thailand	Thai Oil	125	Q1'23
Oman	Al-Duqm	230	Q1'23
China	Sinopec Hainan	100	Q3'23

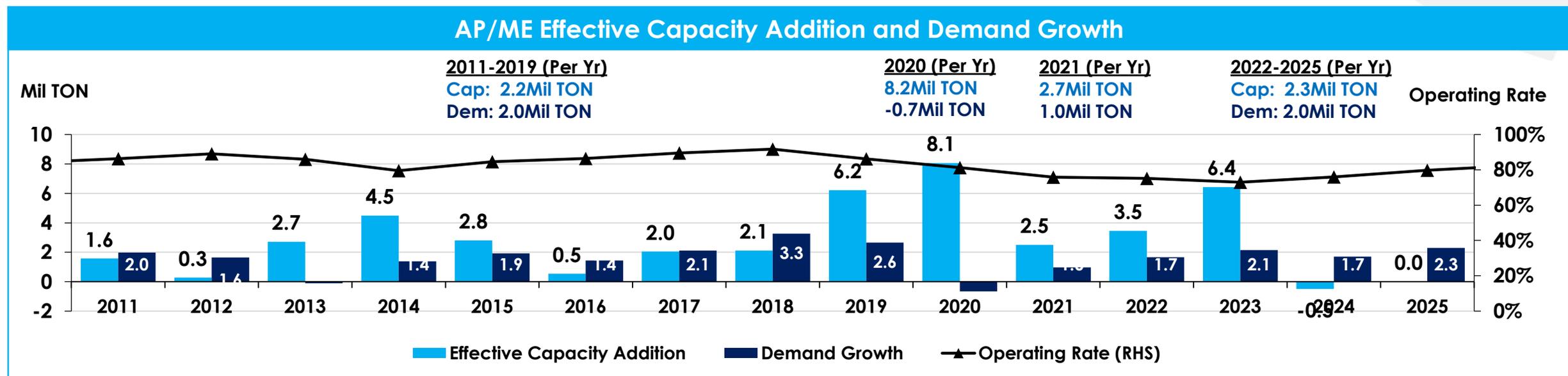
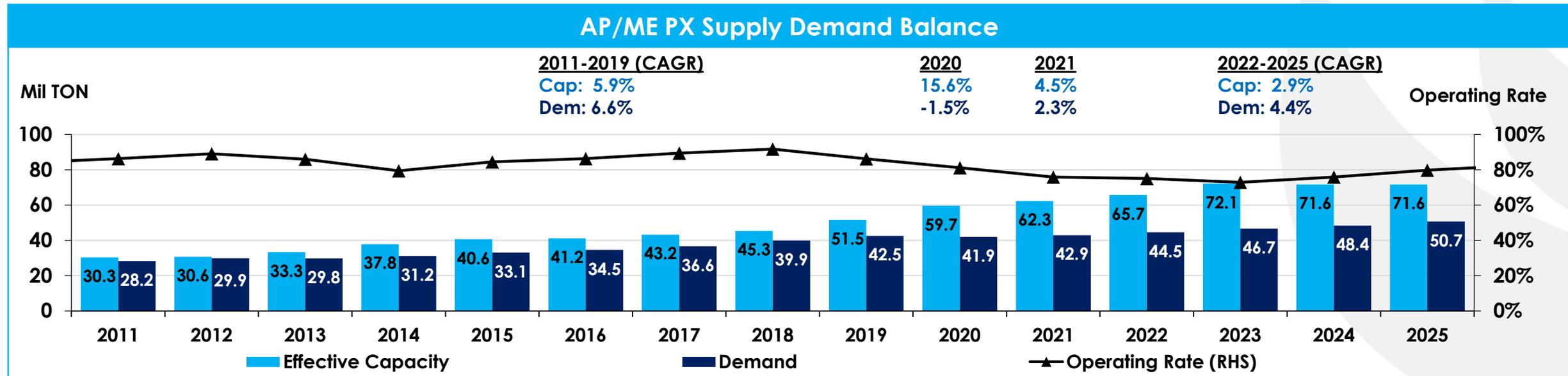
*Rongsheng II 200 KBD of CDU is already started as well as another 200 KBD is postponed to be startup in 2H'21 on limited crude import quotas.

Key Projects : Closure

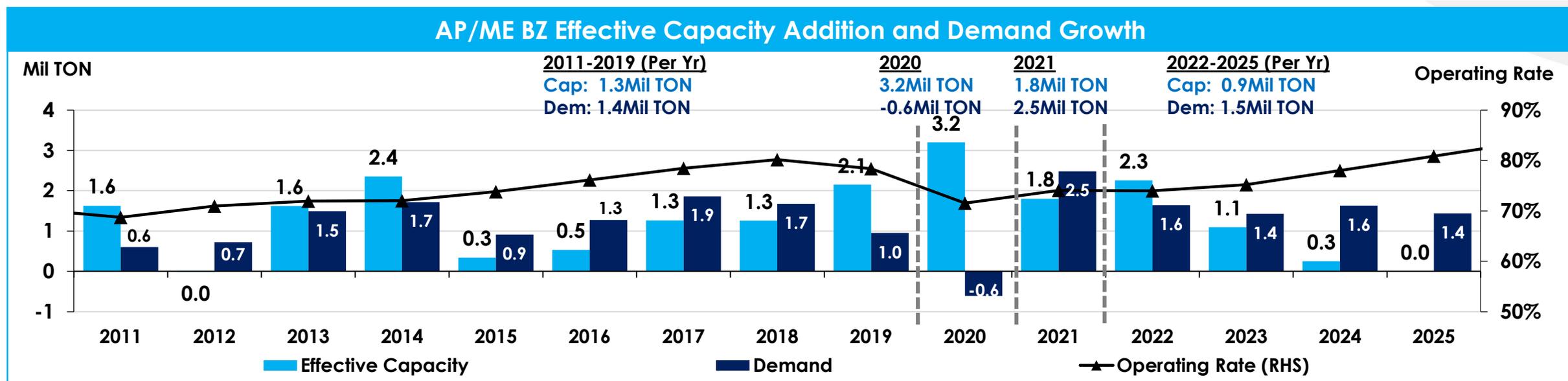
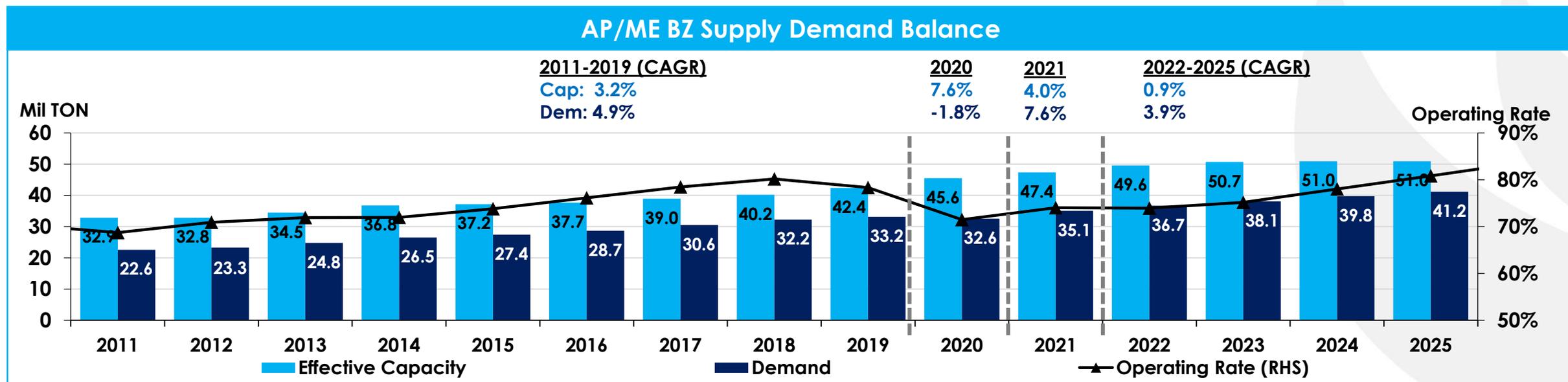
Country	Company	CDU (KBD)	Closure
Australia	Kwinana	139	Q2'21
Singapore	Shell Pulau Bukom	200	Q3'21
China	Local Refineries	196	Q4'21

Note: Adjusted capacity based on start-up period (effective additional capacity)

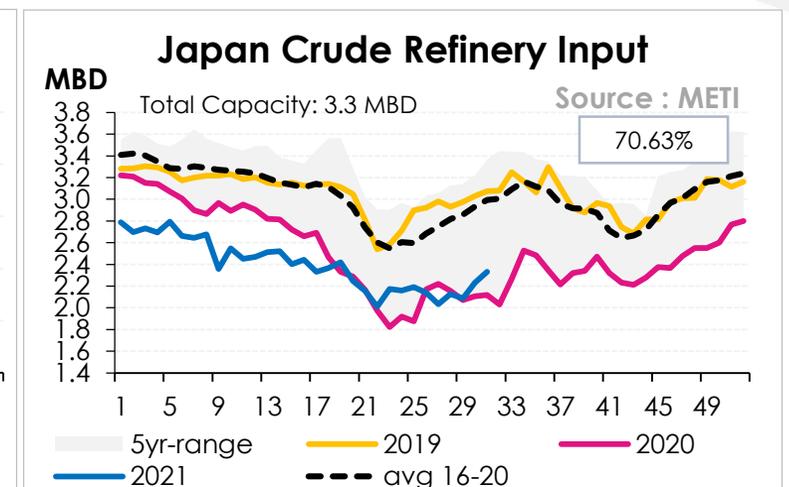
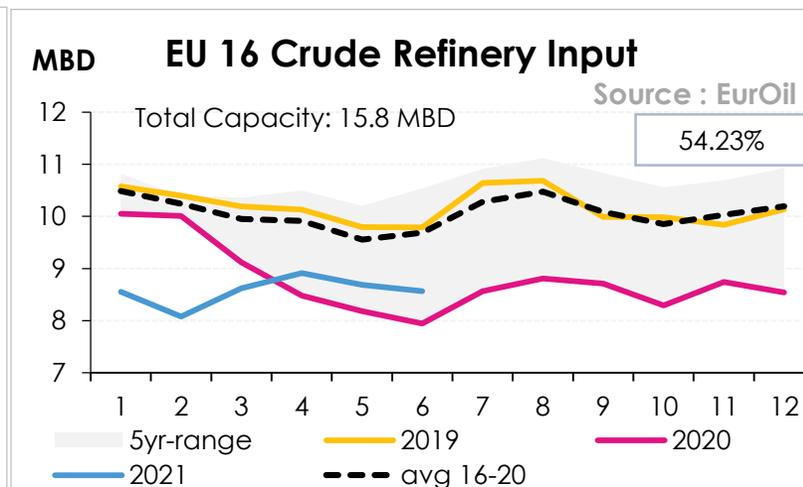
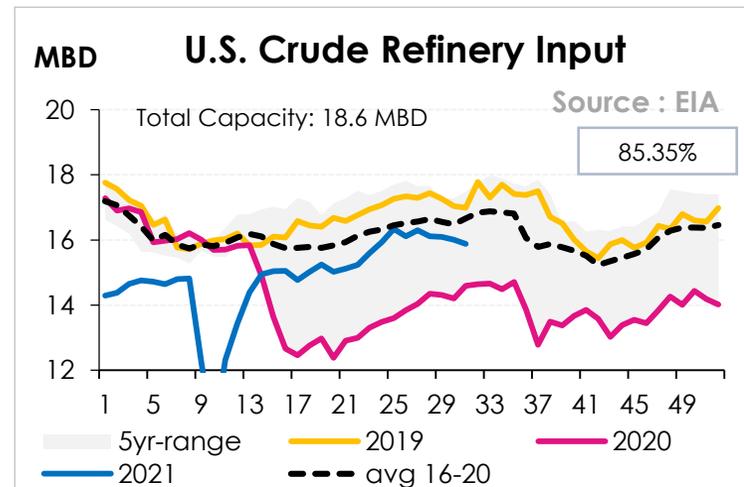
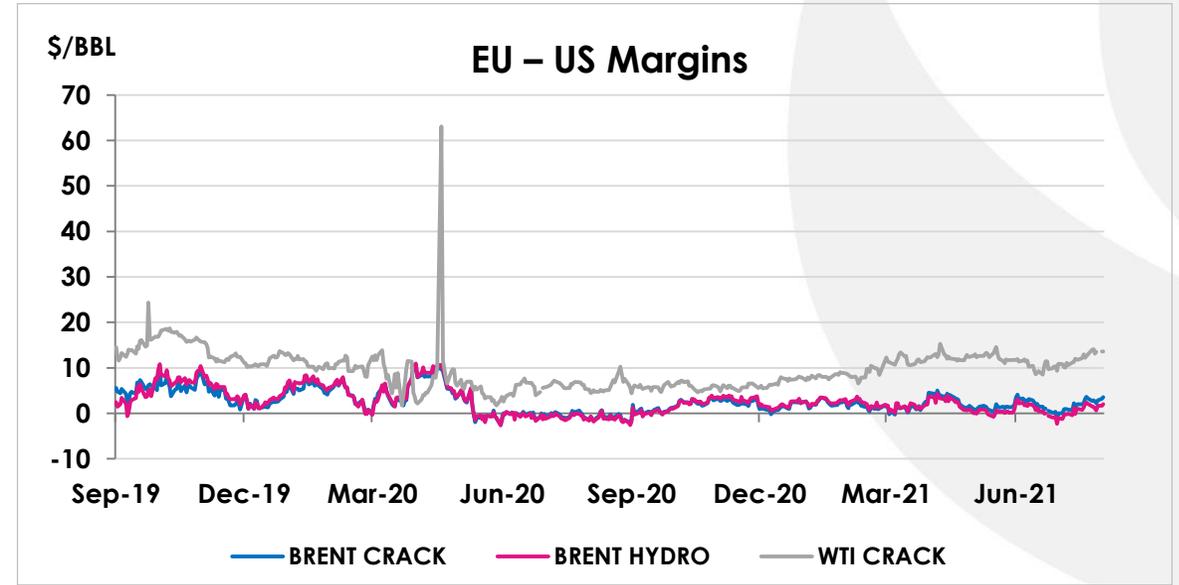
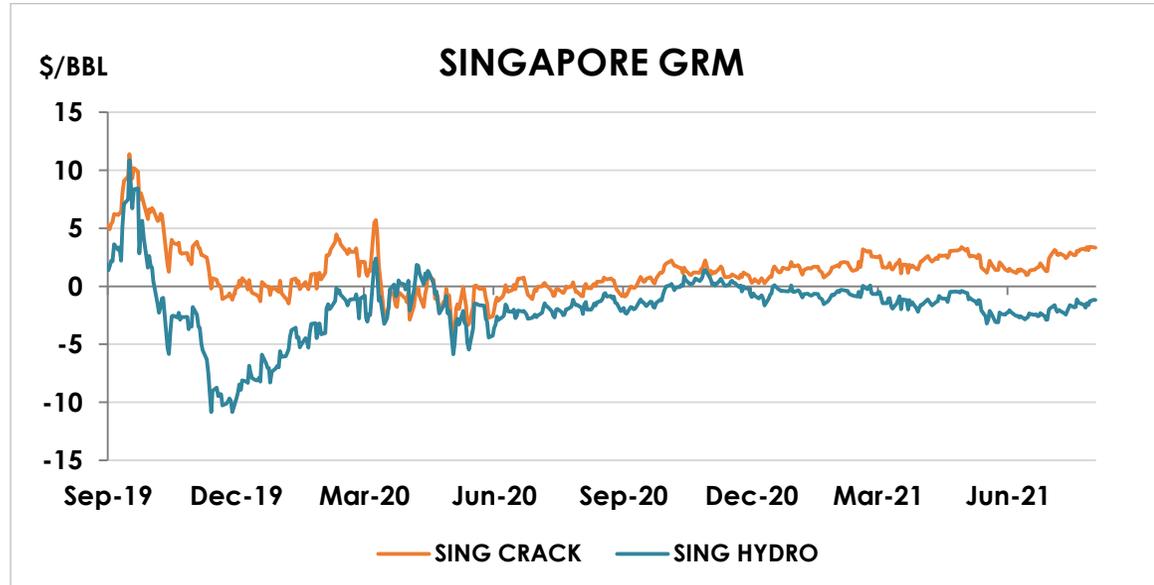
AP/ME PX Balance



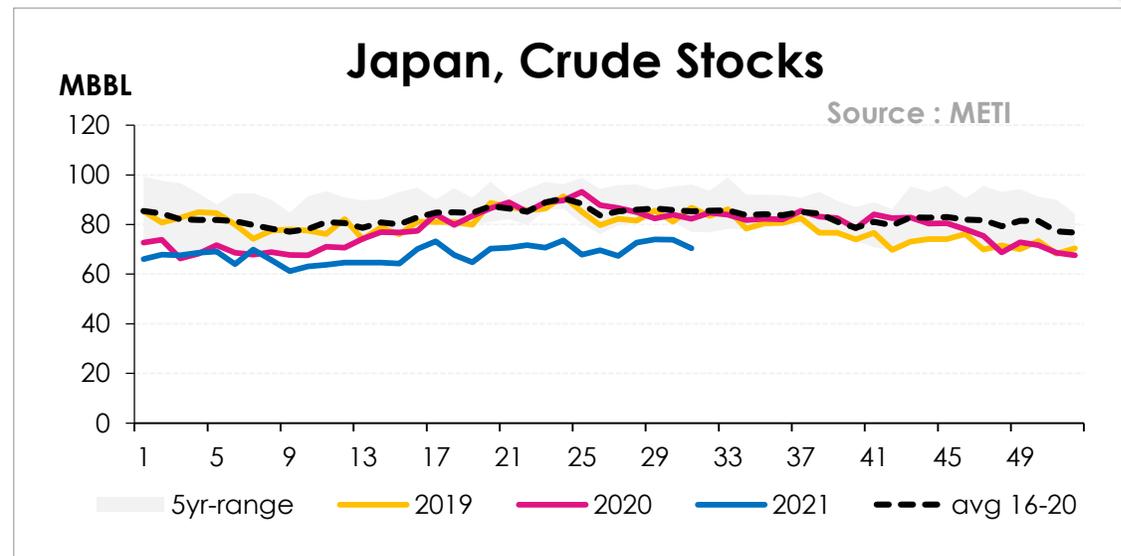
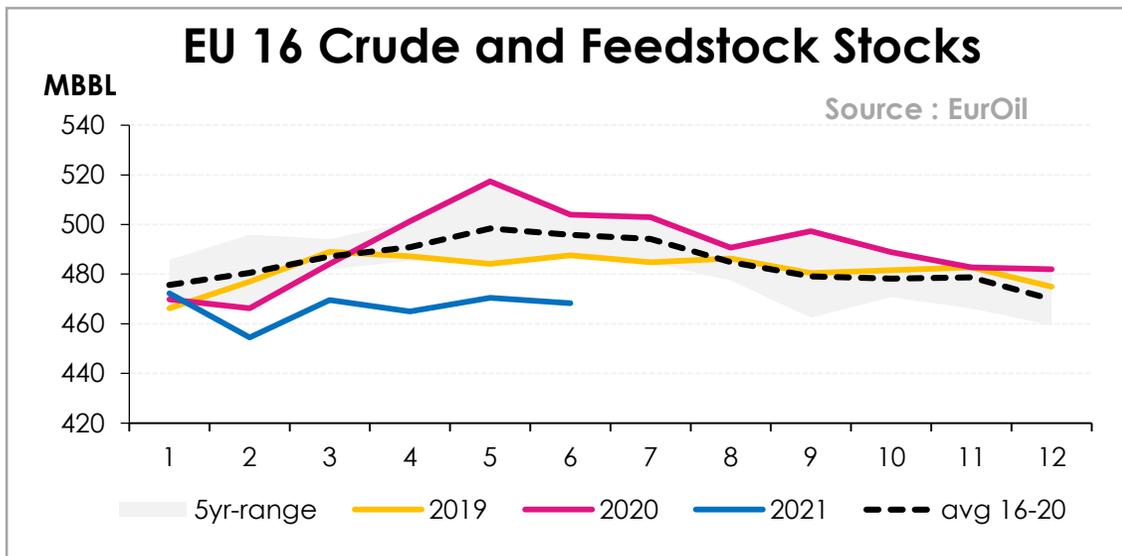
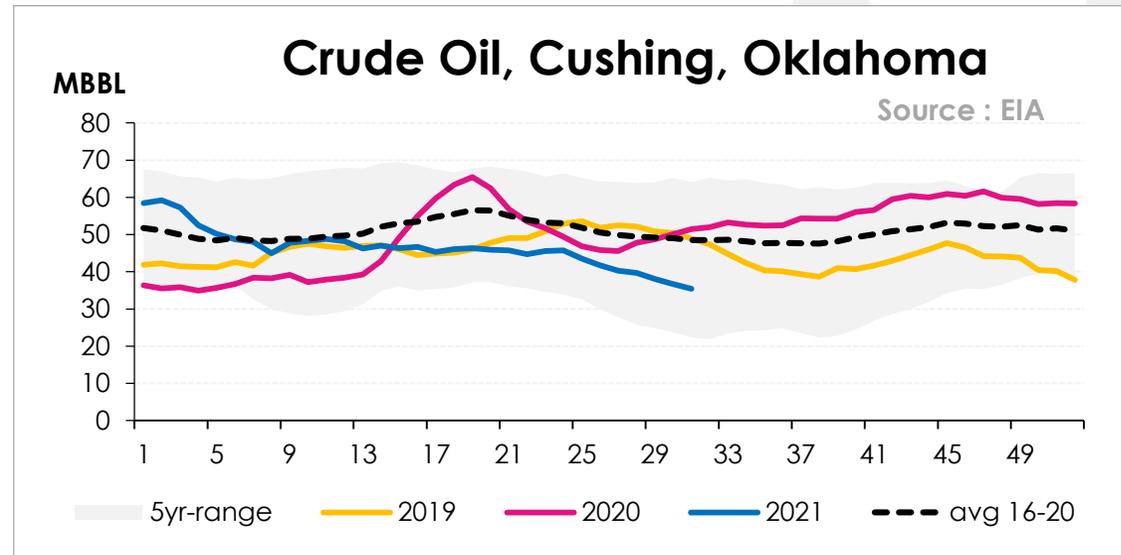
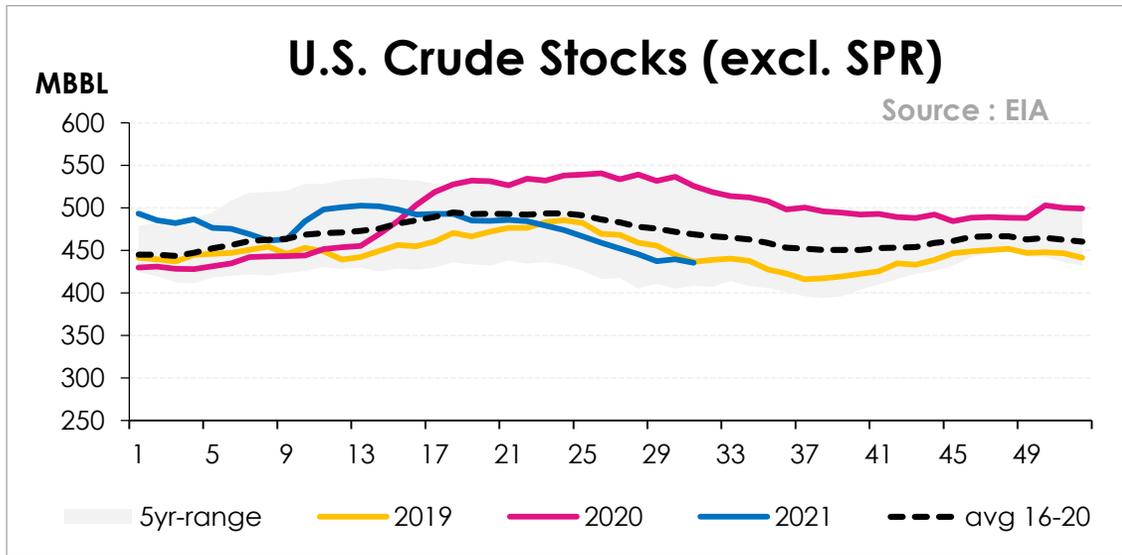
AP/ME BZ Balance



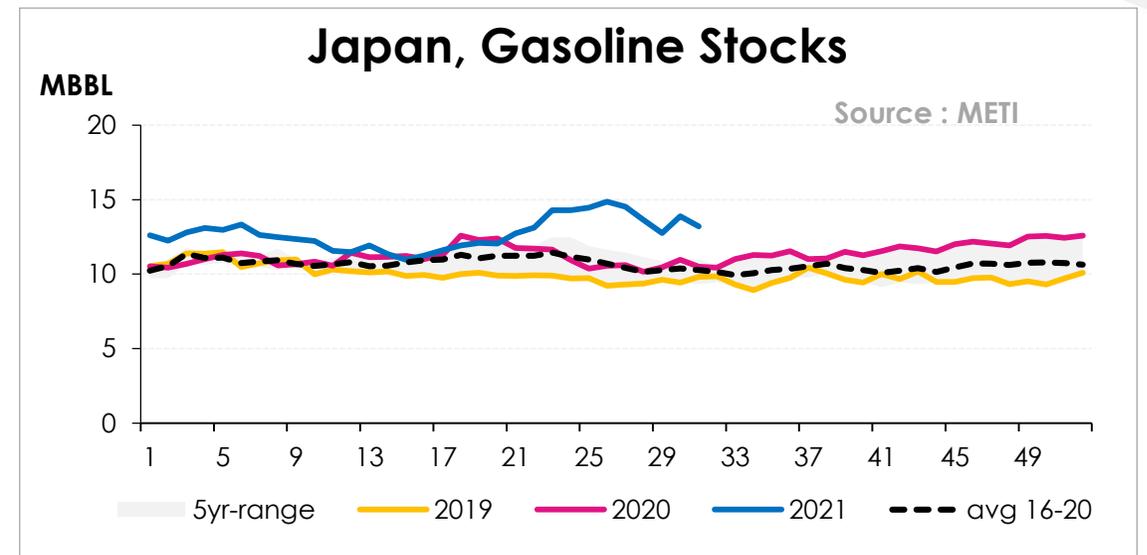
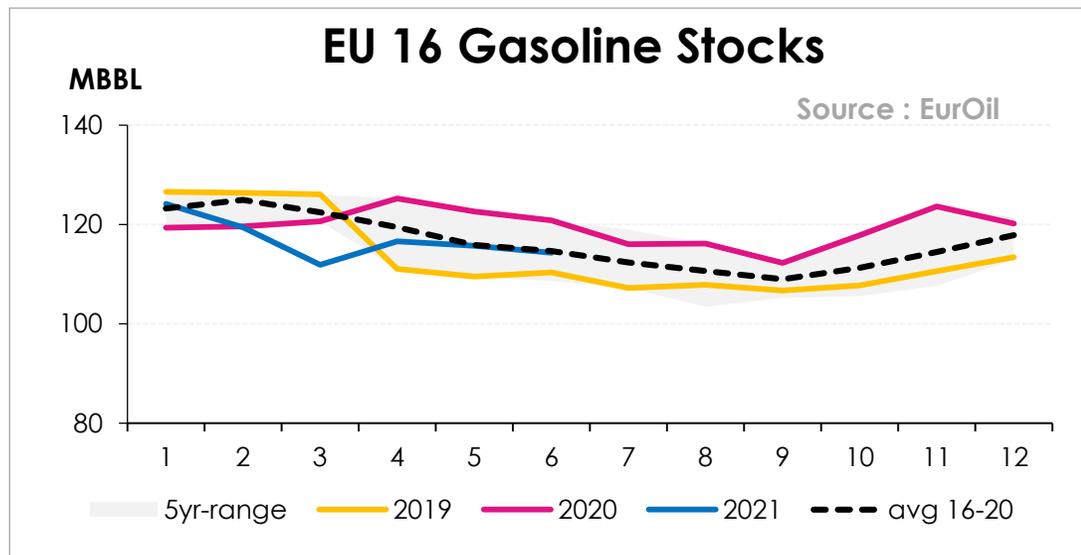
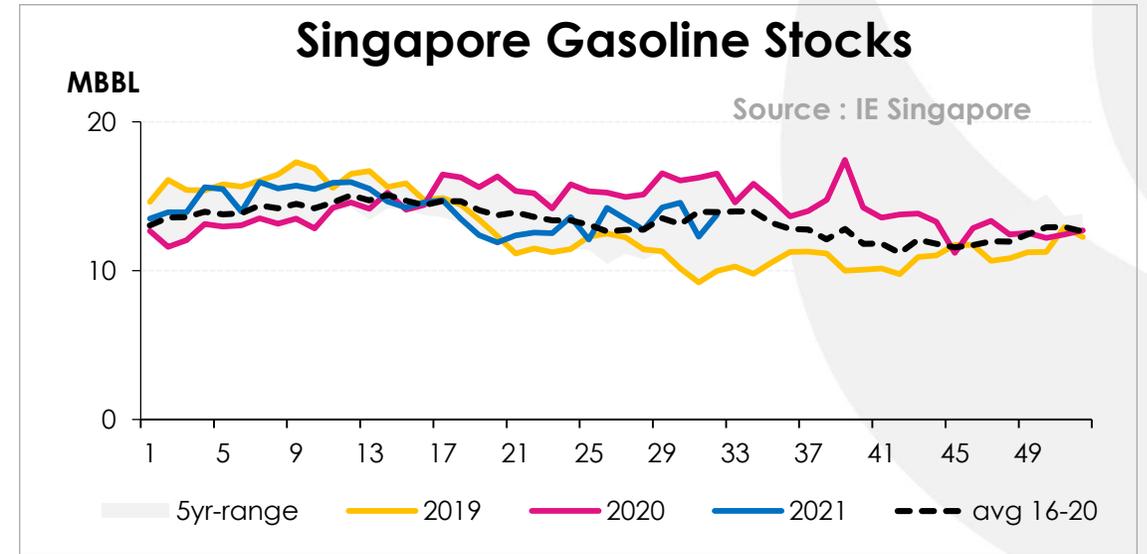
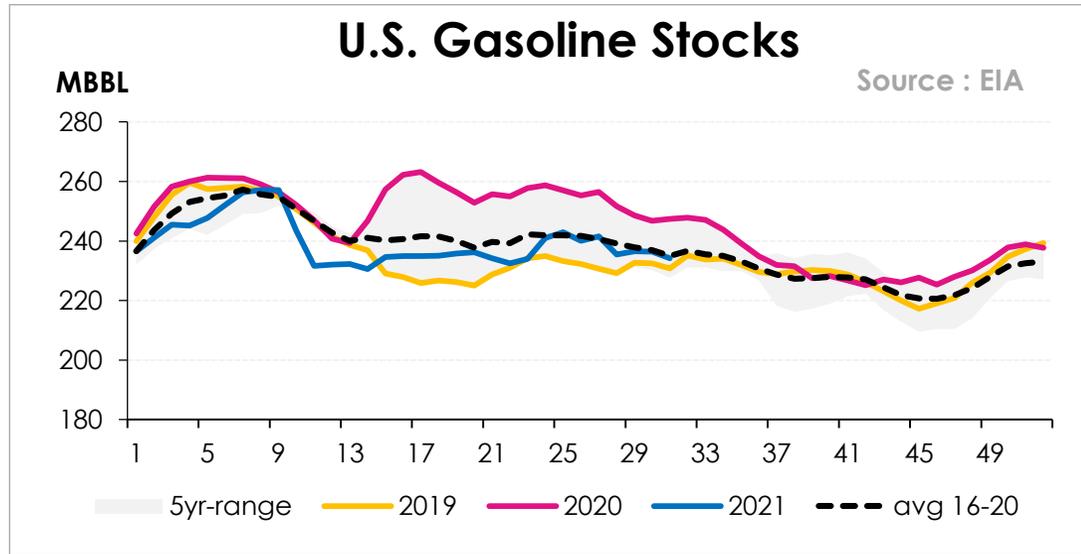
Asian Margin Vs. US-EU margin



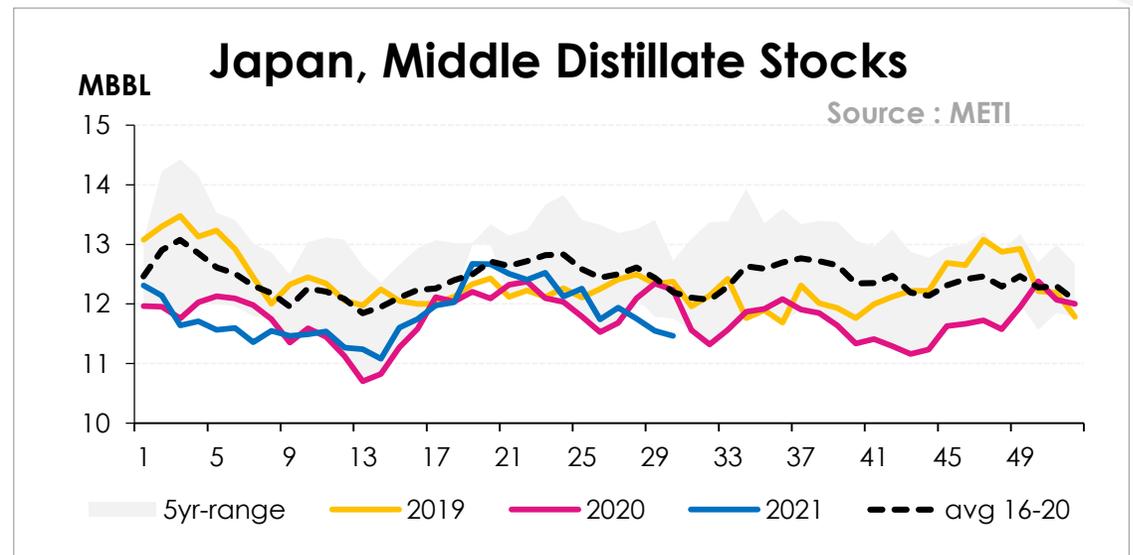
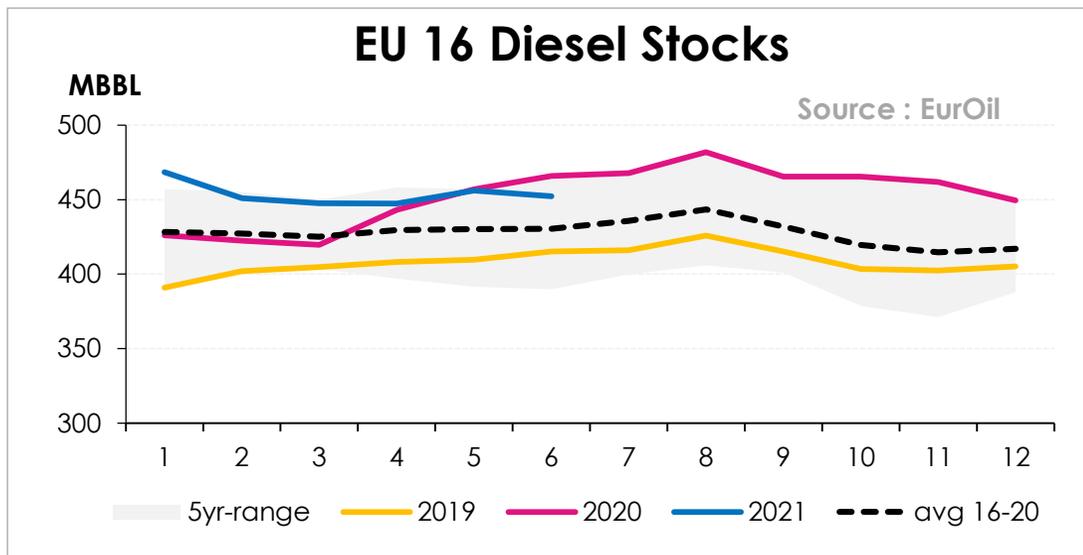
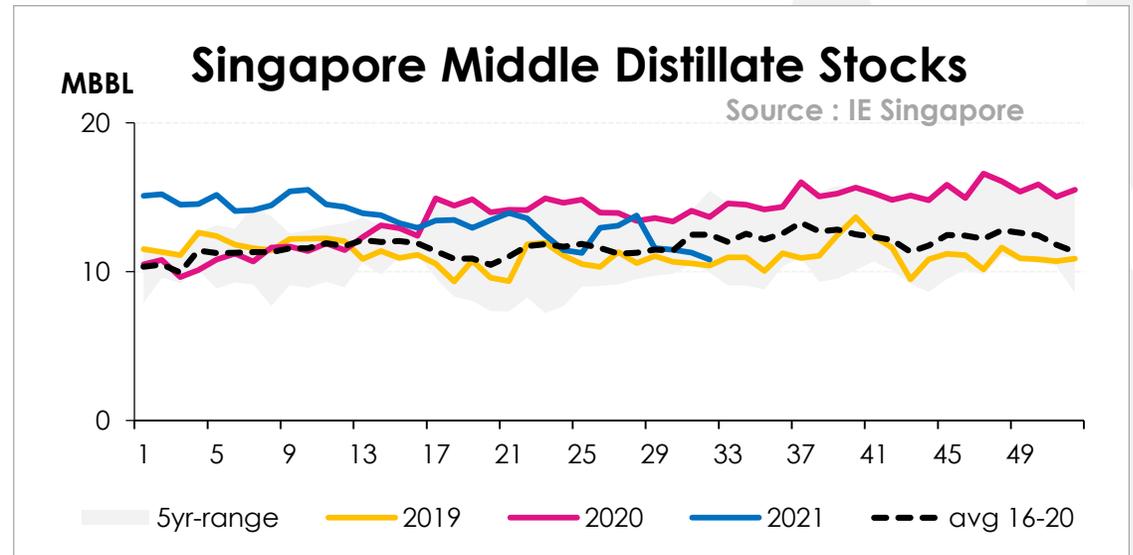
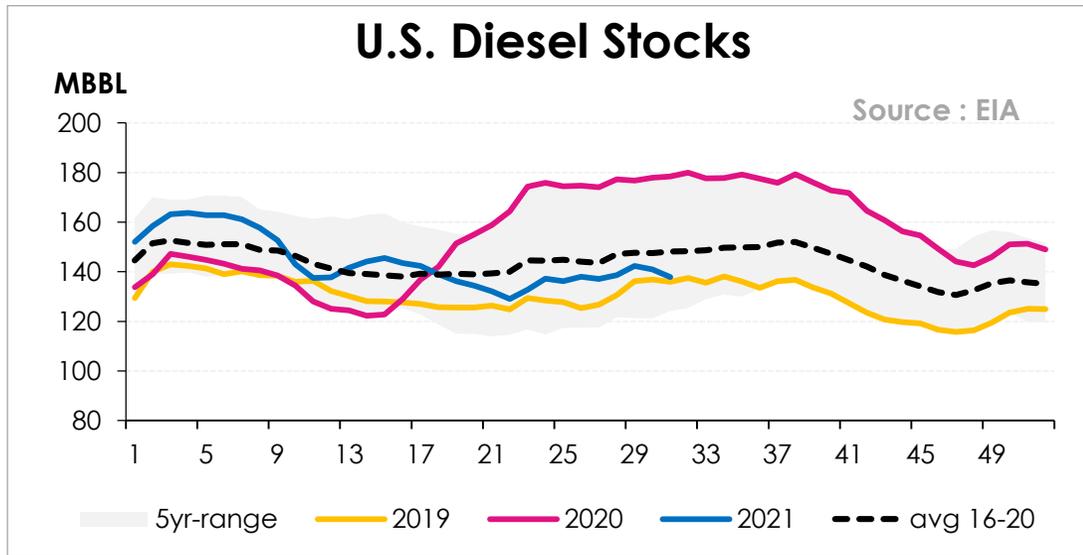
Global Crude Oil Inventories



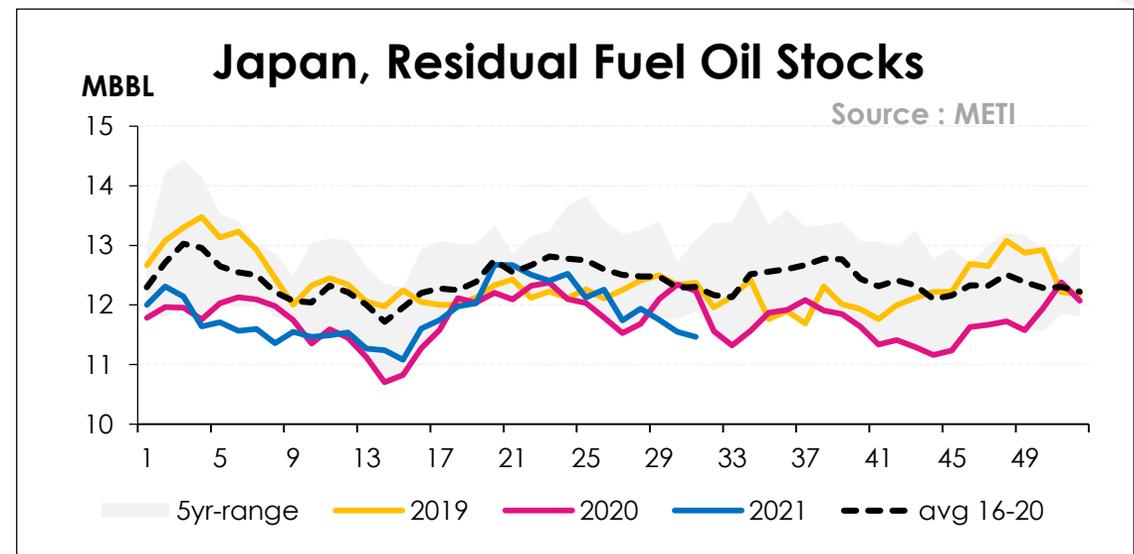
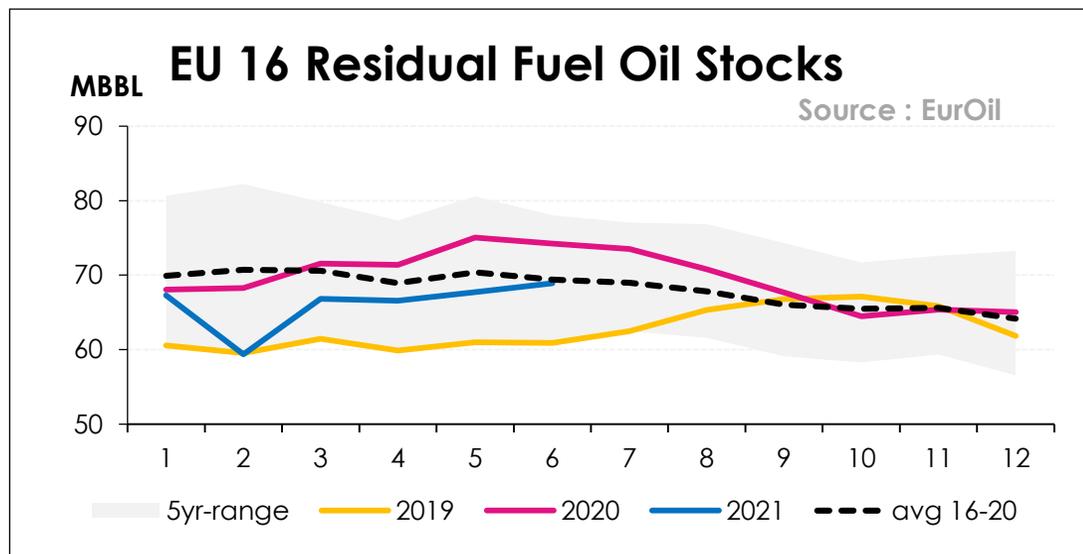
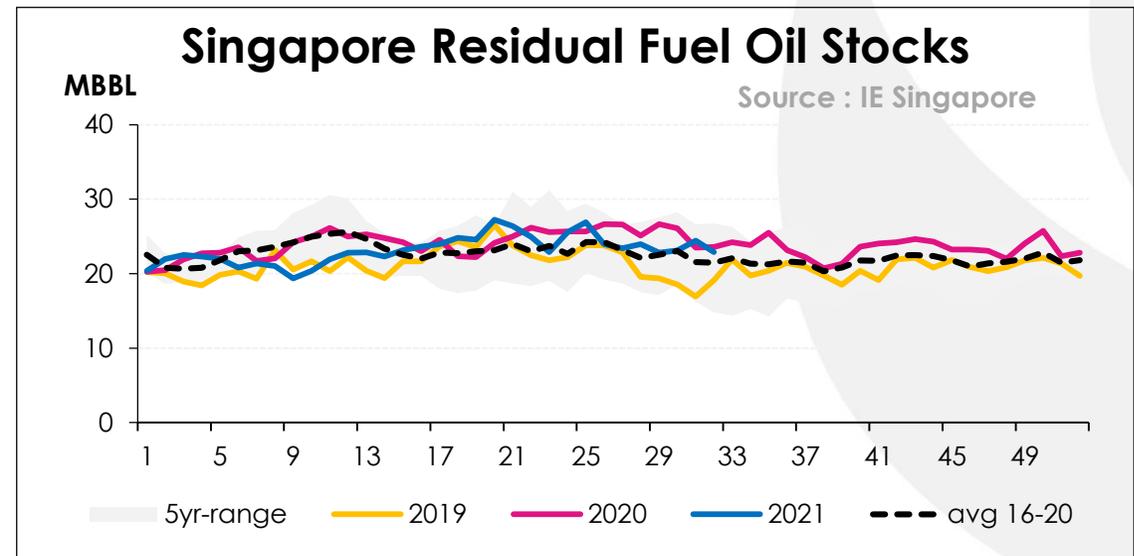
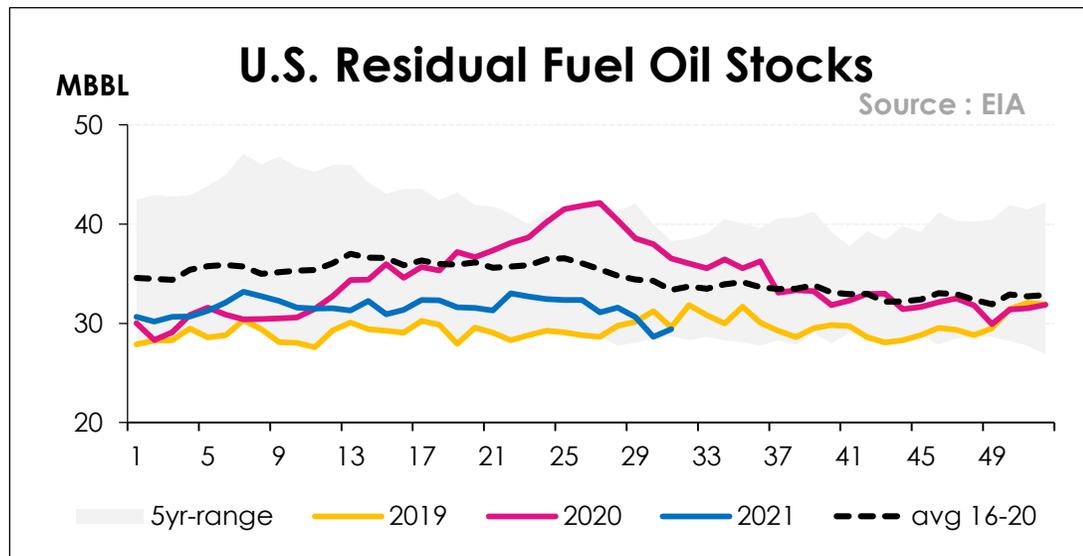
Global Gasoline Inventories



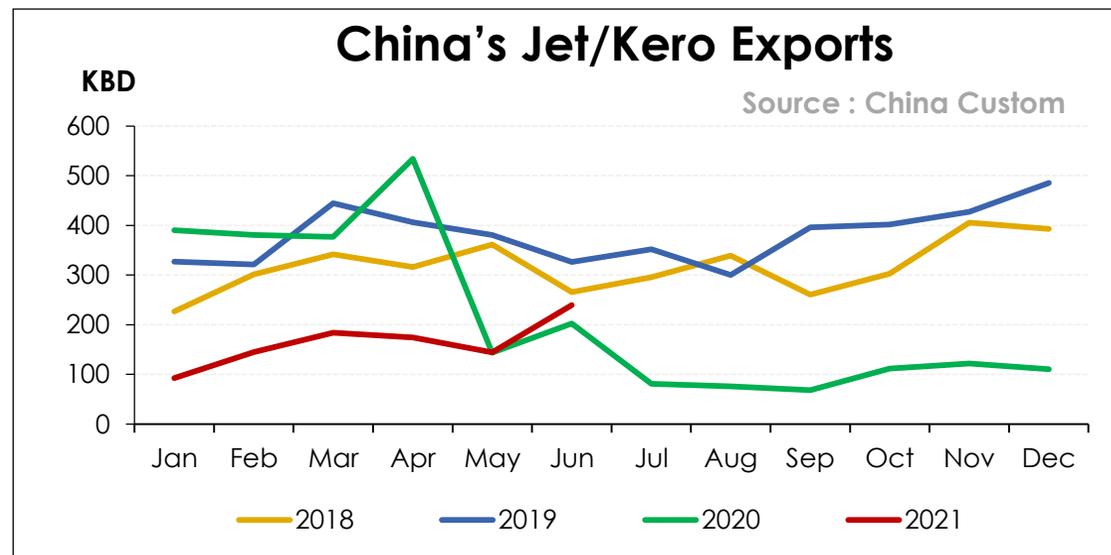
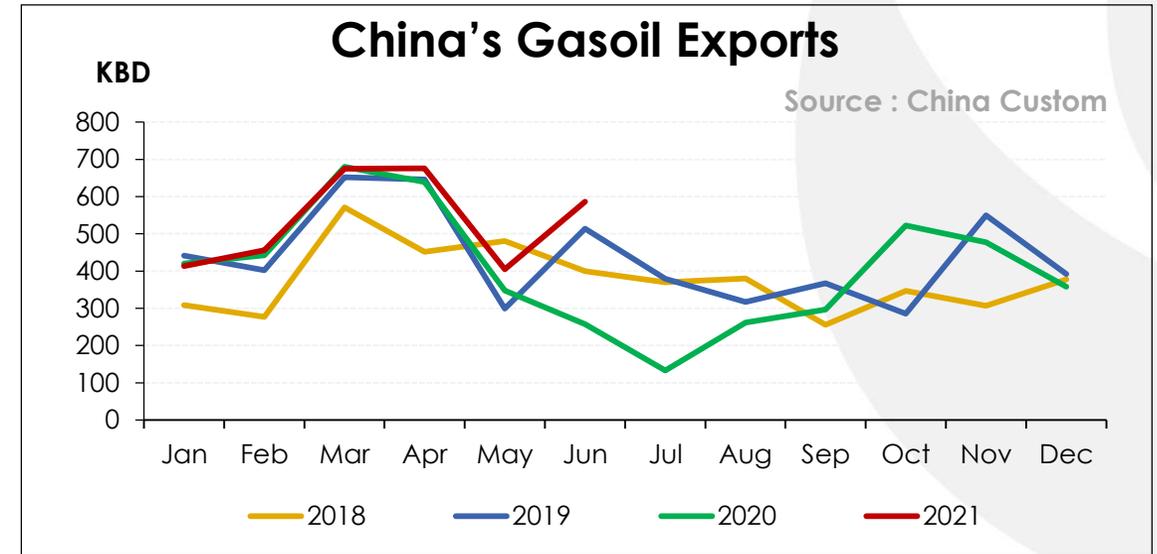
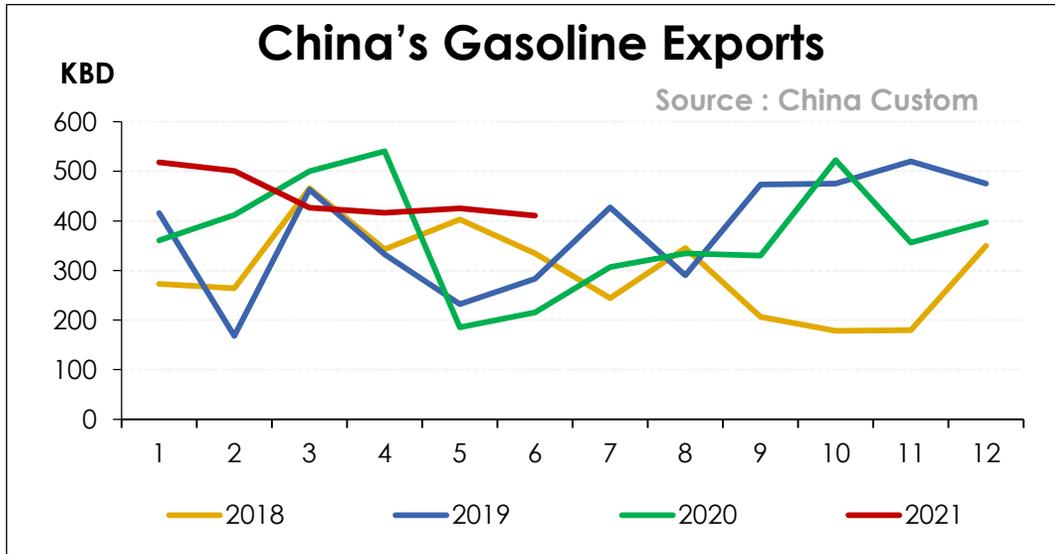
Global Middle Distillate Inventories



Global Fuel Oil Inventories

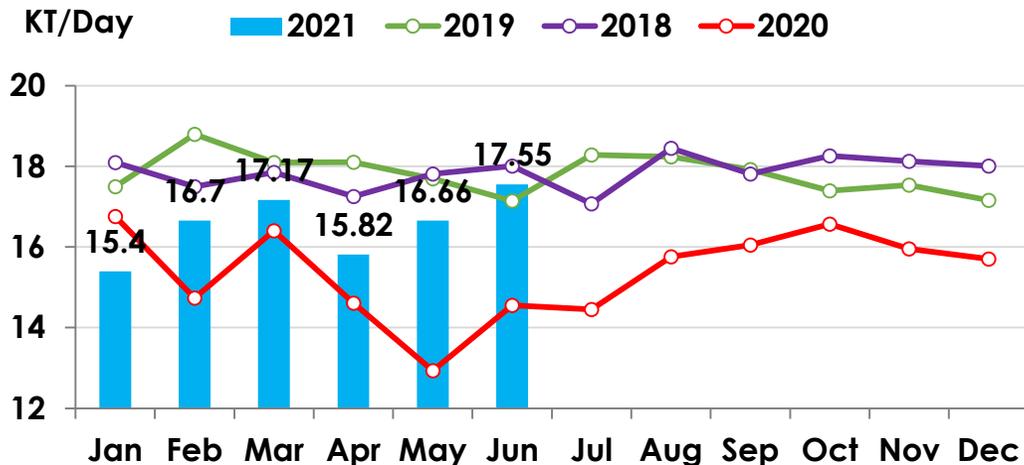


China's Refined Product Exports



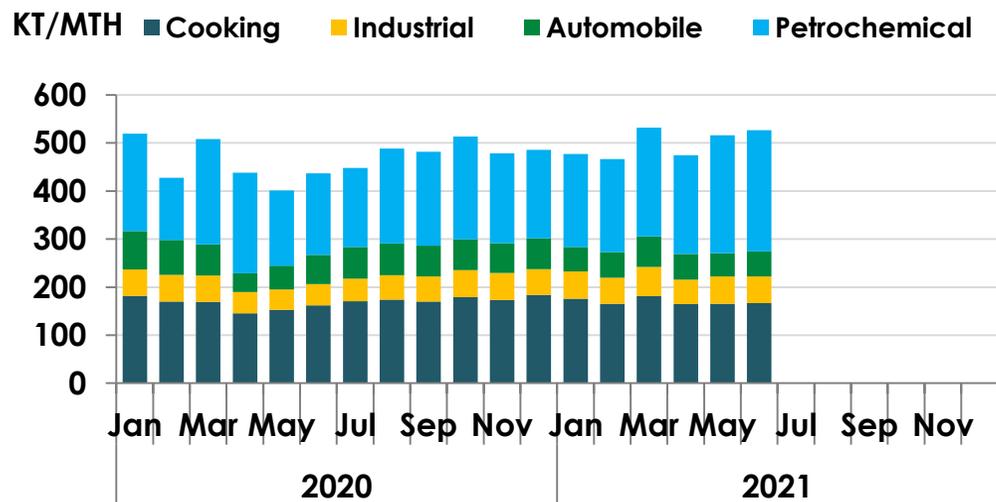
Domestic LPG Demand

Thailand LPG Demand



Remark : LPG demand includes Petrochemical consumption

LPG Demand by Sector



LPG Demand Highlight

- In 1H'21, LPG demand increased by 10.2% YoY mainly following the increase in industrial and petrochemical sectors. LPG demand in the industry and petrochemical sector rose by 13.7% and 21.8% YoY, respectively as the manufacturing production started to be recovered following the reopen of factories. In addition, cooking demand also increased by 4.4% YoY from last year. However, the demand in automobile sector still plunged by 11.5% YoY, as the pandemic partially pressured the transportation activities compared to pre-COVID level demand during Jan'20-May'20.

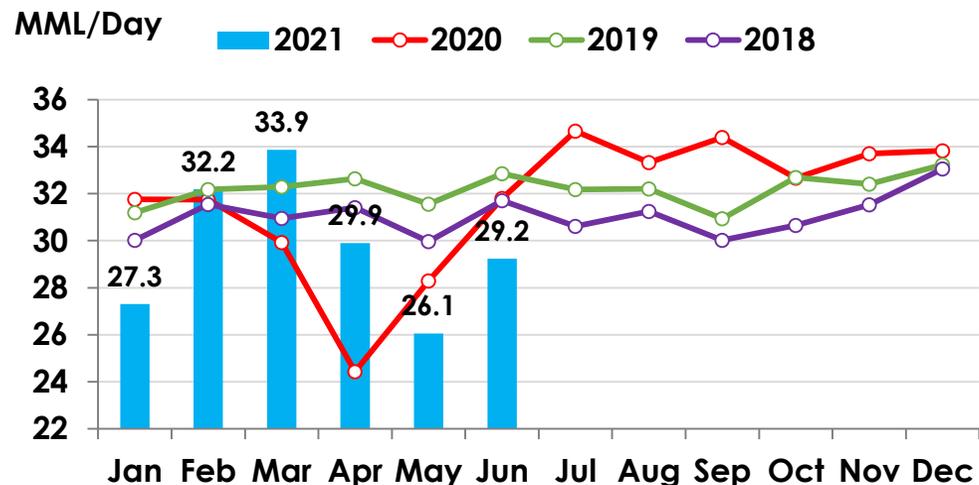
Outlook for 2021

- In 2021, LPG demand is expected to recover by 0.8% YoY, mainly from the industrial sector. Industrial demand tends to increase by 8.5% YoY as the demand will be supported by the reopening of factories as well as the higher production for exporting demand. Besides, Cooking demand tends to increase by 2.1% YoY as the demand would recover from the low base volume effect from the COVID-19 pandemic last year. However, demand in the automobile sector is expected to decrease by 9.0% YoY as most of the registered taxis powered by LPG have gradually expired since 2021 onwards leading to the lower vehicles that run on LPG.

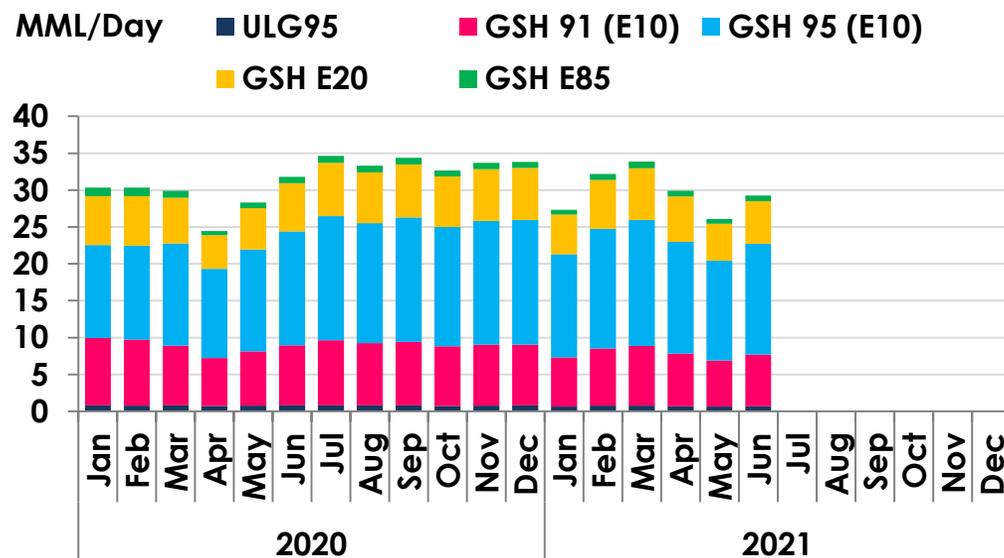
Source: EPPO, DOEB (As of Aug 2021)

Domestic Gasoline/Gasohol Demand

Thailand Gasoline/Gasohol Demand



Gasoline/Gasohol Demand by Grade



GASOLINE/GASOHOL Demand Highlight

- In 1H'21, Gasoline demand was slightly increased by 0.2% YoY to an average of 29.7 MML/day while Gasohol demand increased by 0.6% YoY, settling at 29.0 MML/day. The demand growth was supported by the low base volume last year. The demand was mainly pressured by the second wave of COVID-19 started in Jan'21 as well as the third wave in Apr'21 onwards, leading to lower transportation activities in most sectors. Besides the effect of the pandemic, the narrow price gap between GSH95 and E20 partly supported the GSH95 demand to grow by 9.0%. While E85 demand plunged by 17.6% YoY following 4.8% lower oil stations providing E85 compared to last year.

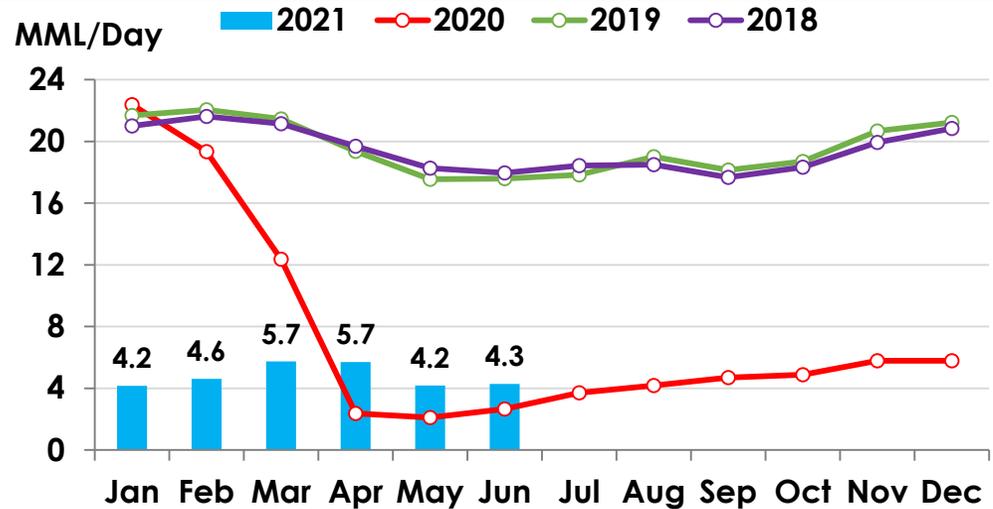
Outlook for 2021

- Gasoline consumption is expected to increase by 0.8% YoY which are still mainly pressured by the travel restriction measures for halting the second and third wave of COVID-19 pandemic since Jan'21 and Apr'21 onwards. Moreover, the stagnant economy would suppress people spending resulting in lower passenger car sales.

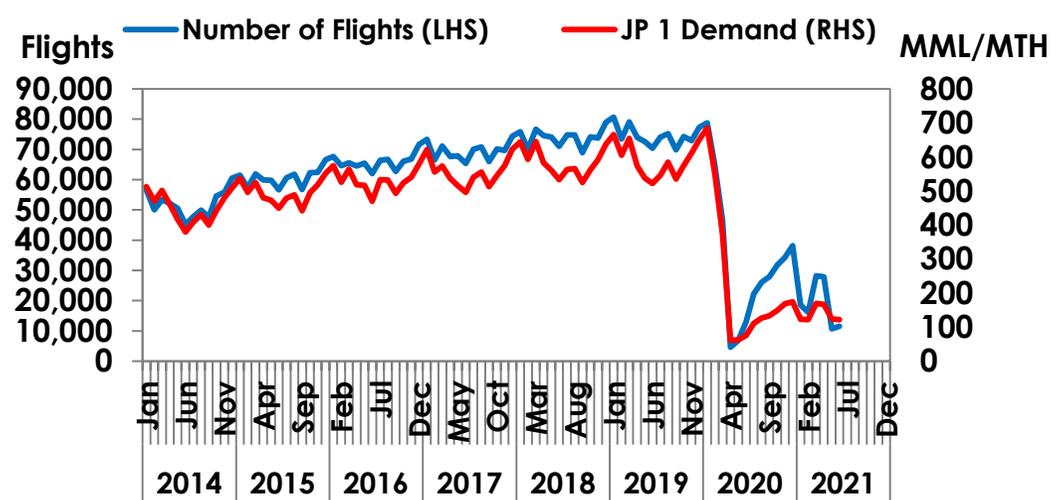
Source: DOEB (As of Aug 2021)

Domestic Jet Demand

Thailand JET Demand



JET-A1 demand and Number of flights



JET Demand Highlight

- In 1H'21, Jet consumption decreased by 53.1% YoY. Although the demand was recovered in Mar-Apr'21, the demand started to decrease again in May'21 as the COVID-19 infection rate was accelerated. The domestic flight in 1H'21 dropped by 27.1% YoY from the flight suspension due to the second wave and the third wave of COVID-19 outbreak, while the international flight continued to contract sharply by 68.0% YoY as travel restrictions remained in place. Although the Thai government started to allow foreigners who hold the Special Tourists Visa (STV) to visit Thailand since Oct'20 onwards to stimulate the tourism sector, the number of foreign tourist arrivals remained small, resulting in a 70.8% slump in the passenger number in 1H'21.

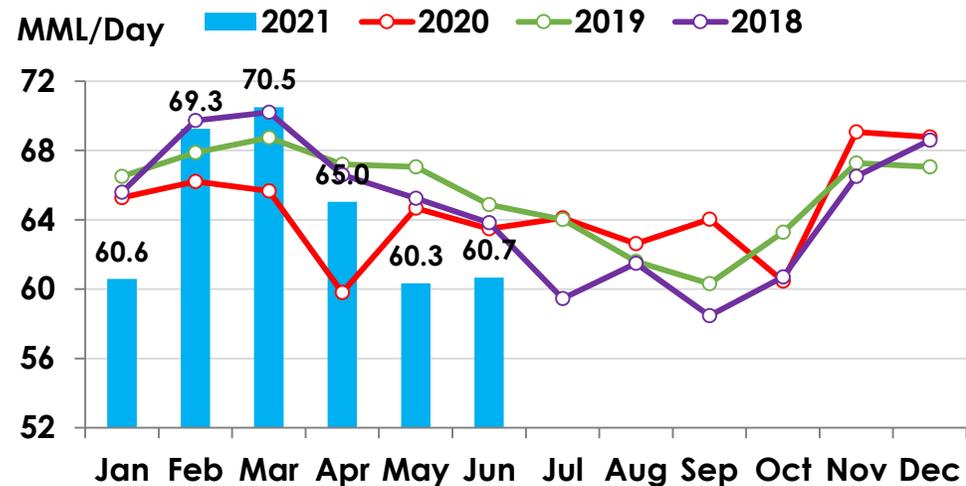
Outlook for 2021

- Jet demand growth is expected to decline by 25.0% YoY, as the second and the third wave of COVID-19 outbreak in Thailand will cause longer damage to the Thai tourism, both in the domestic and international sector. Although the Special Tourists Visa (STV), country reopening scheme and vaccination plan may support the flight movements, low and long recovery of tourism will still pressure the demand.

Source: DOEB, AOT, Department of Tourism (As of Aug 2021)

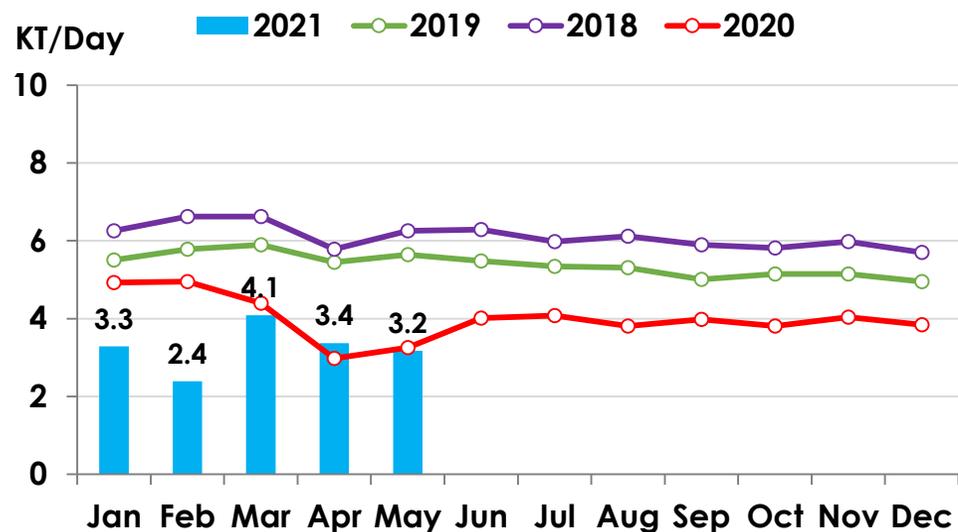
Domestic Gasoil and NGV Demand

Thailand Gasoil Demand



*Exclude Marine Gasoil

NGV Demand



Gasoil Demand Highlight

- In 1H'21, Gasoil demand increased by 0.2% YoY. After Gasoil demand was supported by the economic improvement in Feb-Mar'21, the Thai economy was slow down again in Apr'21 onwards following the third wave of COVID-19 outbreak in every region of Thailand. Thus, the demand was pressured by the lower economic activities and the drop of logistic movements.

Outlook for 2021

- Gasoil demand is expected to slightly grow by 0.8% YoY as the demand will be supported by the recovery of economic activities from the stimulus packages and other relief measures, as well as the vaccination plan. However, the uncertainty amid the third wave of the COVID-19 pandemic will still pressure Gasoil demand this year.

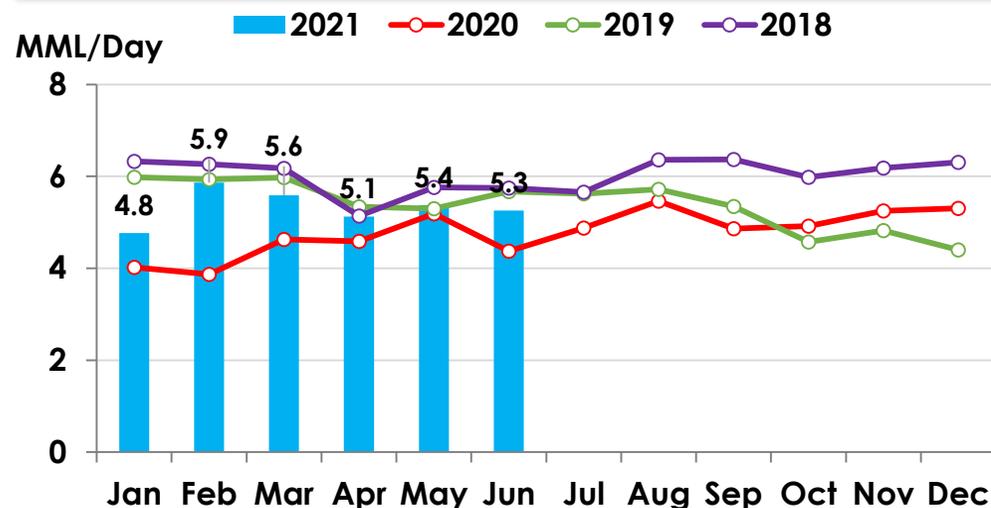
NGV Demand Highlight

- In 5M'21, NGV demand fell significantly by 20.0% YoY. Apart from the effect of COVID-19 pandemic, the demand was also pressured by the uncompetitiveness of the NGV retail price compared to the other fuels. As a result, NGV users have switched to use a substitute for NGV.

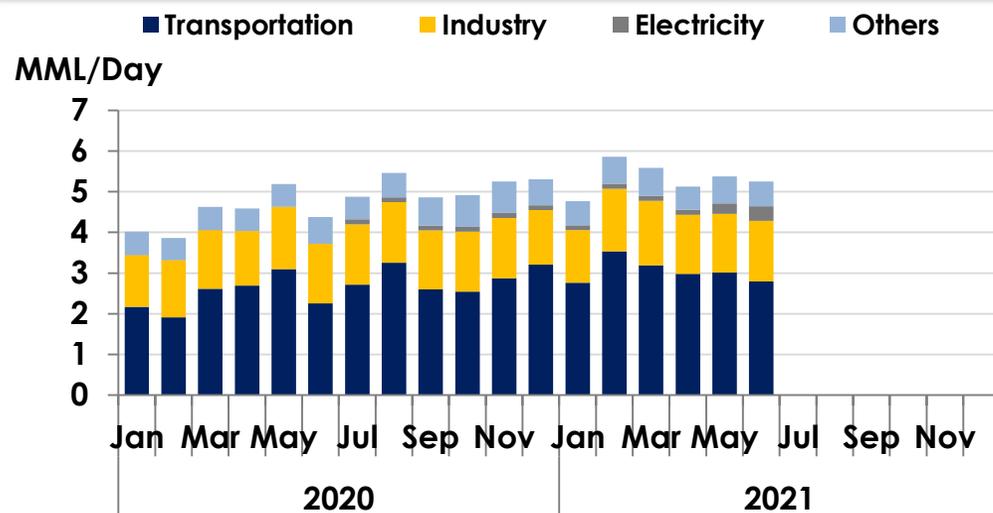
Source: DOEB (As of Aug 2021)

Domestic Fuel Oil Demand

Thailand Fuel Oil Demand



Thailand Fuel Oil Demand by Sector



Fuel Oil Demand Highlight

- In 1H'21, Fuel Oil consumption rose by 19.6% YoY, as the demand in the transportation sector, which accounted for 57.1% of total Fuel Oil demand, rose by 23.9% YoY due to higher import and export volume as well as the low base volume effected from the IMO transition phase last year. Moreover, demand in the industrial sector, which accounted for 27.5% of total Fuel Oil demand, increased by 4.2% YoY due to the recovery of the economy and competitive prices compared to the other alternative fuels.

Outlook for 2021

- Fuel Oil demand is expected to increase by 16.0% YoY, mainly due to the higher import and export activities following the global economic recovery. Besides, the abilities to procuring and distributing vaccines across the world is the key factor to support the demand.

Source: DOEB (As of Aug 2021)

Thank You

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